



**LONDON INTERNATIONAL
CONFERENCE ON
EDUCATION (LICE-2017)**

IN COLLABORATION WITH

**WORLD CONGRESS ON
SPECIAL NEEDS
EDUCATION (WCSNE-2017)**

**December 11-14, 2017
Cambridge, UK**

**LICE - WCSNE
PROCEEDINGS**

LICE - WCSNE @ 2017 published by Infonomics Society

ISBN: 978-1-908320-87-2
ISBN: 978-1-908320-88-9

WCSNE-2017

December 11-14, 2017

University of Cambridge

Churchill College

Storey's Way

Cambridge

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United Kingdom

Message from the Steering Committee

Welcome to the World Congress on Special Needs Education (WCSNE-2017). The WCSNE-2017 provides opportunity for academicians and professionals to bridge the knowledge gap and to promote research esteem. The Tables 1, 2, 3, 4, 5, 6 and 7 shows all the submissions received and accepted per conference:

Table 1. Abstracts

Conferences	Countries	Abstracts Submissions	First Review	Peer Review	Accepted Abstracts
WCSNE-2017	67	411	180	146	9

Table 2. Extended Abstracts

Conferences	Countries	Extended Abstracts Submissions	First Review	Peer Review	Accepted Extended Abstracts
WCSNE-2017	94	177	80	46	7

Table 3. Full Papers

Conferences	Countries	Initial Paper Submissions	First Review	Peer Review	Accepted Papers
WCSNE-2017	76	477	80	46	16

Table 4. Posters

Conferences	Countries	Initial Poster Submissions	First Review	Peer Review	Accepted Posters
WCSNE-2017	26	31	8	6	3

Table 5. Panel Discussions

Conferences	Countries	Panel Discussion Submissions	First Review	Peer Review	Accepted Panel Discussion
WCSNE-2017	56	101	17	6	1

Table 6. Speakers Proposal

Conferences	Countries	Speakers Proposal Submissions	First Review	Peer Review	Accepted Speakers Proposal
WCSNE-2017	18	24	7	5	5

Table 7. Workshops

Conferences	Countries	Workshops Submissions	First Review	Peer Review	Accepted Workshops
WCSNE-2017	26	11	13	6	1

The double-blind paper review method was adopted in WCSNE-2017 to evaluate each of the conferences submissions. Please note that selected papers will be invited for publications in high impact International Journals.

Many people have worked very hard to make this conference possible. We would like to thank all who have helped in making WCSNE-2017 a success. The Steering Committee and reviewers each deserve credit for their excellent job. We thank the authors who have contributed to each of the conferences and all our Keynote Speakers: Professor Michael Shevlin, Dr Vassilios (Bill) Argyropoulos, Michael Plummer, Professor Jim Nyland and Professor Yulia

Lopukhova for agreeing to participate in WCSNE-2017. We will also like to acknowledge our appreciation to the following organisations for their sponsorship and support: Infonomics Society and Canadian Teacher Magazine. The long-term goal of WCSNE is to build a reputation and respectable collocated conferences for the international community.

On behalf of the WCSNE-2017 Executive members, we would like to encourage you to contribute to the future of LICE and WCSNE as authors, speakers, panellists, and volunteer conference organisers. We wish you a pleasant stay in Cambridge and please feel free to exchange ideas with other colleagues.

WCSNE-2017 Steering Committee Chair
Professor Charles A. Shoniregun
Infonomics Society, UK and Ireland

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Keynote Speakers

Keynote Speaker 1



Michael Shevlin is Professor in Inclusive Education, Trinity College Dublin since 1996. His teaching and research has focused on facilitating the inclusion of children and young people with special educational needs within mainstream schools, promoting the voice of marginalised people within decision making processes that affect their lives, and addressing access issues for young people with disabilities within compulsory and higher education. He, along with a number of colleagues, have completed a number of national studies including Study of Special Classes in mainstream schools (in association with ESRI team), Quali-TYDES project longitudinal study of lives of young people with disabilities (European Social Fund), Transition Experiences of Students with Disabilities into Further and Higher Education, and Project IRIS longitudinal study of special education in Ireland. Michael has been involved in a number of policy making initiatives within Irish education in relation to the development of inclusive learning environments in schools and higher education.

Title: Educational inclusion for students with special educational needs: Is it a case of so far and no further?

Abstract: There appears to be a well-established consensus that educational inclusion is a 'good' that should be achieved within our educational systems. Ground breaking international conventions, national policy and legislation all articulate the value of educational inclusion for children and young people from traditionally marginalised communities, in particular, those students who have special educational needs. Students with special educational needs are increasingly supported within mainstream education with dedicated teaching and support personnel, adapted curricula and reasonable accommodations. Despite this progress serious questions and challenges remain. Some researchers (Minow, 1991, Norwich, 2009) have conceptualised these challenges as the dilemma of difference. Within this address, I would like to explore in greater depth what these dilemmas of difference look like in practice and suggest that in many instances these dilemmas are not confined to establishing inclusive learning environments but rather concern fundamental struggles with difference within society.

Keynote Speaker 2



Dr Vassilios (Bill) Argyropoulos is an Associate Professor at the University of Thessaly (Greece) in the area of visual impairment since 2003. He has participated in a number of national and international special educational projects and EU projects coordinator. He serves in the International Council for Education of People with Visual Impairment (ICEVI) as the contact person in Balkan Countries. He holds BSc in Mathematics from the University of Patras (Greece) and a PhD in Education from the University of Birmingham. His research area is special education and more specifically haptic apprehension, braille literacy skills, assistive technology and auditory recognition of documents by users with severe visual impairments.

Title: Typical and non-typical learning environments within Inclusive Systems: a Focus on action research network across 4 European Countries regarding individuals with visual impairments

Abstract: The function of effective networks in typical and non-typical learning environments has been widely seen as a positive way to engage multiple perspectives and ensure that the development of the networks' thematic focus will be effective through being inclusive. It seems that effective networks are in line with social models of disability, which stresses issues like the barriers, and the limitations of the society that isolate and exclude people with disabilities from equal social participation. Contemporary governmental policies, acts and guidelines such as the European Commission's European Disability Strategy 2010-2020 and the UNESCO goal is on eliminating barriers, in areas such as accessibility, equity, employment, enjoyment, education and training. However, although progress is being made on achieving these aims individuals with visual impairments face many barriers regarding their access to cultural centres such as museums. In front of this situation, action research networks are considered to be a powerful tool for people and professionals. This need for collaboration and interagency partnerships is central to this talk, which will examine some of the main cultural themes that appear to be necessary to ensure that active participation at least is achieved, especially for individuals with blindness or low vision across four European countries.

Keynote Speaker 3



Michael Plummer is the new Education Program Supervisor for Phillips Programs for Children and Families (Maryland, USA). He received a B.A. in Journalism and Communications from Point Park University and an M.A. in Education and Curriculum, Theory and Development from Temple University. He is a 2009 Fulbright Scholar with international experience that includes research, programs and consultancies in China. His background also includes work in both the private and for profit education sector with diverse experience in the design and implementation of curriculum, along with extensive experience in both standardized and informal assessment development and coordination.

Title: Leave No Stone Unturned: How to challenge and find meaningful learning opportunities for special needs students.

Abstract: Two steps forward and ten steps back. That's what it's like for many students with special needs. Even with multiple accommodations many of these students still struggle. Finding opportunities for special needs students outside of the curriculum or IEP sometimes is their best shot at success. What do they look like? Where do we find them? It's like a treasure hunt, the clues are everywhere, and you just have to know where to look.

Keynote Speaker 4



Professor Jim Nyland took up the role of Associate Vice-Chancellor (Brisbane) at the Australian Catholic University (ACU) in October 2011. Previously, he has held academic appointments at the University of Queensland, where he was the Director of Corporate Education and Director of UQ Business School Downtown. Prior to this he was Manager and Principal Advisor in the Vice-Chancellor's Office for Engagement at Griffith University and has held managerial positions in a number of universities in the UK. He holds a doctorate in Education and has published research covering curriculum change, the nature of learning and the impact of modernity on educational opportunity. Professor Nyland's work has been international in scope and he has developed programs in the UK and Australia as well as keynote academic papers in Ireland and South Africa. He is particularly interested in extending our knowledge and capacities in 'new learning' both in work and professional settings and in communities which are in transition and face challenges. He is Editor of the new Australian journal *Transform: Journal of Engaged Scholarship* and contributes to current educational debates and issues in regional and national publications.

Title: Emerging Global Issues in University Engagement with Society

Abstract: In a world of turbulence and uncertainty there is always a need to know where the leading edge of change effecting university's engagement with society lies:

- the declining enchantment with neo-liberal market-driven change as a basis for university growth and expansion
- the re-assertion of community-based and place-based values and ideas of social worth, as a key educational objective
- the continuing impact of technological change, robotisation and displacement of meaningful work as we have known it
- the impact of the digital age on young people in particular in both positive and negative ways (the paygo economy, identity issues, owners versus renters, decline in face-to-face interaction/speech, click bait on the internet etc., etc.)
- the need for research to address critical social and economic challenges
- the need for an engaged curriculum within an issues-based university still dedicated to excellence and scholarship
- the impact of global climate change
- access and widening participation in its second phase for the 21st century
- the need to make successful, complex and diverse institutions flourish within a vision of what universities want their future to be.

This paper explores these and other emergent issues in higher education, showing how progressive and leading universities are responding strategically to this leading edge of change.

Keynote Speaker 5



Professor Yulia Lopukhova holds a PhD degree in Educational Studies (2001) and an EdD-degree (Doctor of Education, the highest degree focusing on the practice of education in Russia, 2013) from Samara State University of Education and Social Studies. Her scientific research was focused on the issue of tolerance in the global world. She started her professional carrier in 1996 as an EFL teacher. From 2001 until now she has been working at Samara State Technical University, as Head of the Department of Linguistics, Intercultural Communication and Russian as a Foreign Language. Yulia Lopukhova is the chief coordinator of TEMPUS IV project “Entrepreneurs for Tomorrow”, the European and Russian Master joint program for Sustainable Entrepreneurship in the Volga Region (Russian Federation) contributing to a sustainable economic development of this region (people-planet-profit) in which she focuses on students and staff mobility and gives lectures on Academic Skills and Business Ethics. Yulia Lopukhova is the author of more than 100 scientific papers in the field of educational studies. Her recent research activities focus on Globalisation and Internationalisation of Higher Education and Content and Language Integrated Learning (CLIL).

Title: Redesigning Education for a Transforming World: Global Trends and Challenges

Abstract: Despite the world transforming at unprecedented rates, education has been slow to change. One of the main obstacles in changing the goals, standards, and curricula of education is historical inertia. Even as we re-awaken to the importance of a variety of competencies beyond basic knowledge and skills, it is difficult to effectively insert new subjects and skills into an already established and content-crowded system. However, high schools and universities have to prepare students for more rapid economic and social changes than ever before, for jobs that have not yet been created, to use technologies that have not yet been invented, and to solve social problems that we don't yet know will arise. In a global economy, driven by nimbleness and innovation, it is increasingly clear that success depends on the transformation of an educational system in general. We believe that in order for a twenty-first century curriculum to be truly holistic and follow global trends and challenges, it must incorporate and balance between:

1. Modern Knowledge and Traditional Subjects;
2. Science, Technology, Engineering, and Math (STEM) and Humanities;
3. Outcome and Process;
4. Personal and Societal Goals and Needs;
5. Social Progress Ideals and Respect of Local Norms.

The next point we have to highlight is that modern education should be oriented to curricula internationalisation. Internationalisation continues to be on the agenda of higher education providers worldwide. It has significance for the sustainability of higher education at national level and subsequently the contribution that higher education makes to the development of a nation, its people; and its ability to compete in a global market. But to make education systems resilient we should not forget about globalization which means adaptation of globally marketed products and services (e.g. curriculum) to local markets. Thus, internationalisation of higher education seems to be a double-edged phenomenon, inducing growing collaboration and growing competition among countries and among institutional providers.

Internationalisation takes many forms, including co-taught courses and degrees, online courses, academic faculty exchanges, student recruitment and joint research, collaborative research projects and student exchanges. All this has become possible only recently, with the emergence of the Internet, to a greater part. Today, almost all higher education institutions offer programs that integrate digital media in an online environment to provide flexible learning opportunities, independent of time and place. All of these activities involve reaching out into the international arena in some way and partnering with or communicating with institutions, staff, faculty and students in other countries. All this as well as other modern trends will help us redesign education for a transforming world.

Panel Discussion

Title: Japan International Cooperation Agency Research Institute (JICA-RI) Panel on Disability and Inclusive Education in Asia

Despite 25 years of global efforts, there are still 57 million out-of-school children in the world, with one-third of them having disabilities. Majority of children with disabilities who receive school education receive relatively low quality of education. In order to achieve Sustainable Development Goal 4, it is crucial that all relevant actors are aware of what is required for the education system at the micro-level in schools. JICA-RI conducted substantive surveys in Mongolia, Cambodia and Nepal to find: (1) how both actors evaluate the implementation of the various forms of education provision, (2) how both actors review barriers for access and quality education, and (3) the current situation of out-of-school children with disabilities. The panel consists of a few highlighted studies from the three countries. Presentations will begin with the respective study teams introducing the results of the fieldwork conducted, exploring critical findings, followed by a discussion after each presentation.

Organisers: Kazuo Kuroda¹, Miki Sugimura², Yuto Kitamura³, Diana Kartika¹, Yuji Utsumi¹, Yuriko Kameyama¹
Waseda University¹, Sophia University², University of Tokyo³, Japan

Workshop

Workshop 1: How to Recognise and Support Students with Sensory Processing Disorder (SPD) in Your Setting

Our body naturally finds a way to regulate itself so we are able to concentrate, learn and attend. If you had a sensory processing disorder this is paramount to coping throughout your day and therefore can have a massive impact on learning. Commonly some of these characteristics are misunderstood and supported as behaviours. Sensory processing disorder (SPD) impacts 1 in 20 children (www.spdfoundation.org) and over 75% of autistic people. More and more schools are educating students with special needs, so it is important they are able to recognise needs and know how to support them in a personalised way. This workshop will introduce SPD, how we can recognise needs and characteristics relating to SPD and how we can start to support these needs in the classroom to ensure all students are able to reach their potential. This workshop will be suitable to professionals from all levels of education as well as students looking to enhance their knowledge and understanding of students they are likely to teach. We will also bring along some of our experiential installations for the participants to gain an insight into how SPD might feel for them.

Organiser: Becky Lyddon, Sensory Spectacle, UK

Sessions

Session 1: Inclusive Education

Title: Social Skills for Students With and Without Learning Disabilities in Primary Education in Saudi Arabia

(Author: Omer Agail)

Title: Teaching Reading and Spelling to Students with Dyslexia in English Language Classrooms

(Authors: Daniela Soradova, Zdena Kralova)

Title: A Case Study of Differentiating Instruction for Mathematics Using Multiple Intelligences for Diverse Learners in Regular Classroom

(Author: Megumi Wakui)

Title: The Design of Tactile Toys as Tactile Therapy for Children with Tactile Dysfunctions

(Author: Karen Hong)

Title: Enhancing Social Communication (Pragmatic Language) Skills in Children with Autism through an Intervention Programme

(Author: Meenakshi Dwivedi)

Social Skills for Students With and Without Learning Disabilities in Primary Education in Saudi Arabia

Omer Agail

Special Education Department, King Khalid University, Saudi Arabia

Abstract

The purpose of this study was to assess the social skills of students in primary education in Saudi Arabia. A Social Skills Rating Scale for Teachers Form (SSRS-TF) was used to evaluate students' social skills as perceived by teachers. A randomly selected sample was chosen from students with and without learning disabilities. Descriptive statistics were used to describe the demographic characteristics of participants. Analysis indicated that there were statistically significance differences in SSQ-TF by academic status i.e. students with LD exhibit less social skills compared to non-LD. In addition, analysis indicated that there were no statistically significance differences in SSQ-TF by gender. A conclusion and recommendations are also presented.

1. Introduction

It has been widely accepted that individuals with learning disabilities (LD) experience difficulties with social competence that includes social behaviors, social skills, and social acceptance [7], [6]. Precisely, studies have indicated that 35% to 75% of the population of students with LD experience social behavior difficulties. Other studies indicated that 15%-22% of youths with LD in the United States have social-emotional deficits [4]. However, not all students with LD experience social difficulties, as one study reported that only 16% of them exhibit sufficient social skills [3]. Bryan [3] indicated that there is evidence that younger individuals with LD are more likely to experience social and personal difficulties than nondisabled youngsters. Students' social competence is also different from one setting to another; for example, researchers indicated that students with LD may interact in the playground in different ways than in the classroom. Also, students with reading difficulties interact in different ways in reading class than in math class for example. The rating of students' social skills is influenced by the raters themselves; for example, special education teachers rate students with LD as having higher social skills than classroom teachers because special education teachers are familiar with the social difficulties that students may experience. Teachers' perceptions of students' social skills are important to

evaluate because they reflect the interaction between them and the students with LD.

Social skill difficulties influence students' peer acceptance, whereby Agail [1] indicated that students with LD report feeling lonelier than nondisabled students as a result of less peer acceptance. Wiener [15] indicated that children with LD were less accepted by peers, had poorer social skills and a higher level of problems behaviors than children without LD as rated by teachers. In a four-year longitudinal study aimed to determine social skills of children with LD and non LD children with low achievement, results indicated that children with LD and low achiever children experienced low social skills compared to ordinary children as rated by teachers [14], [12]. A similar study conducted to determine the interpersonal understanding and social adaptation of students with LD compared to nondisabled students in the classroom as rated by their teachers indicated that students with LD exhibited less interpersonal understanding and social adaptation [8]. A review of research by Nowick that included 28 studies aimed to determine the social skill difficulties among students with LD showed that students with LD attending an inclusive classroom were at a greater social risk than peers without LD. This study also referred to the fact that classroom teachers tend to rate students with LD to be lacking in social skills [11]. Kuhne and Wiener [9] conducted a study to determine the social acceptance for students with LD in mainstream classrooms and found that students with LD had lower social preference scores and were more likely to be socially rejected, which is consistent with previous research. Madge, Affieck, Lowenbraun [10] indicated that the social status of students with LD is influenced by the special education serving model. They found that students with LD who received special education using the Integrated Classroom Model have a better opportunity to blend successfully into the classroom than the children who go out to a resource room.

2. Research Questions

The following research questions were addressed in this study:

1. What is the level of social skills of students with LD and non-LD?
2. Is social skills status influenced by gender?

3. Education for LD Students in Saudi Arabia

Since 1996, a new period of special education was initiated in Saudi Arabia. Services must now include other categories of exceptionality, such as LD, emotional/behavioral disorders, autism, communication disorders, and physical and multiple disabilities. This includes identifying those children, planning suitable services, and providing services in the least restrictive environment. Females are separated in their education from males beginning at elementary school, at the age of six. As far as the education programs and curriculum are concerned, all Saudi schools apply the same curriculum and programs, regardless of students' gender, to prepare students for the requirements of Saudi society. The students with LD received additional support to meet their need in the resource room. This room or unit is a recent service provided by the Ministry of Education because the field of LD is still in the first stage in Saudi Arabia. It is placed within the ordinary school, and aims to develop the academic abilities of the student. Students with LD can leave their regular classroom in order to receive instruction and materials from a special education resource teacher. There is good coordination between the special resource teacher and the regular teacher to solve exceptional students' problems.

4. Purpose

The main purpose of this study was to determine the social skills status for students with and without LD in primary education schools in Jazan region, Saudi Arabia.

5. Methods

This study was conducted to determine the social skills status for students with and without LD. A questionnaire was translated from English into Arabic and was used to determine social skills. A description of the participants in the study, the development and administration of the scale, and data analysis are discussed in this section.

5.1. Participants

The education system throughout the country is highly centralized, i.e. all education districts implement the same curricula, under the same regulations, and therefore choosing the district of Jazan for convenience should not impede the

generalizability of the findings to other education districts. The target population was all students with and without LD in Jazan in Saudi Arabia. For this study, a sample of 136 participants was selected randomly and the questionnaires were completed and returned by the teachers.

5.2. Instrument Development

The Social Skills Questionnaire – Teacher Form was selected as the data collection instrument to measure how often a student exhibits certain social skills [6]. Teachers' ratings of social skills were obtained by indicating his or her perception of how often the behavior occurs in the classroom on a 3-point-Likert-scale. LD teachers rated students with LD and classroom teachers rated non-LD students.

5.2.1. The original questionnaire SSQ-TF. The original questionnaire consists of three of subscales: social skills, problem behavior, and academic competence. For the purpose of the current study, only the social skills subscale (SSS) was used. The SSS consists of 30 items. Adequate reliability tests including internal consistency, test-retest reliability, and criterion-related validity were reported [13]. The rating scale included 0= never, 1= sometimes, and 2= always from which the teacher could choose.

5.2.2. Preparing the SSQ-TF for Implementation

It was necessary to translate the survey into Arabic, and a back-translation method was used [2]. This involves translating the survey into Arabic, checking the grammar, translating the survey back into English, and checking it against the original. The numerical coding of the response scale was also changed from 0 to –2 to never (1) and always (3). For validity, the survey was examined and revised by different professionals who are interested in the field of special education from different departments, such as special education and educational psychology. Reviewers indicated some changes were necessary for the Arabic version to be appropriate for Arabic speakers. In addition, four items were deleted from the original copy as they were not related to social skills, such as “keeps desk clean”, leaving a total of 26 items. For reliability, Cronbach's alpha was calculated for the Arabic version of the SSQ-TF and was .90, indicating a very good level of internal consistency and reliability. Prior to conducting the analysis, scores were calculated by summing across the items in the SSR-TF scale. A mean score was calculated for each respondent and used in further analysis.

5.3. Data analysis

Demographic questions, such as gender, class, and student's classification, i.e. with or without LD, were

designed to address the characteristics of the sample. Closed-ended question descriptive statistics, such as frequencies, means, and standard deviation, were used to analyze the 26 items. The SSQ-TF used a 3-point Likert scale as follows:

1 = never, 2 = sometimes, 3 = always. In order to interpret the means, the mid-point of the 3-point scale had to be established. Accordingly, above 2.35 = high, 0.35 – 2.34 = average, and less 0.34 = low.

6. Results

The study was undertaken to determine the social skills among students with LD in primary education in Saudi Arabia and to compare the responses by reported demographic variables, including gender, class, and students' classification (with and without LD). The study participants consisted of males ($n = 84$, 61.8%) and females ($n = 52$, 38.2%) with 56 of the participants having LD (41.2%) and 80 students without LD (58.8%).

A t-test for independent samples was used to test for differences between the independent variables of social skills for students with and without LD, and gender. The dependent variable is SSQ-TF. A probability level of $p = .05$ or less was used. Each research question was analyzed for its effect on the total score of SSQ-TF. The assumptions were checked prior to conducting the analysis to ensure no assumption was violated. All the assumptions were met.

The first question posed by the study aimed to reveal whether there were differences when students were compared by academic status, i.e. students with and without LD. A t-test was used to compare the two groups, and the results indicated that there was a significant difference in the scores for students without LD ($M=2.3$, $SD=.40$) and students with LD ($M=2$, $SD=0.34$) conditions ($t(128) = 1.94$, $p = 0.05$), i.e. students with LD exhibit less social skills compared to non-LD students. A calculation of the effect size showed it was very small (0.02) indicating that only 2% of the variance in the social skills questionnaire could be explained by academic status. The second question aimed to reveal whether there were differences when students were compared by gender. A t-test for independent samples was used between the two groups. The results indicated that there was no significant difference in the scores for males ($M=2.2$, $SD=.36$) and females ($M=2.3$, $SD=0.41$) ($t(134) = 1.24$, $p = 0.15$).

7. Discussion

Overall, the study found that there was a statistically significant difference when social skills for students with and without LD and by gender were compared. The results also showed that there was a

statistical significance difference in social skills between students with and without LD; the means for the two groups is slightly higher for non-LD students. The researcher attributes these results to the fact that those teachers who participated in this study were unaware of the aspects of social skills as they have not studied this in their preparation programs from university. The researcher used to work as head of the Special Education Department at KKU in Saudi Arabia and was aware of different learning disabilities as not all academic programs in universities offer courses in social skills. This may lead to a lack of teacher awareness of the existence of social skill difficulties among students with LD. It is also important to mention that the identification criteria for LD is questionable and limited in Saudi Arabia, thus most of the LD students were identified on the basis of repeating years and not obtaining a required school achievement, but low achievement students are not necessarily LD students. Moreover, a lack of assessment tools in the Arabic language, such as standardized tests, makes it difficult to adequately identify those students with LD from low achieving students. Nowicki [11] indicated in a review of research that students with LD and students designated as low in academic achievement are at a greater risk for social difficulties.

8. Conclusion and Recommendations

The analysis of the data yielded the conclusion that there were significant differences in social skills between LD and non-LD students. The LD students were found to have less adequate social skills compared to non-LD students. No significant gender differences were found for the students with and without LD. Basic social skills courses and training for all special education and classroom teachers should be included in their preparation programs in universities. This will prepare the teachers to identify social skills difficulties early so they can provide the necessary training for the students, especially those with disabilities. McCay and Keyes [15] indicated that some students with disabilities require "over-learning" to an extent that may seem redundant to non-disabled students. It might also be important for the successful inclusion of those students with LD to be located in a regular classroom with their peers without disabilities as this requires additional and important social skills to interact with other students in school.

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Teaching Reading and Spelling to Students with Dyslexia in English Language Classrooms

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Abstract

The paper presents pilot research results of the questionnaire and action research focusing on teaching intact and dyslexic young learners English reading/pronunciation and spelling. The results of the questionnaire showed us what methods for teaching English reading and spelling teachers prefer to use and whether they know the Phonics method. The Phonics is supposed to be the most common method used for teaching English reading and spelling in the native environment. As the Phonics method is not very common in Slovak environment, we have decided to apply the Phonics generalizations at the lessons of English as a foreign language and find out whether it is beneficial for improving learners' reading, pronunciation and spelling skills.

1. Introduction

Teaching and learning how to read and write is a struggle in each language. It can be even much more challenging and time-consuming when the language is phonemic, as English for instance. When Slovak learners start to learn how to read and write in English, they consider English difficult as compared to the Slovak language. In English there are more sounds than letters and their combinations creating different words sometimes cause problems for reading and spelling. However, we have realized that the Phonics instructions can bring more logic into English reading and spelling, and therefore, the Phonics could be introduced at the lessons of English as a foreign language. What is more, its cumulative, structured and multisensory characteristics make it suitable for teaching learners with special educational needs such as dyslexia or dysgraphia. In the following lines we are going to present partial results of the pilot research focusing on the Phonic method in teaching English spelling, reading and pronunciation to non-native intact learners alongside inclusive learners.

2. Dyslexia as a learning difference

It is very hard to understand thoroughly how our brain processes the world around, mainly when it defies all logic or the mainstream processing. Brain of a dyslexic learner is one of the examples. On the one hand, there is no brain damage or a significant sign that warns us straightway that a learner is dyslexic. There are, on the other hand, little notices that try to catch our attention in order to point out the difference. Referring to naming “Learners with Special Educational Needs” or “Learners with Learning Differences” there is just need to implement different approaches into learning and teaching.

Although dyslexia influences mainly literacy, dyslexic learners can also have problems to remember spoken information properly and retrieve words from a long term memory. Dyslexia is dimensional and symptoms of dyslexia range from mild to severe. Dyslexia may also be accompanied by attention deficit or autistic syndromes. We need to keep in mind that each individual is unique and symptoms of dyslexia vary from learner to learner in their intensity and severity [1].

Some learners may have minor difficulties, while others may even suffer from other developmental disorders such as ADD or ADHD, dyscalculia or dyspraxia. Glue ear (lat. Otitis Media) is also common among learners with dyslexia and it affects the acquisition of auditory discrimination skills, which later influence development of reading. The Asperger's syndrome or immune system disorders such as asthma or eczema may occur as well [2]. As dyslexia rarely appears in isolation and the signs are miscellaneous, the right diagnosis is the first and the foremost step that requires patience and the cooperation of teachers, special educators and psychologists.

Learners with special educational needs are not ill, so even after the diagnosis, there is no cure to fix the problem and wait until it works. From this point on, different methods, techniques and learning styles need to be tried and new ways and accommodations need to be introduced in order to make school years

of dyslexic learners or learners with other special needs productive and enjoyable.

2.1. Dyslexia and learning a foreign language

It is assumed, that if a learner is diagnosed with dyslexia in their native language, the effects of dyslexia are going to be the same or very similar, depending on the structure of the language, also in a foreign language. The vast majority of dyslexic pupils exhibit mainly phonological difficulties and are likely to have problems with a new language [4]. Moreover, auditory discrimination often makes it much harder and the time they need for processing the language is also a crucial factor. Dyslexic pupils speak more slowly in a foreign language and their working and short-term memory difficulties make it likely that learning vocabulary will pose problems as well. It is said, that pupils who have even mild difficulties in learning to read, write and master phonology of their native language, may find it difficult to learn a foreign language, but they will probably reach a reasonable standard if they try hard [4].

Dyslexic learners have very weak phonemic awareness, that is, they have problems to recognize words automatically or fast enough to allow comprehension. They struggle with blending and segmenting words into sounds or even rhyme words and therefore, they need different and specialized instructions to master the alphabetic code [5]. However, to gain even the reasonable standard they need great help from the teacher. The teacher's challenge is thus to find the most effective methods for pupils with special educational needs.

2.2. Requirements of dyslexic learners

Due to poor memory and weak phonemic awareness, dyslexic learners need as many opportunities for revision as possible alongside ample practice engaging all the senses in order to provide sufficient and long-lasting fixation into memory.

A number of authors suggest using the Multisensory Structured Language (MSL) approach based on the work of Gillingham and Stillman who explain: "Grammar, syntax and language phonology require to be taught through a programme that emphasises hearing, seeing, speaking and writing the language. A major challenge to teachers is to determine how these methods can be employed in busy modern language classrooms. One answer is to use the techniques with a whole group of pupils so that in the addition to the direct teaching being given, students can also practise among themselves to give the over-learning necessary for retention. Methods should explicitly teach correspondence between written aspects and the sounds they make [6]."

In other words, there is need to develop phonological and orthographic awareness, that is, recognize and identify syllables, onsets, rimes and individual sounds, differentiate sounds, divide words into syllables and sounds, remove or reposition the sounds to form new words. This can be ensured by various multi-sensory techniques such as picture cards, flash cards, tokens, letter cards, graphic models, word slides, bingos, dominoes, etc.

Furthermore, other accommodations like customizing the font, enlarging the font if necessary, generally adjusting reading materials according to dyslexic needs contribute to better learning environment. However, as learners' symptoms vary from mild to severe, the accommodations of their educational needs vary as well and highly individualized approach is required.

3. Phonics

Phonics is probably the best known and widely used method to teach reading and writing in English language [7]. Many authors consider it also as an approach from which other methods for teaching English spelling and reading unfold. Basically, it is the association of phonemes with graphemes and their combination phonically [8]. In other words, it is a set of rules also called Phonics generalizations that are gradually introduced to learners and so learners start to see logic in letter combinations and their phonetic realization.

Linguistic Phonics is based on the key concepts: sounds are represented by letters, sounds can be represented by one or more letters, longer words are made up of syllables (blocks of sound), the same sound can be represented in different ways, and the same grapheme may represent more than one sound [9].

The right introduction of Phonics generalizations is very crucial. Although there is not just one way of starting, systematic and explicit Phonics instructions are more effective than non-systematic, because it significantly improves learners' word recognition, spelling and reading comprehension. Moreover, it is effective for children from various social and economic levels and it is beneficial for learners with special educational needs. Systematic and explicit Phonics generalizations provide instructions in a carefully selected set of letter-sound relationships and then organize the introduction of relationships into logical instruction sequence.

Segmenting, blending and phoneme manipulation are phonological skills that are present when introducing Phonics generalization. These skills need to be practiced so that learners gain the ability to access individual sounds, push sounds together, omit or substitute sounds and generate new words [9].

However, Phonics is not just plain teaching of rules. The main aim of the approach is to encourage

investigation by learners [9]. Children need as much practice as possible in applying Phonics generalizations to unfamiliar words producing approximate pronunciation and then make real pronunciation inferences by thinking of words they know [10].

Phonological skills enable learners deduce the pronunciation or spelling of unknown words as they learn how to analyse the words, apply their experience with language and what is more, they engage metacognitive skills as well, because they actively work with the language.

3.1. Phonics and dyslexia

Based on the requirements of dyslexic learners and the characteristics of the Phonics method (structured, cumulative and multisensory), Phonics is supposed to work by dyslexic learners. A lot of research has been devoted to studying effects of Phonics instructions on dyslexic learners. Mainly, the research has been carried out in English speaking countries with English speaking dyslexic learners. Basically, the studies proved the positive effect of Phonics instructions on teaching English reading and spelling to dyslexic learners and suggest teaching Phonics for them [11].

4. Pilot research

As the Phonics method is well-known in an English-speaking environment and other countries that have the phonemic type of language, several researchers have applied Phonics in English-speaking classes to study its effectiveness. Nevertheless, there has not been any research that would study the Phonics method for teaching English as a second language. Therefore, we have created the questionnaire where we would ask Slovak teachers of English what methods they use for teaching English reading and spelling, whether they know the Phonics method and if so, whether they use phonetic exercises at the lesson and how often.

In order to find out whether Slovak learners are able to process the phonetic rules, understand them and later apply them in practice, we have conducted the action research with 27 learners in the year 3 of a primary school divided into two classes. There were three integrated learners in each class with a special learning difference as well, mainly dyslexia, but in some cases accompanied by ADHD or dysgraphia.

We had chosen learners in the year 3, because in this year learners start to practice English spelling and reading more intensively compared to year 1 and 2, where they generally learn poems, sing songs, and basically build their vocabulary. At most schools, there is one lesson of English as a foreign language per week in year 1 and two lessons of English in year

2. In year 3 there are two or three lessons of English per week depending on the decision of school.

In this case, the Phonics method serves as a tool for teaching both reading and pronunciation, as learners in non-native environment learn pronunciation through reading as well. Therefore, we consider the terms reading and pronunciation equal in our study.

4.1. Questionnaire results

The aim of the initial questionnaire of our pilot research was to find out whether Phonics method is known by the Slovak teachers of English. We were also interested in how often the teachers practice pronunciation activities and what techniques they use in their English lessons. The sample asked was the teachers teaching at the first level of primary schools. Their teaching practice was 7.94 years on average, the longest teaching practice being 37 years and the shortest one being 1 year.

We asked what methods and techniques the Slovak teachers of English use to teach pronunciation. Most of the teachers, 33%, use the “listen and repeat” technique, 28% prefer reading aloud, 18% of the asked teachers read poems and songs with learners and 17% of teachers use visual aids.

We also asked the teachers how often they practise English pronunciation in their lessons. 66% of the teachers practise pronunciation at each lesson, 14% practise pronunciation once a week, 14% only rarely, 4% never practise pronunciation and 2% devote their time to pronunciation once a month.

As the Phonics method is quite a new method in our context, teachers were asked if they were aware of the method and if so, whether they applied it in their lessons. 60% of the teachers asked do not know the Phonics method at all. 40% of the teachers know the method, but it does not necessarily mean that they apply it in their lessons. From the teachers who know the Phonics method 30% apply and 35% do not apply it in their lessons. 28% of the teachers use the Phonics method only sometimes.

Although there are materials that cover few Phonics instructions available also in Slovakia, they are generally omitted by teachers at the lesson from various reasons, such as insufficient knowledge about how to apply the Phonic rules, or not enough time at the lesson or it can be considered difficult or useless to practice, as pronunciation and spelling is generally taught by constant drill, repetition and practice.

4.2. Action research results

We applied Phonics generalizations in two classes with integrated learners with dyslexia and

accompanied learning differences for 4 weeks once a week.

We have chosen a few Phonics generalizations to be introduced at the lessons. As pupils in the year 3 already know the letters and are able to write and read in the Slovak language, we skipped the initial stages of Phonics instructions. It would not serve the purpose of the research if we had dealt with the Phonics instructions which have identical phonetic realization in the Slovak language, e.g., *mop*, *peg*, *dog*, *bin* etc., even the digraphs such as *fl*, *sp*, *bl*. Therefore, vowel sounds like *a*, *e* (for the comparison of the sounds *a* and *e*, because they sound similar in Slovak), *u*, digraphs *sh*, *ch* and *th* and the *all* ending sounds have been chosen.

The evaluation has been carried out from two points of view, the researcher's and the teacher's. The researcher was leading the Phonics lessons and the teacher was in the role of an observer. Both, the researcher and the teacher have filled in the same evaluation sheet after each lesson. They evaluated the researcher's clarity of presenting the Phonics rules, her pronunciation and accuracy, how pupils coped with the instruction, whether they were able to understand the instructions and complete the tasks and whether they had any additional questions.

The teacher and the researcher have agreed that the Phonics instructions are worth being applied in the lessons, because pupils are able to cope with them and use them in practice, both in writing and reading. It enabled pupils to read not only words they know, but to guess the pronunciation and spelling of the unknown words as well, so our primary concerns about whether it was too complicated and demanding for our learners dissolved. Moreover, we realized that some of the tasks were too easy for the learners, while other made pupils think about the rules. Therefore, it is important to present tasks that are challenging enough and activate learners' metacognitive skills, but on the other hand, they should not be demotivating.

However, it has been remarked, that short Phonics instructions at the beginning of the lesson or in the middle of the lesson would be more beneficial than the whole session of the Phonics instructions as after a while, pupils were losing their concentration and interest in doing basically the same type of tasks. Kralova emphasizes that pronunciation needs to be practised more often and for a short period of time [12].

Concerning learners with dyslexia and other learning differences, we realized that they too were able to understand the Phonics generalizations, but compared to intact learners, they still made more mistakes in exercises or needed extra guidance in carrying out the exercises. However, the good point is that there was no need to create completely new exercises or accommodate tasks considerably in order to teach the Phonics instructions to integrated

learners. Both integrated and intact learners were able to follow the instructions, while integrated learners needed only more time and slower pace alongside multiple opportunities for revision and fixation.

5. Recommendations and accommodations to referring research

Thanks to the pilot research we have set up the research design in the form of the case study where we are going to focus on teaching English reading, pronunciation and spelling to learners with special educational needs, dyslexia predominantly, in the inclusive classroom, i.e. altogether with intact learners. We are going to study whether the Phonics method is appropriate for teaching English as a second language to dyslexic learners. There has not been any research that would study the effectiveness of the Phonics method by learners with dyslexia or other learning differences in teaching English as a second language in the longitudinal research. However, according to the research that have been already carried out and according to the characteristics of the Phonics method, the method is applicable for learners of English as a foreign language in the non-native environment and we suppose that the Phonics method will be beneficial for learners with special educational needs as well.

All the accommodations are going to be adapted to the needs of integrated learners, because it is supposed that all the adjusted methods or environment changes beneficial for integrated learners are going to be beneficial for intact learners as well.

First of all, we have to focus on the appropriate choice of the Phonics generalizations. We are going to deal with phonemes that have different graphical realization and do not occur in Slovak language or are not even similar to Slovak phonemes. As we have already mentioned, the phonetic rules have to be challenging enough in order to serve the purpose, otherwise learners lose their interest and concentration in learning. Speaking of learners' interest, the types of tasks need to be varied and the time devoted to the exercises and phonetic instructions needs to be shorter and more frequent rather than devoting the whole lesson to teaching the Phonics instructions.

We believe that research will bring more light into teaching dyslexic learners, improve their receptive and productive skills in a foreign language and help teachers lead the lesson in a more logical and systematic way.

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7. Acknowledgements

The research was funded by the Cultural and Educational Grant Agency of the Ministry of Education, Science, Research and Sport of the Slovak Republic (KEGA 006UKF-4/2017).

A Case Study of Differentiating Instruction for Mathematics Using Multiple Intelligences for Diverse Learners in Regular Classroom

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Abstract

Differentiating instruction is gaining attention as a teaching method that has an effect on all diverse learners in regular classes. In Japan, the survey results show that 6.5% of all school-age children present the characteristics of developmental disorders such as LD or ADHD, high functioning autism (MEXT, 2012). The average number of Japanese classmates is about 27.6 [Based on MEXT (2016, 2017)]. This means that in any class there will be a few children with special educational needs such as LDs. In addition to this, there are other children who are underachieving, due to a range of factors, such as having roots in foreign countries, being non-native speakers of Japanese, and children who need various assistance because of social economic issues. These children will all be enrolled in regular classes, similar to other countries in the world. The need for learning methods that could adjust to each children's individual cognitive profile is a global education issue. Therefore, this research examined the effects of a method where children were able to select the learning strategies suited to themselves based on the theory of Multiple Intelligences. Children in an elementary school second-grade-regular class are required to understand the concept of multiplication and memorize the nine times table. Data was collected from groups of children with attainments in mathematics falling in the upper, middle, and lower levels, and also from those with special educational needs including a boy with high-functioning autism. Measurements included the degree of comprehension of the learning content, the multiple intelligence used in the leaning, the score of the memory test, the inappropriate behavior, and the peer interaction. The results indicated groups with preferences for using the following strategies to support memorization for multiplication: floor pro-tiles (spatial intelligence), singing multiplication songs, and dancing. Most of children were able to understand not only the memorization of the nine times table, but also the mechanism of the multiplication. Inappropriate behavior (absence, escape to the outside of the classroom) was not observed. During the guidance period, children who failed to completely memorize the nine times table showed episodes such as voluntarily recalling the multiplications to teachers during the long-term leave after the guidance period. It was suggested that being able to choose the method of learning by themselves leads to motivation and improvement of memory ability and on conceptual understanding and interpersonal relationship.

The Design of Tactile Toys as Tactile Therapy for Children with Tactile Dysfunctions

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Abstract

Tactile Toys are developed from three-dimensional textiles as tactile therapy for children who are diagnosed with Tactile Dysfunction. The three-dimensional forms of textiles are achieved by utilizing the thermoplastic qualities of synthetic fabrics. Tactile Toys are being used in occupational therapy sessions, and the usage of specific Tactile Toys for each individual child is closely being monitored by the occupational therapist. The implementation of Tactile Toys as tactile therapy will better equip children with appropriate therapeutic tactile sensory benefits, with a focus in helping children with different tactile sensory needs to improve their ability to regulate, interpret and execute appropriate behavioural responses to touch sensations. The goal of tactile therapy for children is to help them develop appropriate responses to touch sensation so that daily tasks can be competently performed. As these competencies will increase with effective tactile therapy, the child's self-esteem and self-regulation will also improve, allowing them to live their lives in a functional manner.

1. Introduction

Victoria is a five-year-old girl who is extremely sensitive to the types of clothes she wears and textures that she comes into contact with. The bedding, towels, upholstery and even the carpet must be of a certain level of comfort to her. If she cannot find her comfortable socks and if she walks on the carpet with her bare foot, it will trigger her frustrations and lead to a meltdown. In contrast, seven-year-old Jason generally seems unaware and unbothered by textures of any surfaces, unlike Victoria who is extremely sensitive. On the other hand, Aaron loves to touch and feel everything! He craves for certain textures and will touch, feel, stroke, poke or pull anything that comes into his sight. These three children do not react to the sense of touch as normally as compared to other children.

The above-mentioned three children are diagnosed with Sensory Processing Disorder. They are known to have tactile sensory dysfunction. To help them cope with this dysfunction, a series of tactile toys and tactile materials collectively known as Tactile Toys are designed and prototyped for these children. This paper focuses on the conception of Tactile Toys and their usage as tactile therapy to help children with tactile sensory dysfunction to overcome their dysfunction.

Tactile Toys, they will help expose the children to different types of touch sensations within textiles that they will come into contact with, such as their play objects or daily necessities that they use regularly. Children who are oversensitive or under-responsive to the sense of touch as well as tactile-seeking will benefit from this range of play objects and materials. Tactile Toys will further attract children to explore and enjoy tactile experiences. The three-dimensional structural surfaces can respond to the child's sense of touch and sight. They are incorporated as sensory diets during the occupational therapy sessions facilitated by an occupational therapist that will be monitoring the appropriate use of tactile toys and tactile materials for the child with specific tactile sensory dysfunction.

Through tactile therapy, their tactile defensiveness can be improved, their low level of sensitivity to textures can be enhanced and their tactile seeking behaviours can be soothed. Tactile therapy will allow them to develop appropriate responses to touch sensations in their daily lives.

2. Tactile Toys as Tactile Therapy for Children with Tactile Sensory Dysfunction

Touch is the most basic of human senses. The tactile sense provides information through the surface of our skin and allows us to receive information regarding the texture, shape and size of objects in our environment [1]. This is known as the discriminative

factor of the tactile system. With a functioning sense of touch, we can feel pressure, temperature and pain, which is the protective factor of the tactile system. Protective factors alert us to potential dangers [2]. Being able to react positively to touch sensations enables us to feel comfortable and emotionally secure.

Tactile Toys are a series of play objects and materials designed for children with Tactile Sensory Dysfunction. They are made from specially designed three-dimensional fabrics known as Tactile Textiles, which are constructed by utilizing the thermoplastic qualities of synthetic fabrics. These three-dimensional structural textiles are formed by using heat setting techniques, which is a technical approach of fabric manipulation that provides a platform into some of the most creative and innovative approaches in surface and textile design. This technique enables a flat fabric to be transformed into structural and sculptural forms. The creative process of pleating, crushing as well as moulding continues to evolve into different possibilities and hence creating a range of interesting surface designs that is fundamental to the design process of this project.

The main choice of fabric material is polyester, chosen because the three-dimensional structures should be able to retain their shapes permanently. Polyester, with thermoplastic qualities in the form of fabrics and fibers can be given a three-dimensional form regardless of construction methods and amalgamation with different surface design techniques. By definition, thermoplastic refers to the quality of a fiber whose molecular structure breaks down and becomes fluid at a certain temperature [3], making it possible to reshape the fabric by pleating, moulding or crushing. The fabric is 'fixed' on cooling and cannot be altered unless heated to a temperature greater than the one at which it was reshaped.

Polyester belongs to the fabric group called Synthetic Fibers. Some other examples in the synthetic fiber group include Polyamide, Acetate, Acrylic, Viscose and Elastane. Polyester is thermoplastic, that is, it can be transformed by heat into new configurations, which on cooling are completely stable [3]. Polyester fibers and fabrics, being thermoplastics can be given a new form by heat setting. In this project, different techniques of heat setting will be explored to show the flexibilities of Polyester being given a three-dimensional structure and form.

Moulding of the fabric creates structural surfaces on the fabric. Moulds of different shapes and sizes can be used to provide the three-dimensional effect of the fabric. One easy approach is to apply simple 'shibori' techniques, by using a binding technique; glass marbles can be tied to the polyester organza. Then fabric can be placed into a microwave or steamer during the heating process. Once heated, the fabric will adhere to the form of the marble mould, which is below the melting point of the fabric. Once the fabric

has been heat set, the marbles are removed. This creates an amazing textural, rounded and three-dimensional effect to the fabric. This structural design can be customized to one's liking, whether the moulds are close together or further apart, each individual fabric can be created with a different form.



Figure 1. Tying of marbles and heating to achieve three-dimensional effect on fabric.



Figure 2. Tactile Textiles: Various shapes achieved by using different moulds.

Shibori is a centuries old traditional Japanese textile finishing technique. It involves tying and folding a piece of fabric before the dyeing process. This technique is originally used on silks and plant fibers, which leads to unique patterns, textures, structural forms and colours after the dyeing process. On natural fibers, the three-dimensional effect will not be permanent. However, on synthetic fibers such as polyesters, when treated with the shibori technique and heat, the fabrics will have a permanent three-dimensional surface as a result.

Tactile Textiles are hence being developed into a range of tactile sensory products that target children who suffer from tactile sensory dysfunction. It aims to target children with tactile sensory dysfunction that involve the tactile sense who may be suffering from either over-responsiveness, under-responsiveness or sensory-seeking disorders. A child who is sensory over-responsive overreacts to their sensory messages. Examples of symptoms include being highly irritable to fabric textures particularly those that are rougher such as denim or wool. If left untreated, the child may grow up to face problems in grooming, as combing of hair, nail cutting, hair cutting will become highly irritable. Their senses are too sensitive to withstand such activities, which to them has become undesirable. A sensory under-responsive child displays slowed response towards a sensory message. Some symptoms include not crying when hurt, not

noticing when someone touches him, not reacting to different body sensations such as heat, cold, and hunger. Some children may also be socially withdrawn. Lastly, a sensory-seeking child is fidgety and will be constantly touching or pulling something because he has a large sensory appetite. Constantly touching something or being fidgety is an attempt for him to satisfy his sensory cravings.

The treatment for tactile sensory dysfunction is through an occupational therapist. A sensory integration approach will be adopted. According to the child's symptoms, a customized sensory diet will be planned to treat the child. Some examples of existing treatments [4] include squeezing soft tactile balls, use of Willbarger's brush to apply pressure and proprioception and, doing art and craft that involves different textures such as clay and paint.

Tactile therapy through the use of three-dimensional structural textiles will provide a variety of tactile sensations and explorations using touch. The implementation of tactile sensory products into the sensory diets of the children will better equip them with the appropriate therapeutic tactile sensory benefits, and hence is able to focus on helping children with different tactile sensory needs to improve their ability to regulate, interpret and execute appropriate behavioral responses to touch sensations so that they are able to live their lives in a functional manner. The goal of tactile therapy for children is to help them develop appropriate responses to touch sensation so that daily tasks can be competently performed. As these competencies will increase with effective tactile therapy, the child's self-esteem and self-regulation will also improve.

3. Effectiveness and Value of Tactile Toys

Tactile Toys are woven into the sensory diets of children who are sensory over-responsive, sensory under-responsive and sensory-seeking. The treatment for each specific tactile dysfunction is through an occupational therapist. According to the child's symptoms, a customized tactile sensory diet is planned as treatment for the child.

Tactile Toys have been tested out on the children. For children who are sensory-seeking, tactile toys will provide them with sufficient sensory cravings and the cause-and-effect play would capture their attention so that they can sit still long enough to go through the sensory therapy. For sensory over-responsive children, Tactile Toys will allow them to practice the feel and touch of different types of fabrics so that they will become more comfortable in feeling the different textures over time. As long as the child has been exposed to a variety of touch sensations, the uncomfortable feel that she has initially will gradually diminish. This will be the strategy of desensitization [7], which is a gradual process whereby the child is introduced to a variety of textures and materials and

over time, they will learn to accept the tactile sensation. As for sensory under-responsiveness children, they will be able to benefit from the tactile and visual stimulation provided by the tactile toys and materials. The invigorating three-dimensional structures and the bright vivid colours together with the cause-and-effect play catches the children's attention and interest, while allowing them to maintain sufficient focus on the toys.

Currently, there are specific tactile materials and toys available in the market. They are mainly fidget toys made from plastics or PVC. Tactile toys made from fabrics with three-dimensional forms have not been developed so far. With the creation of three-dimensional fabrics, unique features such as the structural surface and vivid colours will intrigue the children to touch the fabric. Over a period of time, tactile toys will be able to provide specific sensory inputs for the children in each of these categories through therapy and allow them to overcome their tactile dysfunctions.

At present, there are already several effective solutions created, which will help children with sensory over-responsiveness, under-responsiveness and sensory seeking, fitting perfectly into the sensory diets of their occupational therapy programme. The four Tactile Toys being prototyped are Tactile Touchables, Tactile Balls, Tactile Runway and Tactile Wrap. The purpose of designing these series of Tactile Toys is to help the child identify different textures and to appreciate them, developing an awareness that it may lead to a joyful experience. These sensory touch toys can also double as sensory teaching supplies and can provide a variety of tactile sensations and opportunities for fun learning and exploration using touch. Tactile Toys can also be used in the desensitization of tactile defensiveness in a child when used in their daily lives.



Figure 3. Collection of Tactile Toys: Tactile Wrap, Tactile Touchables, Tactile Balls and Tactile Runway

It is important to introduce tactile experiences slowly and gradually and only when the child is ready to experience them, so that any defensive reaction can be avoided. A child with tactile defensiveness should never be forced to touch anything they do not want to, as this will cause further apprehension and avoidance. The therapist will need to encourage, explain, understand and communicate with the child as they attempt to introduce touch sensations to them in a safe and non-threatening way. If the child with tactile defensiveness is fearful of any materials, the therapist will let the child play with it in a less threatening way. For example, the child can hold the therapist's hand to start touching the tactile toys. The child can put objects or toys inside or outside the Tactile Toys, or push his or her toy cars or plush toys through it. After a child begins to feel safe, he or she will be slowly encouraged to try other fun ways in which the therapist can demonstrate, such as poking or pulling the Tactile Toys. Eventually, the child will be encouraged to use their whole hand, including their palm to touch the tactile textures, or even roll their body over it.

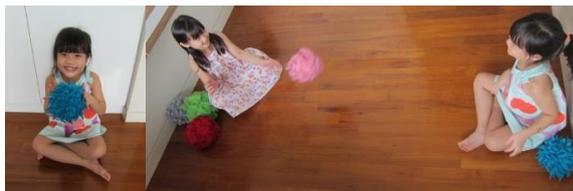


Figure 4. Playing "Toss and Catch" with Tactile Balls



Figure 5. Feeling and stroking the textures on Tactile Touchables and brushing of Tactile Touchables on the child's hand

Overall, Tactile Toys have proved to be effective when they are handled well and strategically used by occupational therapists. With its intriguing textures and structural forms, Tactile Toys attract children to touch them. With the help and supervision from occupational therapists or parents, children can manipulate and explore these toys by rubbing, feeling, squeezing and kneading their hands and having their hands in contact with Tactile Toys in various planned activities and games.



Figure 6. Playing matching game using Tactile Touchables



Figure 7. Walking, crawling and using Tactile Runway as "Step Upon" mats



Figure 8. Playing "Burrito" using Tactile Wrap

On the whole, Tactile Toys do stimulate children's tactile, proprioceptive, vestibular and visual senses as they offer the children a rich sensory play experience. Their hands, when in contact with the Tactile Toys will heighten the children's awareness of their body, allowing them to feel their physical and kinesthetic sensation within their body. This may make them more in tuned with their physical self and they will eventually step out of their tactile dysfunction behaviours.

4. Conclusion

Tactile Toys are designed to help children with tactile dysfunctions. With the detailed study of children suffering from sensory processing disorder focusing on types of tactile dysfunctions; the technical understanding of the construction methods of three-

dimensional textiles and the thorough study of sensory integration approach, Tactile Toys are created as a means of tactile therapy. Tactile therapy through the use of three-dimensional structural textiles will provide a variety of tactile sensations and explorations using touch. The implementation of three-dimensional structural forms into Tactile Toys will generate more interest for the children and focus on helping children who are over-responsive, under-responsive and sensory seeking to acquire the appropriate tactile sensory inputs for their tactile dysfunctions. This will better equip the children with the appropriate therapeutic tactile sensory benefits and hence focus on helping children to improve their ability to regulate, interpret and execute appropriate behavioural responses to touch sensations so that they are able to live their lives in a functional manner. The goal of tactile therapy for children is to help them develop appropriate responses to touch sensation so that daily tasks can be competently performed. As these competencies will increase with effective tactile therapy, the child's self-esteem and self-regulation will also improve.

Tactile Toys can calm children and regulate their stress levels. When working with their hands, the kinaesthetic hand movements such as pressing and squeezing can help children to release their physical energy or tension [8]. These experiences are important for the children to build up their emotional well-being and regulate their sense of emotions. When combined with guided activities and games, Tactile Toys can engage children's fine and gross motor skills. The children will be able to control their motor movements during directive play, which will prove beneficial in improving their self-control. Occupational therapists will know when to increase the challenges of the activities when children have accomplished certain levels and this will allow children to feel successful and elevate their sense of achievements. This will greatly help to strengthen their self-esteem and increase their confidence level in performing their daily activities. Hence allowing them to step out of their tactile dysfunction and to be more competent and independent in allowing them to live their life to the fullest.

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Enhancing Social Communication (Pragmatic Language) Skills in Children with Autism through an Intervention Programme

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Abstract

The ability to communicate effectively allows for independence and a higher quality of life. Social communication promotes interactions that allow for the development of relationships. Pragmatic language includes understanding complexities of social communication such as understanding why a joke is funny or irony, why some phrases or gestures are appropriate in some setting but not in others, understanding body language, tone volume, choice of words, sarcasm, appropriate interactive behaviour etc. Children with autism have an uneven profile of strengths and weaknesses in their social communication competence. Therefore, increasing pragmatic or social communication skills in them is a priority when planning interventions for children with autistic syndrome disorder. The purpose of the present study was to firstly prepare the case studies of three autistic children who are studying in special school, to find out their level of communication and to investigate the challenges in social communication they were facing. Afterwards, an intervention was given to them with the aim to reduce their social communication challenges. This intervention research had been focused on developing successful procedures for improving social communication skills in children with autism. The intervention programme consisted of directly taught social skills and some tools of teaching social skills like social stories, rhymes, role plays, comic strip conversation, games etc. This intervention not only resulted in improvements in verbalization, means length of utterance, and spontaneity of language use, but also resulted a decrease in challenging behavior and significant amelioration in conversational discourse skills, narrative discourse skills and understanding and using non-verbal social communication skills.

Session 2: Inclusive Education

Title: Academic Concepts in Brazilian Sign Language: Negotiation on Terms of Philosophy
(Author: Terezinha Cristina da Costa Rocha)

Title: Germany - No Country for RTI? Results of the First Implementation of Response to Intervention
in German Elementary Schools
(Authors: Yvonne Blumenthal, Stefan Voß, Bodo Hartke)

Title: Occupational Proficiency Scale Related to Inclusion for Teachers: A Scale Development Study
(Authors: Hakan Sari, M. Abdulbaki Karaca)

Title: Inclusion Individuals with Disabilities in the State of Qatar: Opportunity and Challenges
(Author: Asma Al-Attiyah)

Academic Concepts in Brazilian Sign Language: Negotiation on Terms of Philosophy

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Abstract

The Brazilian Sign Language (Libras) was developed in Brazil from the 19th century onwards, but was only recognized as a language in 2002. Due to this and other issues related to the socio-cultural, political, economic and accessibility context in schools, Deaf students were able to achieve higher education in the last decade. And a question that arose, derived from this context, is that the Libras had no signs to deal with certain philosophical concepts, especially the more abstract ones. These and other demands, led me to carry out a study in the creation of new terms in an attempt to develop this question. In this text I will present the methodological processes, development and results of the research, which was consolidated by the creation of a Thematic Dictionary of Brazilian Sign Language in the area of Philosophy. Finally, I present some questions about this process that will provide new research.

1. Introduction

This text presents the report and the results of research that I conducted in Brazil between 2007-2009 and that is currently in the process of reanalysis in my PhD research - 2017. The question that arose was the Brazilian Sign Language had no signs to deal with many philosophical concepts, especially the more abstract ones. Initially, I will present some questions that motivated the beginning of the first phase of the research, then I will discuss the development and results of the first stage - which was consolidated by the creation of a Thematic Dictionary of Brazilian Sign Language in the area of Philosophy - and finally, arguments that have made in my PhD thesis research.

2. The Research Issue

The initial problem, that motivated the research in the first stage, was the difficulty of translating philosophical concepts, from Portuguese to Brazilian Sign Language, especially more abstract ideas,

because there were no signs that represented them. This issue arose in 2006, at the university where I studied and also worked. I was coming up to graduating in Philosophy as well as working in the same institution as a translator for the Brazilian Language of Sign. Because there is a nucleus of support for these students, the place became a space for interaction between the speakers of Brazilian Sign Language - the deaf, translators and some teachers - at the university. At some point, it was recurrent that some deaf students asked me about the meaning of terms like 'epistemology' or 'metaphysics'. At that moment, I looked for references or publications of how I could translate, and could not find any Other issues that motivated the study were: (i) the significant increase of deaf students in Brazilian universities, which is a possible explanation for some public policies to expand this level of education and also by promulgating the law that recognized the Brazilian Sign Language guaranteed accessibility to deaf people; (ii) the increase in the number of deaf students at the university where I studied and worked, from 1 to 32, a possible understanding of this may have been the dissemination of translation services for Brazilian Sign Language; (iii) the realization that philosophical issues were addressed in most Brazilian undergraduate courses and this was perhaps not only a necessity of my work; (iv) the approval of a national law in that period, which made teaching philosophy compulsory as part of the curriculum of all secondary schools; (v) the significant number of people with some level of deafness in the Brazilian population, which currently reaches 9.7 million [12], and (vi) my own difficulty in answering the constant questions of my fellow translators on how we could translate some philosophical concepts into Brazilian Sign Language. With these motivations, which later became the justification for the research, activities were started. The objectives of the study were to analyze, discuss, propose and elaborate new signs, for Brazilian Sign Language, in the field of Philosophy. And then synthesize the results into material to share with

interested people. The research was developed in the stages that I explain below.

3. Methods

Initially, I made large lists of terms most used in the field of Philosophy, to do this I used classic dictionaries [1], [2], [3], [11], [17], [14], classic books of philosophy, my own notebooks of the Classes and web pages among others. Then, I endeavoured to discover if there was any sign of in Brazilian Sign Language for each of the terms, I looked for it in dictionaries and glossaries of Brazilian Sign Language [5], [13], [15], internet pages, I contacted other universities that were doing research on the language, sent emails to clubs and associations for the Deaf and also the association of translators. The terms I found could be removed from a list of approximately 340 words, after searching for signs, I was able to eliminate about 27 of them. Secondly, I organized a study group, which was attended by about 23 deaf students from the institution where I studied, studying in such diverse courses as, Education, Law, Architecture, Linguistic, Computer Science, History, Social Service and Accounting Sciences. What they all had in common was that everyone studied or had already studied the discipline of Philosophy I and II. Also invited were a group of translators of Brazilian Sign Language and about 5 of them participated; Two students of the Linguistic course, who were studying Brazilian Sign Language and methodology of mother-tongue teaching, volunteered to contribute; A linguist teacher, who worked with mother-tongue teaching and translation issues and a teacher of Brazilian Sign Language. In addition to these internal participants of the institution, invitations were sent to clubs and associations of the deaf, the associations of translators of Brazilian Language of Signals and also deaf high school students, (all of them sent one or more representatives and they themselves participated sporadically).

4. Results

In the study group, the terms / entries that were up for discussion were always chosen for each meeting. The work methodology was organized in: previous reading about the term from an entry or set of texts made available on that day. During these meetings, I made a brief presentation and depending on the complexity of the concept and the nature of its subsequent sign, invited professors of philosophy at the university to help us. When this had been covered, we opened a debate and tried to identify the most well-known chains for which the term had become connected. Finally, the deaf members present suggested some signs, always respecting the grammatical parameters of Brazilian Sign Language. It was usually negotiated in debate which signs best

represented each concept. In the absence of consensus, we would vote. For registration, I wrote down the description of the movements according to the grammatical parameters of Brazilian Sign Language and made a video of the sign to add to a collection. This process lasted just over a year and a half, and there were one and sometimes two weekly meetings between 2007 and 2008. About 300 new signs were negotiated and elaborated. After completing this stage, as I was still a student and because I did not have significant funding for the research, I looked for the university's television channel that registered each of the video signals with better resolution. For the consolidation of the material, with the support of system programmers, a "Thematic Dictionary of the Brazilian Sign Language - Philosophy, in CD-Rom format" was created, which was a more usual media in that period. The dictionary layout was organized with a list of words in the left corner, which could also be searched alphabetically and, by clicking on the term, a video with the corresponding sign was shown and, at the bottom of the screen, the theoretical justification to which the signal was connected, and also the description of the grammatical parameters of Brazilian Sign Language. After publication of the results, this study received an important national award for the researchers and, due to the publication of this award in the press, several institutions of education, high school and university, sought to obtain a copy of the material.

5. Future Directions and Considerations

After this period, I moved away from the research, although I continued to work and do other studies related to Brazilian Sign Language. I studied the subject of public policies in Master of Education. I was a student on some courses related to literacy and I studied two courses of the Theoretical and Methodological Foundations of Education and Language, I studied theories related to bilingualism and multicultural contexts and, all of these concepts, pointed me back to the research I had previously been conducting. In addition to these questions, nowadays, after the contact with the work of some authors of the New Literacy Studies and ethnographic approach [7], [16], [10], [9], [8], [6] I have raised new questions about this thematic: how are the negotiation processes around the terms? It is possible to identify situations of comprehension or Is it possible to identify situations of understanding or incomprehension in this context? By the observation that the deaf make between the communities the elaboration of new signs and, is it possible to identify this context that these are practices of literacy? And several other questions that guided my PhD research that is in the initial development process.

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Germany - No Country for RTI? Results of the First Implementation of Response to Intervention in German Elementary Schools

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Abstract

Since the ratifications of the Convention on the Rights of Persons with Disabilities Germany is forced to restructure the school-system towards inclusive structures. This is a challenge for Germany in the context of high rates of children with special educational needs and a highly selective school system. Because education in Germany is governed by a federalist system, there are different initial situations, requirements and strategies for an inclusive school in the individual regions. In the present presentation, we describe one approach in more detail: The Rügen Inclusive Model (RIM; Note: Rügen is the largest island of Germany). Conceptually, RIM is based on the US Response-to-Intervention (RTI) approach. It forms the first wide implementation RTI structures in the Germany. Therefore, two main questions will be examined:

1. How can the core elements of RTI be successfully implemented, especially in the context of (a) traditionally anchored selective schooling structures, (b) only few available progress monitoring measures, and (c) only limited findings on the external evidence of teaching materials?

2. Is the RIM concept viable for the successful prevention of special educational needs and for appropriate inclusive schooling? Starting from a brief introduction to RTI the RIM concept is outlined taking into account individual core elements (multi-level prevention, progress monitoring, collaboration in multiprofessional teams, evidence-based learning). Subsequently, we report an overview of the comprehensive evaluation study results. In context of a control group study (treatment group $N = 441$, control group $N = 385$), the effectiveness of RIM was compared with traditional schooling structures. Systemic variables (prevalence of different special educational needs) and pupil-related data (academic achievements as well as language and behavior-related development data) were evaluated at the end of elementary school. All in all, the RTI approach seems to be a promising framework model for an inclusive school system in Germany.

Occupational Proficiency Scale Related to Inclusion for Teachers: A Scale Development Study

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Abstract

Teachers need to imagine teaching programs using physical tools, educational technologies and teaching materials. It is possible for the teachers to use these resources in an effective way to achieve cognitive, emotional and social development of the students by proficiencies of teachers in the profession [1]. For this reason, the needs of the special needs students in the inclusive classes can be provided through the professionally qualified teachers. The purpose of this research, is to develop a scale for teachers to determine the professional competencies of inclusion. The scale was prepared by taking the opinions of experts. The 50-item trial form was shaped in line with the opinions of specialist faculty members who work in the field of special education and then reduced to 32 items. The validity of the items in the scale has been determined in the direction of the recommendations received by the experts. Substances with values below 80 were removed. In the study, the data obtained from 120 teachers working in the inclusion classes in elementary and secondary schools were used. Internal consistency has been analyzed to test reliability. The survey indicated that the 'Occupational Proficiency Scale Related to Inclusion for Teachers' was a tool that could be used to determine the professional competence of teachers involved in inclusion. The findings of the research will be presented in detail in the congress.

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Inclusion Individuals with Disabilities in the State of Qatar: Opportunity and Challenges

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Abstract

The study will present the progress of special education in the state of Qatar and will describe the society of individuals with disability and field of special education services. Government and Non-government institutions and organizations different services provided to individuals with disability in the society. Education reform's impact on the development of Special Education Policy in Qatar. The Additional Educational Support Needs (AESN) Policies and Implementation of the response to intervention (RTI) model for individuals with disabilities. The progress of the implementation of inclusion strategy and the parents with their children with disabilities and the stakeholder's role. The opportunities and challenges of education organizations and other organizations in developing special education services in the State of Qatar. The study also will be presented some children with disability and typical development children Perception of inclusion with their peers in general education primary schools their achievement, thoughts and dreams will be included.

1. Introduction

Social Services for individuals with disability began provided in 1963 through the Ministry of Social Affairs, it is established policies and Procedures for disabled people, as part of their mandate to oversee these services for all Qatari society. In 1995, the MSA introduced a system for categorizing people with disabilities used to determine financial assistance for them. In 1997, approved legislation to provide the same free care for non-Qatari individuals with disabilities. In addition, when special education was introduced in Qatar in 1974 there was only one classroom for children with hearing impairment attached to an elementary school for Males in Doha and in 1980, there three classes in the same school. These were expanded to include male with hearing impairment and Intellectual disability [6].

The first institution established for teaching hearing impaired and deaf children was Al Amal Institute for Males, in 1981, under the Ministry of

Education (MOE). In the next few years a counterpart for females was added and two more schools, the intellectual disability Schools, these institutions provided programs in assessment, and training for children with hearing impairment, including those with multi disabilities.

In 1984, the Special Education Department, under the Ministry of Health, instituted provide services for children with physical disabilities, in 1987 started to deliver the general MOE curriculum [7] In 1994, the Department began to present comprehensive services all children with multi disabilities and transfer children with physical disabilities to mainstream schools after grade 4

In 1991/1992, a Speech Therapy & Psychology Counseling Unit was started to provide services for children with learning and emotional problems [7]. In 2002/2003 it began to provide and coordinate services for individuals with learning disabilities, speech and communication disorders and psychological disorders at some MOE primary and secondary schools.

In 1998, Supreme Council on Family Affairs (SCFA) was established, by decree of the Emir, under the presidency of the His Consort, Her Highness Her Highness Sheikha Mozah Bint Nasser (SCFA 2005a). It seeks to adopt policies plans, programs and initiatives that contribute to preserving the family unit by developing its potential and protecting its members.

The Special Needs Unit within the SCFA focuses on insuring quality of life for individuals with disabilities and their families, through different programs and projects related to its National Strategies for People with Special Needs (SCFA, 2005b).

In 2000/2001, the Special Needs Unit started to draft the Law for People with Special Needs and its executive bylaws [5]. Through the SCFA, Qatar also became a signatory in 2007 to the UN Convention on Disability Rights, becoming the 100th country to sign the landmark document (UN News Centre, 2007). In 2001, the Special Needs Committee of the SCFA established a task force to begin planning for including children with physical disabilities in the Ministry of Education Schools [10].

3. Education Reform for a New Era

In 2002, implementation of the reform initiative, entitled Education for a New Era, began and the Supreme Education Council (SEC) was established to lead the reform. Moreover, was designed to supplant the traditional Ministry of Education. The SEC established two administrative bodies and gave them direct responsibility for enacting policies and developing a plan for students with disabilities [1], [3]. These bodies were the Additional Educational Support Needs (AESN) for enacting policies and developing a plan for students with disabilities has adopted the Response to Intervention (RTI) model for students with disabilities. The AESN was created to assist the schools in the use of best-practice teaching strategies to meet the needs of students with disabilities in the independent schools. "AESN" is the term adopted for identifying students with disabilities and others with special needs who are attending the independent schools. All services and support for students with AESN are to be provided in the general classroom.

4. Children with disability children Perception of inclusion

There are positive perspectives, in Qatar, of individual with disabilities, some examples of comments from the children with disabilities. Fatima, a 10-year-old Qatari wondered, "Will they be beautiful? Will they have frightening shapes?" She said, "We will give the hope for those children in life for doing everything like other normal children Faisal, a 9-year old Qatari wondered what "children with special needs" meant. "Are they like us or different? If they are different, in what way The Education Institute disability: Fatima, a 10-year-old Qatari wondered, "Will they be beautiful? Will they have.

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Session 3: Inclusive Education

Title: Equality and Opportunity in Inclusion

(Authors: Wirot Chompoo, Sumet Ngamkanok, Supattra Wongvisate Andrade)

Title: Inclusive Education Reform in Preschools of Bangladesh: A Study of the Teachers' Perception of Positive Behaviour Intervention and Support for Students with Challenging Behaviour

(Author: Aouana Marzia)

Title: Emotional Intelligence, Locus of Control and Academic Achievement Of Underachieving High Ability Students In Ibadan, Nigeria

(Authors: Dada Oluseyi Akintunde, Fagbemi Olusegun Olujide)

Title: Whole-body Coordination Skill in Children at Risk of DCD: Effects of the Different Foci of Attention

(Author: Rudolf Psotta)

Equality and Opportunity in Inclusion

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1. Scope

Using institutional research and development to evaluate and reform a special education program, a public school in the South-Eastern Region of Thailand shifted from a traditional to an inclusive program for greater support of students with invisible disabilities' access to quality education. The purpose of the study was to investigate and develop the educational program to provide students the ability to integrate and engage in more social learning opportunities. The study was divided into 3 primary procedures: (1) evaluating and analyzing the traditional program, (2) planning and improving the inclusive program, and (3) re-evaluating and analyzing the inclusive program. Five principal areas were developed for the following challenges:

1. Policy and curriculum: Accommodations and modifications were required to assist students with disabilities become successful learning in academic and social settings.
2. Human resources: Conceptual knowledge about the inclusive programs and collaborative teaching methods were required to enhance educators understanding of effective teamwork, teaching strategies, behavioral intervention, and other techniques.
3. Environments: Structured classrooms were required to promote and support all students to understand their tasks, roles, responsibilities, and safety.
4. Budgets: School budget required to allocate training for professional development, assistive technology, and facilities improvements.
5. Other requirements: Parents' collaboration and attitudes were very important for building effective teamwork with the school to develop the educational system and new supports.

The results of the study show the inclusive model's contributions to improving the education of students with and without disabilities within the inclusive environment. The discussions present the challenges, comparisons, advantages, and disadvantages of shifting the educational system from a traditional

program to an inclusive program. Finally, the recommendation for future institutional research would be to focus on maintaining these higher quality educational services and enhance the opportunities available to the students within the school and the community.

2. Objective and Motivation

Presently, public schools around the world are facing significant challenges from large populations of diverse students in the classroom, especially students with invisible disabilities. The Kingdom of Thailand is also experiencing critical changes regarding rapid growth of these student populations that impact schools' management, policies, curriculums, budgets, teachers' roles, teaching strategies, and other educational services. Hence, it is important that educational administrators focus on maintaining to provide equal opportunity for education and the funding of quality services to ensure all students receive maximum benefits as citizens.

For a period of time students with disabilities were segregated from other regular students. In 2008, the Education Provision for People with Disabilities of Thailand mandated powerful support of inclusive education for students with disabilities to fully integrate in the regular classroom [3]. Inclusive education is designed to provide students with disabilities the opportunity to participate in the regular classroom with other regular students, and with the support from strong collaborations between special education teachers and their regular education teachers [1]. Inclusion has demonstrated an educational system that values human rights, equal access of educational services and opportunities, dignity, respect, and acceptance [2].

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Inclusive Education Reform in Preschools of Bangladesh: A Study of the Teachers' Perception of Positive Behaviour Intervention and Support for Students with Challenging Behaviour

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Abstract

Towards the progress in Inclusive Education (IE), Bangladesh is emerging with the philosophy of educating children with disabilities in mainstream preschools. The effective practice of IE is yet at an early stage despite having several policies for almost two decades. Moving beyond policy statements, the practical implications of IE are still challenging in mainstream preschools. Hence, the need for research in the field of inclusive early childhood education is a result of contemporary pressures of social and legal factors for young learners' growth and development. However, though a number of international and national pledges on preschool education exists, IE is a relatively recent practice in preschools. With a focus on understanding inclusive preschool teachers' attitudes towards IE and their experiences about preschool students' Challenging Behaviour (CB), this study conducted a small-scale online survey in three urban inclusive preschools of Bangladesh. The literature review of this investigation illustrates that preschool students' CB is one of the areas in IE where teachers experience the problem to maintain school discipline and classroom instruction. Results for three research questions indicate that inclusive preschool teachers have positive attitudes towards IE approach along with a limited understanding of appropriate school discipline practice. Results showed that inclusive preschool teachers mostly experienced CB about students both with and without disabilities. Data interpretation demonstrated that teachers need a structured school-wide behaviour intervention system in the context. This study indicates that inclusive preschool teachers need further training in behaviour management. The results would enable the educators and professionals in early childhood education in Bangladesh to comprehend the present state of preschool IE and behaviour management strategies. A large-scale country wide in-depth study would lead to understand preschool teachers' perception on IE and current behaviour management practice in Bangladesh.

1. Introduction

In early childhood education across Bangladesh, children with disabilities are being included with their peers in a process termed Inclusive Education (IE). However, the movement of IE is facing considerable obstacles where many teachers continue to struggle with managing student behaviour in the classroom. As the process continues, IE is concerned with the identification and removal of barriers since the intention of the policy is to address and to respond equitably and appropriately to all needs of children irrespective of disability, gender, ethnicity or other disadvantage [2]. It is inferred that teachers' beliefs about IE are central to the implementation of any approach in preschool settings [13]. Prior to implementation of IE in Bangladesh, one of the barrier for preschool teachers was dealing with students' CB. Because early childhood teachers differ in their beliefs and perspectives on how to manage young students' CB, they therefore practice different strategies to address the inappropriate behaviours.

This study investigated three significant questions regarding IE in relation to preschool students' behaviour management and the need for positive intervention in the current context.

The research questions are as follows;

1. What are the perceptions of preschool teachers on IE and students' CB?
2. What are the challenging behaviours of both students with and without disabilities that teachers face in inclusive education settings?
3. Do teachers consider a systematic and structured approach like PBIS would assist in dealing with preschool students' challenging behaviour?

In order to investigate these research questions, survey methods used predominantly qualitative gathered data. Participants were recruited through purposive selection and data were collected through an electronic survey using Qualtrics (2015) software (Qualtrics, Provo, UT). Teachers' responses were

analysed according to their content and similar statements were gathered together to identify themes.

2. Rationale

This study involved three rationales: a) to contribute in the field of IE and behaviour management research of early childhood education; b) to increase awareness by understanding the current practice of inclusive preschool discipline maintenance; and c) to facilitate the educators to understand preschool students' behaviour management in IE. Preschool education or early childhood education in Bangladesh has not been a priority and many studies reflect the need for research on its development (Banu, 2014; [26], [41], [44]). In addition, only a limited amount of research has studied different aspects of quality education in preschool inclusive classrooms [52]. In recent decades; educators, behavioural scientists, neuroscientists and biologists have recognised early childhood as the time of major brain development that builds the foundation for later learning [1], [13], [7]. It has also been argued that preschool participation can increase the efficiency of primary education [44]. With this view, along with government and non-government initiatives for the inclusion of children with disabilities in preschools and other early childhood settings, research is a priority. Yet the challenges to maintain school discipline are pressing as preschool educators are teaching an increasing number of heterogeneous students with CB [12], [16], [18], [56]. There has been limited research which has focused on preschool IE and teachers' views about dealing with students' CB. Previous research has suggested that preschool teachers are the most positive resource factor of preschool inclusion [20], [28]. In fact, teachers' values, beliefs, and perceived inadequacies are all influential factors in the way teachers respond to students with disabilities as well as CB [20]. Equally, teachers' attitudes are critical to the success or failure of inclusion [3]. Educators are facing difficulties as many preschool teachers are exposed to multiple problems and risk factors related to students' CB which is the greatest source of frustration for preschool teachers [17], [60]. Difficulties in dealing with students' CB is also a common complaint among teachers in Bangladesh [32], [39]. Moreover, disciplinary exclusion occurs due to truancy rates and the categorisation of students as having emotional and behavioural difficulties in schools which makes it difficult to achieve the IE goal [6]. For this reason, an initial preschool-based study was chosen to explore the current state of early childhood IE and behaviour management.

3. Significance of the study

This study examined IE reform through the perceptions and opinions of teachers about strategies to deal with all students' CB in regular preschools. Results of this study revealed the teachers' attitudes and current practices towards IE in the preschools of Bangladesh. CB in preschools is a growing problem that interferes with children's socio-emotional and academic development (Hemmetter et al., 2007, [27]) and experts differ regarding appropriate practices for addressing CB within this context [7]. Therefore, this case study findings for general education teachers could indicate a benefit of professional development based on the concept of inclusion and strategies that might help schools for dealing with students' CB with better behaviour intervention [13], [28], [42], [49]. This study intended to contribute to understanding the need for PBIS within the current IE school system of Bangladesh. Study findings would increase awareness of preschool IE among teachers and stakeholders as well as initiate the urge for PBIS in preschools for behaviour management. In both developed and developing countries, the effects of schoolwide PBIS on preschool climate and problem behaviour have been demonstrated through a broad base of research that has been contributed to the IE legislation [16], [18], [23], [25], [39]. Furthermore, the teacher's role in facilitating a child's development of social competence through provision of appropriate classroom environment is also ensured by PBIS in preschool IE [45]. In other words, approaches to young children's CB can help children learn appropriate ways to express their needs and emotions for better development within school settings [13]. Hence, it is vital to understand teachers' perceptions about IE and the current need in the context for a sustainable implementation of evidencebased school practices to address young learners' CB.

4. Methodology

The purpose of this study was to examine inclusive preschool teachers' attitudes towards IE and students' CB. This study attempted to document whether different attitudes exists among preschool teachers, types of CB that teachers experience and teachers' reflections on behaviour management in the current context. A qualitative research approach was followed for this study [47]. Following the phenomenological approach, the purpose of this study was to explore and understand, through the obtaining of information from key participants, their respective IE systems. An interpretive approach was carried out to explain and understand the meanings of teachers' reactions [47]. According to the interpretive approach, the researcher believed that the reality to be studied consists of peoples' subjective experiences of the external world [35]. The qualitative method was

selected to reveal teachers' stated perceptions concerning their reflections on IE and school discipline with the extent teachers feel the need for a systematic approach like PBIS [54]. This study utilised a descriptive phenomenological strategy as this approach aimed to identify the types of experiences as described by the research participants. Phenomenology, because of its descriptive orientation, was best suited for this study [19], [21]. Furthermore, the context was important for the interpretation of data to explore the individual lived experience of the participant teachers. This was in order to understand the essence of a teachers' account of their experiences as it relates to the phenomena in the question of dealing with students with CB. As an educator, this researcher had personal experience and knowledge of preschool IE and students' CB [19]. This prior knowledge allowed the researcher to be connected with the phenomena being studied and determine the method for the study [43]. Using the qualitative process gave the study the method by which descriptive data were analysed through interpretation. In order to focus on the study more specifically, the research questions were separated into three particular questions to comprehend the collected data. The research questions were as follows: 1. What are the perceptions of preschool teachers on IE and students' CB? 2. What are the CB of both students with and without disabilities that teachers experience in inclusive education settings? 3. Do teachers consider a systematic and structured approach like PBIS would assist in dealing with preschool students' CB?

Henceforth, the study sought research participants from within the geographical and social context of Bangladesh. A survey instrument was developed to record their responses to a mix of scaled and open response items. The survey items were verified against the research questions and in discussions with the supervisor of the research. The intent is to describe the reactions of participants to the experience of inclusive education and challenging behaviours in the context of Bangladesh. The procedural details are given below [35].

The respondents in this research were recruited from three different inclusive preschools of Bangladesh. This was because, the socio-educational context of these schools was relevant and these schools were able to adjust the time frame and resources allocated for the study. The participants were purposefully selected because of their unique expertise in their respective fields [36].

A written questionnaire was used to obtain the data from primary sources for four weeks [9], [54]. For initial piloting, a sample questionnaire was used to assess the type of questions and to ensure that the data from the questions were valid and reliable [38]. Reliability was assessed through testing the response process by asking some of the volunteer teachers to

complete the questionnaire on more than one occasion. Some of the questions were asked in more than one way to assess internal consistency. Acceptability was determined by asking the participants how they found answering the questionnaire during the validity testing. This process helped to identify main issues and form the basis of the type of questions to be used in the pilot study. This approach encouraged the kind of flexibility for qualitative research where a line of inquiry was pursued and any movement in new directions were easy to change, as more information and a better understanding of what relevant data were acquired [22]. Once the ethical approval for the study was achieved from the university (BERA, 2011), the survey link was sent to the school authority for data collection from all the interested participants [47].

All appropriate descriptive analyses were run on the data. The results of all questions were tabulated, and a final interpretation was reported using interpretive description of the findings under the research question [54]. Merriam [38] contends that data collection and analysis must be a simultaneous process in qualitative research. She also argued that qualitative data analysis entails classifying things, persons, and events and the properties that characterise them. The method of phenomenology was used to describe the essential structure of a phenomenon in its analysis [22]. This data analysis method appeared as an appropriate methodology for this study because it focused on finding the essence and meaning of the experiences of the participants in providing their responses. All participants' questionnaire response data were read to get a general sense of the whole idea that was presented [19]. Then significant statements and phrases about the phenomenon being studied were extracted from each response. Meanings were then formulated from the significant statements. Then the meanings were organised into themes, and these themes evolved into theme clusters, and eventually into theme categories. A coded system was used to highlight specific themes/categories to perform a preliminary analysis. A description of the lived experience and from this the essential structure of the phenomena was formulated. Validation was solicited from the participants to compare descriptive results with their lived experiences. This description was presented in the findings and expected outcomes section. As a qualitative research, study findings were presented in descriptive, narrative form rather than as a statistical report. The final report consisted of the construction and description of the phenomena being studied from the meanings of written responses of study participants. This description explained the lived experiences of the participants as it pertains to preschool IE and CB. However, study findings were limited due to only consisting of descriptive analysis

and no statistical analysis attempt was taken throughout the study.

5. Findings

The demographic factors of the participants reflect that most of the teachers had a sound background of preschool teaching experience as well as exposure to the IE system with limited professional training. More than half of the teachers had higher academic degrees and the largest group of teachers were the regular classroom teachers, and a small group of special educators. The study documented different attitudes of teachers who were addressed to research questions about IE and CB in preschools. The results indicated meaningful responses to the research questions and below is the summary of the analysis. Research question 1: What are the perceptions of preschool teachers on IE and students' CB? Response data regarding the perception of IE, teachers were moved with positive attitude. A large number of teacher perceived the themes of IE with positive reflections on understanding the IE experience, whereas few teachers had limited understanding of school discipline. These data indicates that teachers had a clear concept of IE philosophy though not the whole concept of preschool discipline that is effective for young students in IE. Research question 2: What are the teachers' experiences about CB of both students with and without disabilities in inclusive preschool? Teachers were provided with the opportunity to indicate several aspects of their regular experience of CB. Results showed that most of the teachers had a class size of 16 to 30 students including students with disabilities, average in 1 to 3 per class. Teachers reflected that they experience CB with both students with and without disabilities. The second large group of respondent teachers noted that they experienced CB with mostly students without disabilities in IE classroom. A small number of teachers mentioned CB in relation to students with disabilities. The types of disabilities mostly experienced by teachers among students with CB were ADHD, ASD, LD, EBD and a few with other types of disabilities like physical disabilities, visual and hearing disabilities. Almost all the participants reported that the types of CB occurring most frequently were distracting others, roaming around the class, inattentiveness in the class. More than half of the teachers stated that peer fighting, breaking school rules, and classroom tantrum, roaming around the class, inattentive learning activity, excessive talking and breaking school rules were frequent examples of classroom CB.

Research question 3: Do teachers consider a systematic and structured approach like PBIS would assist in dealing with preschool students' challenging behaviour? The indicators of teachers' need for a systematic and structured approach in dealing CB were interpreted in the responses from four different

aspects. Firstly, a significant group of teachers were using reward-based strategies and verbal warnings for maintaining CB. A small portion of the respondents mentioned about strict rules and regulations. However, half of the teachers described that they were teaching expected behaviour rather than offering reward or giving warnings for CB. Secondly, with their current strategies teachers reported that they face difficulty mostly in managing students' CB as well as the whole inclusive classroom. Moreover, they also found difficulty in students' learning achievements due to CB. Some teachers mentioned that they faced difficulty while teaching lessons because of students' CB. Thirdly, the most desired approach that teachers had for improving the current situation in relation to dealing with CB, was a systematic approach. Further, these teachers also asked for more professional training on students' behaviour management. In addition, some teachers also showed the need for shadow teachers and special educators and the desire for fewer students in class. Finally, a group of teachers who had already experienced PBIS were more likely to agree about the alignment of PBIS principles to achieve IE goals in preschools. As perceived, more than half of the teachers considered PBIS as effective for classroom management, reducing CB, better student achievement and maintaining school discipline. These data were clear indicators of the urge for a structured and systematic approach to CB in the current context.

6. Discussion

This study examined preschool teachers' perceptions of CB in IE. This chapter will consist of discussion of the findings of this study and will follow the recommendations for further studies. It is agreed that Bangladesh being a developing country is still struggling in many dimensions of education [4], [33]. Moreover, effective implementation of global legislative policies of IE in practice is more challenging for stakeholders [46]. However, this study demonstrates that the progress in IE practice through teachers' positive awareness would initiate a difference in the field of preschool IE. As the data analyses were guided by the number of the teachers' responses, so results are discussed based on the three research questions. The demographic data about teachers' experience were used to determine if years of experience in IE and educational training had any impact on teachers' attitudes and were used to make decisions regarding support about in-service needs for training with the ultimate goal of providing improved services for students. Picardal [45] concluded that the lack of qualifications limit teachers' skills to offer appropriate responses to deal with CB. He also argued that professional knowledge and teachers' attitudes towards inclusion of children with disabilities in their classrooms may be influenced by a myriad of

demographic variables. For example, Ahmmed et al. [3] remarked that demographic variables like educational qualifications, length of teaching experiences in the classroom and acquaintance with previous training on IE affect teachers' attitude towards IE and students with special needs [31]. As seen in the literature review, research supports the correlation between training and general education teachers' attitudes towards discipline. Likewise, this study indicates that there was insufficient training on managing students with CB, even though teachers had some training; however, the actual amount is unclear. The first area of the perceptions of teachers toward IE and school discipline indicated that there was a significant difference in understanding of these two concepts. The attitude was generally positive in regard to IE, which is necessary for achieving IE goal in the general education class [5]. The literature indicates, inclusion heavily relies on general education teachers' attitudes towards having them in the general education classroom [48]. This is because teachers' own beliefs have an influence on their teaching and responding ability to young children with CB [13]. Furthermore, teachers' opinions about behaviour support and understanding CB also differs in the preschool IE setting. In this case, the perception about school discipline data reflect that some teachers use the strategy of controlling behaviour in order to maintain school rules and regulations. Whereas, use of controlling behaviour is considered as punishment in the very early age of life [7]. Actually, one of the major reasons why punishment persists in this way is because of teachers' misunderstanding of the difference between discipline and behaviour management [59]. Teachers' way of managing discipline and their competency in it provided same insights about their perception and practice trend of practitioners in Bangladesh. The findings also reflect the contexts thereby guiding the researcher in understanding and interpreting that even though teachers may believe in IE philosophy; there is still a misconception about appropriate discipline in preschool and appropriate behaviour intervention for young children. The discrepancy appeared in regards to teachers' understanding of school behaviour maintenance and IE may also indicate there is a lack of overall training in behaviour management. Because early childhood teachers differ in their beliefs and perspectives as to how to manage young children's CB, they therefore implement inappropriate strategies to address CB without training [13]. Another major reason is the deficit of knowledge relating to why children misbehave and how to discipline them positively based on those behaviours. As a result, teachers then lead on to strike out at their students and use forms of emotional punishment like verbal warning [59]. The subtle differences between these concepts add to the sense of uncertainty as to what is intended and, of course, it is now well established that

educational reform is particularly difficult in contexts where there is a lack of common understanding in IE and school discipline. It can be anticipated that teachers' beliefs can change and, consequently, remarkable improvements in their practices can be achieved if they are trained about discipline with a clear idea about teaching behaviour rather controlling behaviour [24], [55]. Research also indicates that teachers who manage CB properly, are controlled and competent with a formal plan for discipline and procedures of classroom management [45]. However, these are embedded in IE as the benefits of the provision of quality education and opportunities to develop the children's social skills of behaviour are interrelated [57]. Since teachers' attitudes and previous experience significantly affect the outcomes for preschool students' CB, another specific goal of the study was to investigate teachers' current experiences with different types of CB. This turned to encourage a deeper understanding of how they responded to and interact with most frequent CB. This result explored different inappropriate behaviours, such as aggression, cheating, lying, refusal to do as the teacher asks, talking loudly, walking around the room and inattention, wasting time without doing assigned tasks taht are all mentioned as common school behaviours by preschool teachers [33]. In this regard, Anderson [7] purports that some behavioural problems evident in preschool children gradually decrease with age and development as children attempt to develop a more mature sense of self in later life. In contrast, Mofett et al. (2008) argue that behaviours typically do not disappear rather require intervention. In fact, determining behaviours as merely developmental or problematic is extremely difficult for teachers as well as researchers due to continual developmental changes [7], Mofett et al., (2008). In other words, Bitar [13] emphasised that if CB are not addressed in the early years, they almost always escalate over the years and can interrupt the developmental process [25]. Additionally, she suggested that it is the responsibility of early childhood educators to prevent CB, to address them effectively when they occur, and to support children's self-regulation through a variety of strategies. Otherwise, this leads to a developmental barrier for young students [12]. Understanding the intensity, frequency, and inflexibility of such behaviours is also necessary to distinguish developmentally appropriate acting out from truly pathological behaviours [7]. However, in regards to students who exhibit CB, teachers need to understand these behaviours in different ways; whether these are the result of hereditary factors, their environment, or their own personal or psychological needs [59]. The study results showed that teachers face the most frequent CB in relation to both students with and without disabilities, which reflects that it is not always diagnostic developmental problems rather it might be

the general usual 'just being naughty' behaviour. Research in this area has been unable to systematically decipher if CB that are obvious extremes of behaviour are more likely to persist as typical or atypical in young children due to continual developmental changes [7]. Due to this confused situation in understanding of students' behaviour as typical or atypical, preschool teachers are demanding a systematic and structured intervention like PBIS [40]. Otherwise, the frustration that a child's misbehaviour causes, as well as lack of skills to handle the misbehaviour, would lead teachers to strike out at their student [59]. Moreover, often working with CB without behaviour management strategy, teachers become stressed and find it difficult to keep themselves positive in providing an appropriate response to the CB [33]. Similarly, teachers' stress and burnout are one of the causes of difficulties in classroom management due to CB that also leads to instructional time loss [51]. Ultimately, PBIS would allow preschools to increase instructional quality while reducing teachers' stress [14]. Discipline and behaviour management are defined as how a teacher maintains the classroom environment in a way which most effectively helps students to learn [59]. Given that the inappropriate strategies applied by the participating teachers like rewarding strategies and verbal warnings are still being used in the context, so it is interpreted that this can be an inappropriate strategy for preschools. This is because, the evidence reported in one study that the limited opportunities afforded to more optimal approaches to managing young children's behaviour by using of rewards as bribery in classrooms can have a negative impact on student intrinsic motivation [58]. However, preschool teachers' beliefs about what to expect from children and how children should act in the classroom are directly related to the type of approach these teachers make in guiding children's behaviours [53]. Teachers need to focus on using a systematic appropriate strategy towards students' misbehaviour with a positive outcome as an opportunity to teach behaviours in preschool IE [30], [53], [56]. Hence, in order to better understand how to manage diversity in the classroom, teachers need to know about multitier PBIS approach for inclusive preschool students' CB [12], [33], [37]. Moreover, the PBIS approach is proved to be an effective approach with positive and consistent improvement for young students in inclusive preschools [14], [16], [18], [39]. Another strategy teachers are currently using as behaviour management in inclusive preschools of Bangladesh is time out. In reality, Bitar [13] indicated that interventions and disciplinary measures, such as time out, being sent to the principal's office, and expulsion from school are usually reactive in nature and are a negative approach for children who exhibit CB. For young learners, punishment by time out may prevent problem behaviour temporarily, however these

measures are unlikely to bring long term changes in children resulting in them being socially competent. In this study, the survey data indicated that some teachers used verbal warnings and time out as punishment, as perceived they might have been used with the intention of maintaining the safety of other children in the school [13]. However, as has been noted, a preventive approach like PBIS is proved to maintain school safety from CB without punishment in preschools (Chitio et al., 2011; Kinacid, Childs, Blasé, Wallace, 2007; Michial, 2011). While some teachers used techniques such as teaching expected behaviour and other teachers used strict school rules, the research indicated that many teachers found managing behaviours is easy. In contrast, most of the teachers who mentioned that they found it difficult was due to a lack of confidence or knowledge to support children in correcting inappropriate behaviours [13]. Although little research has examined relationships between variables such as teacher training, length of teaching experience and teacher confidence, in fact these are significant moderator variables on teachers' perceptions of disruptive behaviour and management of CB [8]. Another finding of this study illustrates that inclusive preschool teachers' experience CB most frequently by the students both with and without disabilities. Results show that students who have diagnosed disabilities such as ADHD, LD, ASD and EBD, exhibit CB just as often as the students without disabilities. McClean & Grey [37] determined that PBIS allows teachers to minimise the frequency of CB and difficult classroom management. Likewise, research proved that PBIS is effective in preventing CB of young students with ADHD, ASD, LD, EBD and multiple disability in IE [10], [14], [15], [18], [23], [50]. Of the teachers those who already followed PBIS in preschool behaviour management, most of them reflected that PBIS is effective which is aligned with previously conducted research [11]. For example, PBIS was effective in classroom management, maintaining school discipline, reducing CB, and also resulted in students' higher achievement in academic activities [29], [34], [55]. PBIS is effective with both severe and high-rate behavioural problems as well as regular typical behavioural issues of young learners in early schools (LaVigna & Willis, 2012). Nevertheless, a structured and evidence-based system like PBIS might help teachers to deal better with CB, but preschool IE still requires intensive training to start the PBIS system within the IE context for both students with and without disabilities.

Despite many sincere efforts to prevent CB in preschool, the prevalence of children with significant CB remains alarming for many practitioners [12], [16], [18], [29]. This study shows that the most desired need of teachers in the current context is professional training to manage preschool students' CB. Research examined the beliefs of preschool

teachers and stated that professional training programmes have been related to the ways in which preschool teachers manage children's behaviours [31]. In addition, teachers' are also calling for a systematic and structured approach for behaviour management for all students. In this case, PBIS with its three- tiered model, stresses the importance of pertaining to preschools across all tiers to maximise benefits to young children [14], [25]. Furthermore, Kuhn [29] also emphasised PBIS practice with robust evidence of effectiveness that could be useful for professionals working with young children with CB in preschools.

Conclusion Teachers and students in the 21st century are facing challenges and pressures in preschools that were previously unknown in the field of IE. According to the literature review, PBIS is inferred as an effective behaviour intervention to be considered by the inclusive preschools teachers to address all students. An effective strategy that can support teachers in their efforts to help to control young children's CB, is to implement PBIS in a school-wide approach with proper training. This study method was a small-scale survey on three urban inclusive preschools, therefore, an inability to generalise the findings is one limitation. Another limitation is that results only reflect teachers' perceptions of IE, CB and consideration of systematic strategy for behaviour management, rather than the practice of IE and behaviour management. This is because, the rationale of conducting this research was to comprehend teachers' understanding about IE and preschool students' CB for better intervention in order to achieve the IE goal in the early childhood education of Bangladesh. This study explored the perceptions of early childhood teachers in relation to IE philosophies, and the most frequent behaviours that they identified as critical to manage with young students both with and without disabilities. The study findings also demonstrated that typical indirect punishment strategies were applied to address children's CB in the context. A small group of teachers who followed the PBIS system reflected that they had experienced positive outcomes. Although PBIS is not a panacea for solving all of other educational challenges, it is clear that if IE is to be used for all children to grow up to be healthy and productive adults, teachers must consider not only children's academic needs, but also their social and emotional development. However, with an intention of action research, stakeholders are suggested to march forward to ensure effective strategies to achieve the IE goal in preschool education by developing more adequately trained teachers.

7. References

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Emotional Intelligence, Locus of Control and Academic Achievement Of Underachieving High Ability Students In Ibadan, Nigeria

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Abstract

This study is an investigation into the influence of emotional intelligence (EI) and locus of control (LC) on academic achievement of underachieving high ability students in Ibadan, Nigeria. The sample for the study consists of 72 underachieving high ability students purposively selected from 12 schools in Ibadan metropolis, Nigeria. A modified and revalidated Schutte's (1998) Emotional Intelligence Scale (SEIS) and Rotter's (2001) Locus of Control Scale (RLCS), and the school academic record were used for the data collection. Data collected were analyzed using Pearson Moment Correlation, t-test and multiple regression analysis. Results showed very strong influence of EI and LC on academic achievement of the participants. A significant difference exist between male and female students in their emotional intelligence ($t=3.69, p<.05$) and locus of control ($t=2.09, p<.05$) with female participants showing higher mean on both variables. The study also revealed that locus of control ($\beta = .52$) has more influence than emotional intelligence ($\beta = .46$) in predicting academic achievement and that the two variables have high positive correlation ($R= .636$) and very strong significant composite effect ($F(2,70) = 6.53$ and $p<.05$) on academic achievement. Again, the variables account for 40.4% (Multiple $R^2 = .404$) of the total variance of the academic achievement. Therefore, it is recommended that educators and counselors at secondary school level of education should develop the emotional intelligence and locus of control strongly and not only the cognition for optimum achievement of high ability students particularly for those who underachieve in school.

1. Introduction

Emotional and locus of control issues and their effect on academic achievement has become a major area of concern to 21st century researchers and this has led to the plethora of literature in the field of educational psychology [1], [3]. Psychological constructs such as emotional intelligence and locus of

control have now become the focus of many teachers and researchers in the field of gifted education. Emotional intelligence is the ability of an individual to perceive, understand and manage one's feelings relative to that of others positively. It requires adjusting psychologically in relating with other people.

Emotional intelligence is one of the important factors that determine success in life and psychological wellbeing. A person who has high emotional intelligence maintains order and stability of life in such a way that he experiences less negative events in his life [4] and have satisfied emotional needs including the need to be valued, loved and autonomy. Most times however, high ability students are usually criticized for unacceptable behaviour in the classroom (teachers and peers) and in sometimes in the family because of their reactions to issues which are not usually in conformity with their expectation. As a result, high ability students with a high cognitive potential feel psychologically unsafe in schools and perhaps at home. They develop emotional stress as a result of trying to please their school mates and teachers or rather in defending their behavior [5]. The emotional stress is considered unhealthy for good performance in school work. Therefore, it behooves a child with high ability whose reasoning and ability differs from that of the general class to develop coping strategy to save him from further complication particularly in academic achievement.

Locus of control is a theory in personality psychology referring to the extent to which individuals believe that they can control events that affect them. The understanding of this concept was developed by Julian B. Rotter in 1954 and has since become a significant aspect of personality studies. The locus of control of a person is conceptualized as either internal or external. Those who believe that their own behaviours determine the positive reinforcement they receive and that they have control over their own lives are said to have internal locus of control. Individuals with external locus of control are those who believe that the result they receive are due to fate, luck, or other external circumstances. Such

individuals attribute their problems to environmental factors. The underachievement of high ability students is however suspected on the confusion about their perception of their locus of control. The confusion was on either they are truly gifted or not and why they are not doing well and accepted by others if giftedness truly means something good. So, if a high ability student does not have internal locus of control capacity learning is seriously at risk and achievement will be grossly undermined.

Effort in most inclusive classroom has been channeled on cognitive development with little achievement and particularly for high ability students whose underachievement is hidden to regular teachers in school. However, Chamorro-Premuzic & Furnham [2] reported that cognitive abilities alone are not sufficient to account for individual academic success. Thus, this study sought to investigate the influence of emotional intelligence and locus of control.

2. Research Hypotheses

The following null hypotheses are tested in the study at .05 level of significance:

- I. The locus of internal control and emotional intelligence of the underachieving high ability student are not significantly low
- II. There is no significant difference in the locus of internal control and emotional intelligence between male and female underachieving high ability students.
- III. There is no significant differential and joint influence of locus of internal control and emotional intelligence on academic achievement of underachieving high ability students.

3. Methodology

A purposive selection was done to select twelve high ranking secondary schools in Ibadan metropolis to participate in the study. A pluralistic approach was used in screening seventy (72) underachieve high ability students. The selection was based on discrepancy between actual school mean performance and ability mean performance of the nominated students. The survey research design of the expo facto type was adopted for this study. Rotter's (2001) Locus of Control Scale (RLCS) and Schutte (1998) Emotional Intelligence Scale were used to collect data for this study. Rotter's Locus of Control Scale contained 29 items with 5-point scale was modified and revalidated to ascertain its reliability. A test retest method was used to obtain a reliability estimate of 0.74. The Schutte Emotional Intelligence Scale contains 33 items uses 4-modified likert scales was revalidated as well to give at 0.82 with a test retest method of reliability estimate. The instrument was

administered to the participants after due permission from the school authority and the parents' consent. Data collected were analyzed using Pearson Moment Correlation, t-test and multiple regression analysis.

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Whole-body Coordination Skill in Children at Risk of DCD: Effects of the Different Foci of Attention

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1. Introduction

Developmental Coordination Disorder (DCD) in children manifests through difficulties in execution and acquisition of various motor skills, and is related to impairment in visual perception, sensorimotor integration, motor programming, and/or on-line [1], [3].

When executing a motor task, a performer could direct his/her attention to his/her own body movement (internal focus of attention; IFA) or the effect of movement or implement (external focus of attention, EFA) [4]. Studies that involved adults have consistently demonstrated that an EFA induced by verbal instructions is advantageous compared to IFA in terms of movement effectiveness and efficiency. However, studies with school-age children have shown somewhat mixed results. Therefore, the aim of the present study was to examine whether EFA instruction could be more beneficial than IFA instruction for the execution of a task that requires whole-body coordination in children at risk of DCD (rDCD).

2. Methodology

A within-between subject experiment involves two groups of 8-9 years old children: rDCD children ($n=18$) and typically developing children (TD) ($n=21$). The groups were formed on a level of motor coordination assessed by the MABC-2 test [2]. In the experiment, the children performed 3 trials of vertical countermovement jump under each of 3 conditions: IFA instruction, EFA instruction, and a with no attentional focus instruction (control condition; Con). Before each trial, a child was provided with the attentional focus instruction: "Concentrate on the swing of your arms" for IF condition; "Concentrate on getting as close as possible to the ceiling" for EF condition. Jump height was measured by an optoelectronic instrument Optojump Next (Microgate). For kinematic analyses, all jumps were recorded by a digital videocamera Panasonic HDC-TM 900 (50 Hz). The data were analysed with the 3 (attentional focus condition: IFA, EFA, Con) \times 2 (diagnosis: MD, TD) RM ANOVA.

3. Results, Discussion

Results indicated that regardless of motor diagnosis, children in the EFA condition jumped significantly higher, $M = 17.70 \pm 3.91$ cm, than in IFA condition, $M = 16.94 \pm 4.02$ cm; $p = .046$, $d = .19$, and control condition, $M = 17.30 \pm 3.94$ cm; $p = .276$, $d = .10$. The main effect of group on jump performance was marginally significant, $F(1, 37) = 4.029$, $p = .052$, $\eta^2 = .098$ (rDCD children: $M = 16.05 \pm 5.63$ cm, TD children: $M = 18.58 \pm 5.21$ cm; $d = .47$). The interaction of attentional focus and group was not statistically significant, $F(2, 74) = .605$, $p = .549$, $\eta^2 = .016$. The main effect of attentional focus on vertical velocity of COM at take-off (VTO) was also statistically significant, $F(2, 74) = 5.454$, $p = .006$, $\eta^2 = .128$; VTO was higher in an EFA condition, $M = 203.45 \pm 34.98$ cm.s⁻¹, as compared to an IFA, $M = 191.76 \pm 37.57$ cm.s⁻¹, $p = .008$; $d = .32$. VTO was also higher in the control condition, $M = 201.34 \pm 31.64$ cm.s⁻¹, compared to the IFA condition, $p = .041$, $d = .27$. The main effect of group on VTO was statistically significant, $F(1, 37) = 6.690$, $p = .014$, $\eta^2 = .153$ (rDCD children: $M = 185.16 \pm 47.25$ cm.s⁻¹, TD children: $M = 212.54 \pm 43.74$ cm.s⁻¹; $d = .60$). The interaction of attentional focus and group was not statistically significant, $F(2, 74) = 1.393$, $p = .255$, $\eta^2 = .0036$. The main effect of attentional focus and main effect of group were not statistically significant for other whole-body kinematic variables such as COM displacement, mean vertical and mean angle velocity of COM, knee angle at take-off and at lowest COM position. These findings suggested that EFA instruction provided to the children evoked their higher jump performance due to greater dynamics of lower extremities rather than due to changes in spatial knee joint movement pattern.

4. Conclusion

The present findings demonstrate the benefit of an external focus instruction on execution of a whole-body coordination task in children at risk of DCD. This advantage of EFA instruction in children could be in the same extent as that observed in typically developing children. The study suggests that the external focus instruction could be an useful tool to

facilitate execution and learning of motor skills in children at risk of DCD, within educational and physiotherapy practice.

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Session 4: Inclusive Education and Practice

Title: Non-Native Teachers' Foreign Language Speaking Anxiety – A Post-Communist Countries' Paradox

(Authors: Zdena Kralova, Eva Mala)

Title: eGuide: Electronic Access Guide for People with Disabilities in Riyadh

(Authors: Alhanouf Khalaf Almutairi, Asma Abdalhadi Alqahtani, Ghadah Aali Alzaidi, Hanan Mean Ramadan, Munerah Saham Alsubaeie, Shatha Odais Alsubaie, Fadwa AlRowais, Fawziah Alqahtani)

Title: The Impact of a Dual Certification Program on the Confidence and Competence to Work with Students with Disabilities

(Author: Vicki Caruana)

Non-Native Teachers' Foreign Language Speaking Anxiety – A Post-Communist Countries' Paradox

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Abstract

The current study focuses on the link between the age of Slovak EFL teachers and their English pronunciation anxiety and English pronunciation quality. Data were collected by both qualitative (questionnaire and interview) and quantitative methods (scale and test). The correlation analysis revealed positive relationship between age and pronunciation anxiety and negative relationship between age and pronunciation quality which contradicts the traditional belief that the length of teaching experience is a factor reducing teachers' anxiety.

1. Introduction

Since researchers began recognizing affective factors as equally relevant in learning as cognitive factors in the second half of the twentieth century, one of the most examined affective variables in the field of foreign language (FL) learning was foreign language anxiety (FLA). These studies concluded that speaking is the skill most affected by FLA [1], and one of its most immediate determinants is the concern over FL pronunciation – an essential factor in FL speaking [2], [3]. Pronunciation is seen as the most salient aspect of the language ego [4] and difficult to acquire in a new language. It is strongly related to human identity and the learner's level of self-confidence. Moreover, pronunciation plays a dominant role in the way communication partners are viewed [5]. Therefore, the apprehension of one's ego being threatened in front of others can be a rather strong source of FLA among FL learners [6]. FLA is considered more of a psychological (identity-based) construct than a linguistic (competence-based) construct [7], stemming most likely from the learner's perception of "self" [8], where self-perceptions, perceptions of others, perceptions of FL learning and performance play important roles [9], [10].

Nearly all interventions attempting to reduce FLA are learner-oriented and rely on FL teachers to implement anxiety-relieving behaviours and

practices in their classrooms. It is often forgotten that many FL teachers themselves are not native speakers and may face FLA [11], [12]. However, to this day, research on teachers' and student teachers' FLA is limited to more or less descriptive studies. Nevertheless, this kind of FLA can have rather an undesirable influence on FL learning. The role of a teacher is undoubtedly one of the most crucial ones in making FL learning less stressful and more enjoyable [11], [13]. E. K. Horwitz [11] using the Teacher Foreign Language Anxiety Scale, was the first researcher to propose that non-native teachers and student teachers may experience feelings of FLA as well. Teachers' FLA can have a number of undesirable effects on FL education [11]. As the number of non-native FL teachers increases by the year, it is clear that more research is desperately needed in this area. FL teachers are supposed to be perfect FL speakers and much of their FLA stems from the inherent threat to their self-concept of competence [11]. High-level FL competence can be best achieved by intensive communication with FL native speakers or a longer stay in a FL country [14]. In fact, not many non-native FL teachers have access to this [15]. Though practice in teaching FL appears to be a viable strategy to reduce FLA [16], some kind of post-communist countries' paradox has to be mentioned in this context [17] corresponding to the previous findings that the high level of FLA is associated with older learners, who had never visited a foreign country [18]. More experienced Slovak teachers of English as a foreign language (EFL) often experience higher speaking anxiety due to the socio-political factors influencing their learning of English in the years of communism. The lack of communication in the authentic English language and limited opportunities to stay in an English-speaking country during the years in totalitarian regime caused higher communication inhibitions among teachers of English and other western FLs. The Velvet (or Gentle) Revolution was a nonviolent transition of power in Czechoslovakia (former federation of the Czech and Slovak Republic) in 1989. The result was the end of 41 years of communist rule and the

conversion to the parliamentary democratic republic. Czechoslovakia has undergone many subsequent political, social, economic and other changes. Within the education system one of the most striking changes was the start of massive teaching and learning of western languages (especially English) as the study of western “capitalist” languages was more or less restricted till 1989 in communist countries (similar findings have been revealed in the Korean context [19]). Within the above-mentioned facts, the following research questions and hypotheses were formulated:

2. Research questions

1. What are the self-perceived sources of Slovak EFL teachers’ English pronunciation anxiety (EPA)?
2. What are the self-perceived effective EPA- coping strategies of Slovak EFL teachers of English?

2.1. Research hypotheses

1. There is a positive correlation between age and EPA of Slovak EFL teachers.
2. There is a negative correlation between age and English pronunciation quality (EPQ) of Slovak EFL teachers.
3. There is a negative correlation between EPA and EPQ of Slovak EFL teachers.

3. Methodology

3.1. Objectives

The main objectives of the study were to find out whether there is any correlation between the EPA, EPQ and age of Slovak in-service EFL teachers and what their EPA self-perceived sources and effective coping strategies are.

3.2. Participants

One hundred Slovak EFL in-service teachers – divided into four age groups, each of 25 teachers: I (≤ 30 years old), II (31-40 years old), III (41-50 years old) and IV (≥ 51 years old) were selected by the stratified random sampling. The age-groups were defined according to the socio-political circumstances of English language learning within the Slovak context (see Results).

3.3. Instruments

Background questionnaire: The questionnaire was prepared in the participants’ native language to obtain their relevant demographic data – age, gender, time and duration of English language study, type of English language study, quantity and quality of

communication with English native speakers, and stay in English-speaking countries.

Background questionnaire: The questionnaire was prepared in the participants’ native language to obtain their relevant demographic data – age, gender, time and duration of English language study, type of English language study, quantity and quality of communication with English native speakers, and stay in Englishspeaking countries.

English Pronunciation Anxiety scale: The EPA scale (see Appendix) was used to examine the participants’ English pronunciation anxiety level. They were given the English-specific pronunciation anxiety scale in their native language. The design of EPA scale was inspired by the Foreign Language Classroom Anxiety Scale [9] and the Phonetics Learning Anxiety Scale [20] and based on the authors’ teaching experience in English phonetics courses. The scale included 20 declarative statements to gather the participants’ perceptions of their English pronunciation and required them to indicate the extent to which they agree/disagree with the statements based on a 5-point Likert scale. Points were related to varying degrees with 5 points representing “strongly agree”, 4 points – “agree”, 3 points – “undecided”, 2 points – “disagree” and 1 point – “strongly disagree”. The EPA scale was structured into six subcomponents: oral performance apprehension (items 1-4), self-concern over pronunciation (items 5-8), pronunciation self-image (items 9-12), pronunciation self-efficacy (items 13-16) and attitude to English pronunciation (items 17-20). In five items a reversed scoring was used. The anxiety score ranged from 20 to 100, with higher scores reflecting higher anxiety. The level of anxiety was classified in the following intervals: 20-40 – minimum level; 41-60 – mild level; 61-80 – moderate level; and 81-100 – high level [21].

English Pronunciation Quality test: In order to examine the English pronunciation proficiency, the participants’ pronunciation samples (a free, extemporaneous talk in English of 2.8 minutes on average) were recorded. To establish the reliability of measuring, three British native speakers of English conducted the subjective auditory evaluation of the participants’ English pronunciation quality using the equal-appearing interval 5-point Likert scale (5 – excellent; 4 – very good; 3 – quite good; 2 – not very good; 1 – poor). The scale reflects the extent to which the participants’ accent diverges from the British English pronunciation norms.

Semi-structured interview: The interviews were conducted by the authors with twenty-five highest-anxiety participants to find out their perspective on the sources of their EPA and the assistance they would

appreciate to improve their EPQ and to reduce their EPA.

3.4. Procedure

The mixed-method study applied both the qualitative methods (questionnaire and interview) and quantitative methods (scale and test). The data were collected and evaluated, and the individual scores of the respective parts were analysed using descriptive statistics and non-parametric tests to examine the correlation between the participants' age, EPA and EPQ scores. The EPA score for each participant was computed by summing up the scores of each questionnaire item. The EPQ score for each participant was computed by averaging the raters' scores. The data obtained were submitted to a correlation analysis using the Spearman's Rank Correlation Coefficients (R) to discern whether the participants' EPA and EPQ correlate with their age.

4. Results

Background questionnaire: The age-group I members were born after the Velvet Revolution in 1989 and most of them started learning English in kindergartens, i.e. during their critical age for learning FLs (before 4-6 years of age). Later on, they had unlimited opportunities to travel and stay abroad, to meet English native speakers or watch and listen to English mass media. Most of the age-group II teachers started learning English at primary schools (after 6 years of age) and the age-group III teachers usually started learning English at secondary schools (after 14-15 years of age) or at universities (after 18 years of age). The age-group IV participants had restricted contact with English culture and native speakers and not many of them could study English within the Slovak educational system. Most of them completed their English language study within continuing teacher education during their in-service teaching. However, after 1989 they often had other personal or economical limits to travel to or stay in English speaking countries for a long time.

English Pronunciation Anxiety scale: First, the means of the self-reported anxiety levels were calculated for each age-group (see Table 1). The highest scores were obtained in the age-group IV and the lowest scores in the age-group I.

Table 1. EPA scores in the age-groups

Age group	EPA mean	EPA level
IV	68.8	moderate
III	61.4	moderate
II	45.8	mild
I	29.8	minimum

English Pronunciation Quality test: An EPQ rating was obtained from each native speaker for each participant. The Friedman NonParametric Test showed an acceptable level of internal reliability of their ratings ($p = 0.94892$, $\alpha = 0.05$). Therefore, the group scores could be computed by averaging across each rater's score for each participant (see Table 2).

Table 2. EPQ scores in the age-group

Age group	EPQ mean	EPQ level
IV	2.8	quite good
III	3.6	very good
II	4.5	excellent
I	4.1	very good

Correlation: Table 3 displays the Spearman's Rank Correlation Coefficients (R) achieved between the participants' age, EPA and EPQ. As the table shows, a high positive correlation ($0.70 \leq |R| < 0.90$) was found between the age and EPA, a strong negative correlation ($0.5 \leq |R| < 0.7$) between the age and EPQ and a negative correlation of moderate strength ($0.30 \leq |R| < 0.50$) was detected between EPA and EPQ [22]. Figures 1 and 2 compare the relationship between the participants' age and EPA/EPQ.

Table 3. Correlation of age, EPA and EPQ

R	Age	EPA	EPQ
Age	-	0.8737	-0.5974
EPA	0.8737	-	-0.4672
EPQ	-0.5974	-0.4672	-

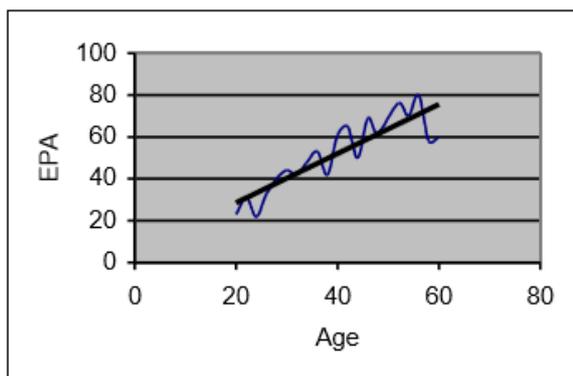


Figure 1. Age and EPA relationship

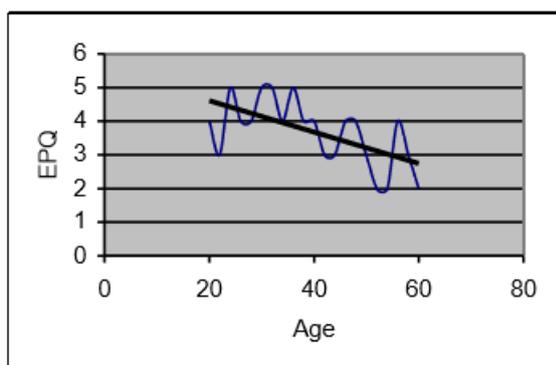


Figure 2. Age and EPQ relationship

5. Discussion

The research data obtained indicated that the socio-lingual aspects of learning English cannot be ignored. The lack of opportunities to travel to and stay in English-speaking countries and to communicate with English native speakers were reported as the strongest drawbacks and reasons of inadequate EPQ by the Slovak EFL teachers. In the interviews, most of the teachers reported strong speaking anxiety and indicated inadequate English pronunciation as the strongest barrier in speaking. They were afraid of being ridiculed and not accepted as an authority by their students. Speaking in a FL is often sensed as a “threat to peoples’ self-concept, self-identity, and ego, which they have formed in their first language as reasonable and intelligent individuals” [9]. The highest level of EPA was detected in the group of EFL teachers who did not have adequate learning opportunities in their young years before 1989, and the lowest level of EPA was reported by the teachers who were born after 1989 and thus had an unrestricted access to the English language and culture from the very beginning. The most critical age of Slovak EFL teachers today is thus over 50 years of age. Many of them lack motivation to study and improve their English pronunciation though they sense it as unsatisfactory. As a result, their most frequent coping

strategy is the avoidance behaviour – they try to avoid spontaneous and continuous speaking activities in their classrooms, which is rather harmful and in fact impossible in modern teaching and learning a FL. Moreover, EFL teachers over 50 will be teaching for more than ten years on. Teaching today is extremely demanding, both cognitively and emotionally. Students are likely to sense their teachers’ uncertainty in a FL so the teachers should be supported to cope with their problems (including FLA) prior to and during their teaching career, so that they will be able to manage their own FLA and FLA of their students. All three research hypotheses formulated were proved: 1. There is a positive correlation between age and EPA of Slovak EFL teachers which means that the older the EFL teachers are, the more they suffer from EPA. Nevertheless, their EPA was of moderate strength and not of the highest level determined. 2. There is a negative correlation between age and EPQ of Slovak EFL teachers. However, this relationship is not perfectly linear as the highest level of EPQ was observed in the age-group II (31-40 years old), not among the youngest EFL teachers. What is more, none of the groups’ EPQ was evaluated as poor. Even the age-group IV reporting highest EPA reached quite-good level of EPQ. 3. There is a negative correlation between EPA and EPQ of Slovak EFL teachers. In other words, the higher pronunciation anxiety, the lower pronunciation quality and vice versa. However, this proportion was only of the moderate strength.

Most Slovak EFL teachers intuitively assume that the most effective remedies in relieving their English pronunciation anxiety take two forms – behavioural (“more intensive English pronunciation practice”) and affective (“something which would reduce our psychological inhibitions to speak English”). Modern trends in teaching FLs emphasize an affective aspect of learning to counterbalance the cognitive aspect and many researchers (e.g., [11], [13], [23] and [24]) have already acknowledged the need of FLA coping training for FL learners as a supplement to skills training.

6. Conclusions

Teacher holds the major responsibility for the learning atmosphere in a classroom [9]. FLA can negatively influence teacher’s use of communicative teaching practices, willingness to seek out improvement opportunities, an overall well-being and job satisfaction. As the current findings indicate, teaching experience does not go hand in hand with low anxiety and good FL command. This study is expected to have implications not only for the teaching and learning of English pronunciation but also for the modification of FL teacher training curricula, in which a focus on psycho-social aspects concerning teachers should be incorporated. Targeted

FL teacher training reflecting their problems ought to be carefully planned and included into continuing teacher education. FL learning is a life-long commitment [11], so it should be the main objective of FL methodologists to find the most efficient methods for FL learning and teaching. They should take into consideration the real needs of FL learners and teachers [25], thus making the learning of FL more effective, enjoyable and less frustrating.

7. Limitations

The overall findings of this study indicate a strong relationship between the teachers' age and EPA in Slovakia as a post-communist country. However, these findings must be interpreted in the light of several limitations. The first one is the space limit, which precluded publishing data on all parts of the experiment in a single article. The study presents partial data from a larger longitudinal study including laboratory measurements of pronunciation. Collectively, the data gathered could offer additional perspectives on the issue. The second limitation is the small sample size. Though the groups showed clear tendencies in the data, larger groups may allow group distinctions to emerge more clearly. Finally, future research may want to verify the issue in other countries with similar socio-political and historical background. In spite of these limitations, it is hoped that another small step has been taken towards a greater understanding of special needs of FL teachers.

8. Acknowledgements

Our thanks go to all teachers participating in the research that was funded by a Scientific Grant Agency of the Ministry of Education, Science, Research and Sport of the Slovak Republic (VEGA 1/0062/17).

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14. I do not feel ashamed when people correct my pronunciation mistakes. (reverse-scoring)
15. It seems to me that I cannot get rid of my Slovak accent in English.
16. I can never master good English pronunciation.
17. I do not think English pronunciation is difficult. (reverse-scoring)
18. I consider the rules of English pronunciation incomprehensible.
19. It is very difficult to pronounce like a native speaker.
20. I think that good English pronunciation is very important for an English teacher.

10. Appendix A English Pronunciation Anxiety Scale

1. I do not feel nervous when speaking English. (reverse-scoring)
2. I do not like talking to more advanced English speakers.
3. I feel embarrassed talking to people with good English pronunciation.
4. I get nervous when I have to speak English in front of other people.
5. I am satisfied with my English pronunciation. (reverse-scoring)
6. I am bothered about making pronunciation mistakes in English.
7. I realize how many pronunciation mistakes I make.
8. I feel embarrassed when I realize that I pronounce some words incorrectly.
9. I am afraid people will think I am silly and incompetent because of my poor English pronunciation.
10. I consider imitating native-like English pronunciation ridiculous.
11. I am afraid my students have better English pronunciation than I do.
12. Other English teachers do not have better English pronunciation than I do. (reverse scoring)
13. I am worried about not being understood because of my improper pronunciation.

eGuide: Electronic Access Guide for People with Disabilities in Riyadh

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Rahman University

Abstract

With an increased number of the elderly and individuals with disabilities, it has been noted that few applications have been developed for this group of the population. In this project, we propose an application to provide a website for accessible facilities and services offered for this population group in Riyadh. The facilities and services that are specialized for individuals with disabilities will include car-parking, toilets, elevators, entrance slides and other amenities that may be offered to help this group. The application will cover the disability assistance facilities present in government buildings, hospitals, schools, universities, libraries and shopping malls. Further improvements could be considered to provide a wider range of features, including choices of access to a range of places around a particular area. Additionally, the choices of facilities presented could be based on the type of disability. The interface will be designed to be flexible and can be changed based on the users' preferences of individuals with disabilities, which will be useful for any of them who may suffer from learning difficulties. With regard to the futurity provided in the interface for individual with learning disabilities. Individuals with disabilities could rely on themselves in searching for places and discovering the facilities offered

1. Introduction

Technology has provided us with a range of operations and facilities in our daily lives, but few of these serve the category of individuals with disabilities, and there is a lack of sites that provide them with facilities. For this project, we are working on a search engine to serve this group of society, and enable them to depend on themselves in searching for places that provide them with facilities. These places include recreational facilities, libraries, educational institutions, government buildings or hospitals. The site provides users with information and illustrations about these places and the types of

facilities they provide to individuals with disabilities. We will design a simple and easy interface to provide the users with some kind of facilities and provide them with the opportunity to search for those places

2. Problem statement

With the increase in the number of seniors and individuals with disabilities in Saudi society, it was noted that only a small number of sites have been developed for this group and this means they find it difficult to carry out everyday tasks without leading them to call for help from others. The lack of suitable sites confines them to places where they know facilities are available to them. They need a site to serve them and save their time and effort in searching for places where they want to go.

3. Related works

3.1. Woussoul

This access project is a website and an application which allows the user to add information that helps physical impairment to access the places available for them. It includes thirty-two countries including Saudi Arabia, France, and Egypt. Places are divided into categories such as entertainment, food, and education. The access project offers the ability to search for the places based on categories and describes the existing facilities in place. Additionally, it determines the possibility of arriving there, where the green color is wheelchair accessible and orange is partially wheelchair accessible [1].

This website and application provide the possibility of changing the language (Arabic, English, French). However, this application provides help only to people with physical impairment. It allows users to add places and facilities without checking their authenticity or reliability and presents the existing facilities based only on user evaluation [1].



Figure 1. Woussoul 2014 [1]

3.2. Accessible Qatar

The Accessible Qatar project is a website and application that provides data to help individuals with disabilities to access the places available to them in

Qatar. Data is collected through searches and suggestions from users. Places which provide facilities are divided based on the type of disability, which includes wheelchair users, mobility impaired, visually impaired, hearing impaired and learning difficulties [2].

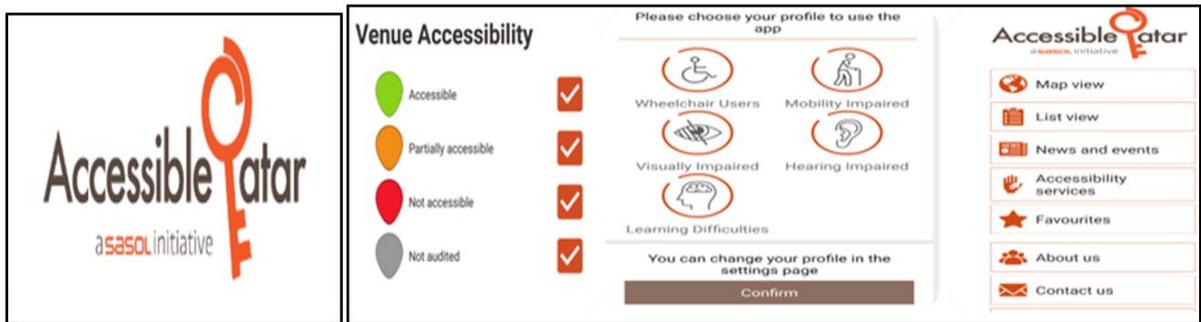


Figure 2. Accessible Qatar 2016 [2]

The website and application provide the possibility to change the language (Arabic, English). It also offers the possibility to change the text size and the ability to search for places based on categories. It presents a description of the existing facilities in the target place. The website and application include a special section for individual companies and organizations that lists the accessibility services they offer. However, the interface of this website and application does not provide any features for helping individuals with learning disabilities, such as Text to Speech, changing the background color or font type. It requires registration from the user before sending any proposals or inquiries about the website and application [2].

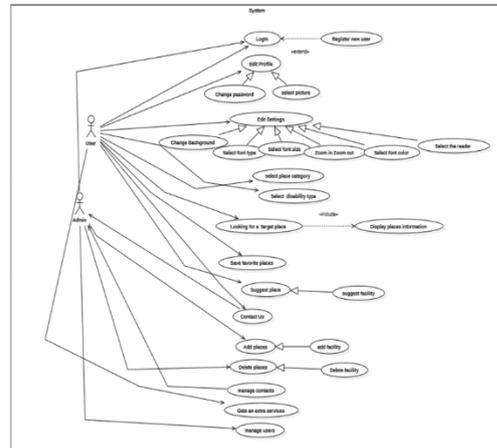


Figure 3. Use case diagram

4. System design and analysis

4.1. System Architecture

4.1.1. Use Case. The use case diagram is outlined in Figure 3.

4.1.2. Admin Flowchart. When the admin enters on the website, the system displays the home page after that the admin should sign in to check whether this entry is unauthorized or not. Admin can add places, add facilities, delete places, delete facilities in existing place, manage contact, manage database and manage

user. After that when finished the admin should logout.

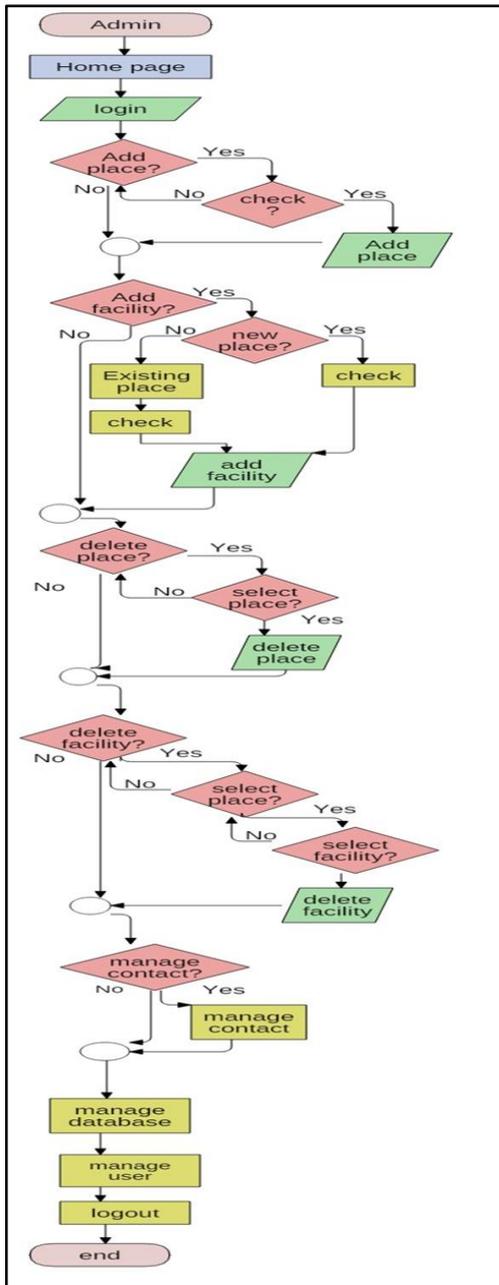


Figure 4. Admin Flowchart

4.2. System Analysis: Requirements specification

4.2.1. Questionnaire. The questionnaire is a set of questions that are given to people in order to collect information or opinions about something [20]. In this project, we used the questionnaire to collect requirements (see Table 1). It was designed as an online questionnaire (Arabic). It requires 5 minutes to be answered. The questionnaire was answered by 52 participants.

4.2.2. Interview. The interview is "a meeting at which people talk to each other in order to ask questions and get information" [24], and it is one of the easiest and most powerful techniques for collecting requirements. The aim of this interview is to get information about the places and facilities for individuals with disabilities and collect suggested requirements for the proposed project which provides search for services and facilities provided by some of the places in the Riyadh, to help individuals with disabilities including hearing impairment, visual impairment, physical impairment and learning disabilities. A smart pen was used for recording the interviews after getting permission from the interviewee [25]. In The duration of each interview was fifteen minutes. The interview was divided into two sections: first section contains six questions and addressed to individuals with disabilities and total number of participants was three. The second section contains seven questions and addressed to people who work in administrations of centers for individuals with disabilities or responsible about them, and total number of participants was two.

5. Results and future works

5.1. Analysis of the results of the questionnaire and Interview

5.1.1. Some of analysis of the results of the questionnaire

1. Regarding the type of disabilities:

- 18% of the participants were people with hearing disabilities.
- 16% of the participants were people with visual disabilities.
- 66% of the participants were people with physical disabilities.

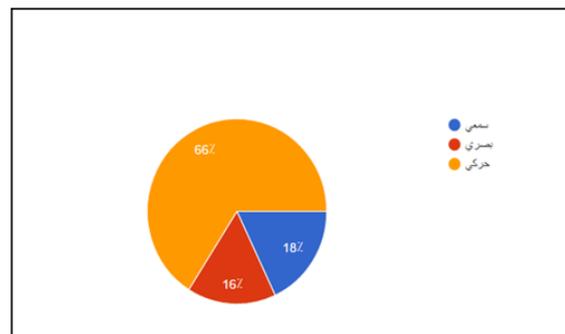


Figure 5. Analysis of the results of questionnaire#2 in the questionnaire

2. Regarding the opinion of participants about whether there were difficulties in searching for places

Table 1. Questions in the questionnaire and their target

Question Number	Questions	Target
1	Gender	
2	Type of disability	To recognize more types of disabilities of people facing difficulty in navigating and searching for utilities
3	Do you think government and private buildings are equipped with facilities that are easy to deal with?	To learn about the government and private buildings facilities adapted for individuals with disabilities.
4	Do you find difficulties in searching about suitable place that offered special facilities for individuals with disabilities?	To identify the difficulties faced by individuals with disabilities and trying to help them through the proposed project.
5	What are the places for which you are interested in knowing information about their facilities?	Identify the most important places for individuals with disabilities which can be added within the places that will be covered in the proposed project.
6	What do you think about a website that provides information on public places where appropriate services are available for people with disabilities?	Emphasis the need of individuals with disabilities for such sites to serve them
7	What are the government buildings or private organizations that offered the services you need?	To help find out the buildings and centers that provide services to include them in the site.
8	What are the facilities and services that could serve you in government and private buildings?	To help find out the buildings and centers that provide services to include them in the site.
9	Do you think that society in the recent period is more aware of people with disabilities than ever before?	To increase self-confidence within individuals with disabilities in achieving their full rights and try to help them through the creation of the site.

where the services and facilities they need are available:

3. 55.8% of the participants answered Yes.
4. 5.7% of the participants answered No.
5. 38.5% of the participants answered Sometimes.

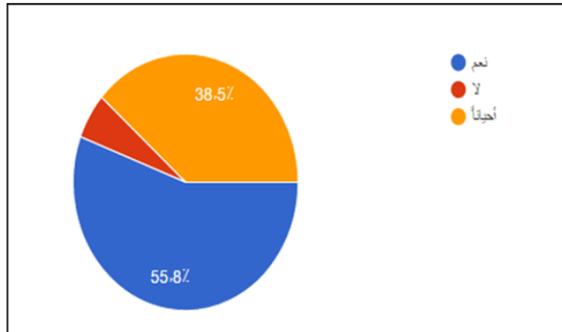


Figure 6. Analysis of the results of questionnaire#5 in the questionnaire

3. The opinions of people regarding the development of an online application providing information on services and facilities available in public and private places for individuals with disabilities, were as follows:

- a. 98.1% of participants answered that they needed this.
- b. 1.9% of participants answered they did not need this.

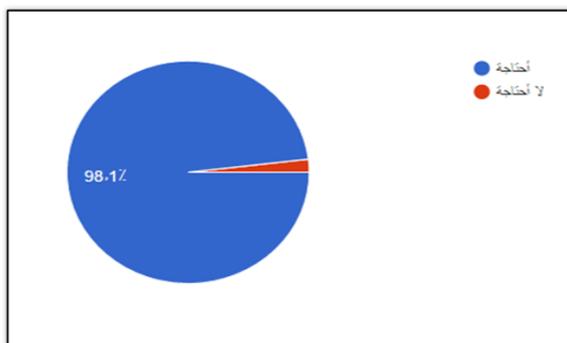


Figure 7. Analysis of the results of questionnaire#6 in the questionnaire

5.1.2. Summary of questionnaire responses

The results obtained from the responses of the questionnaires can be summarized as follows:

1. Most public and private places are not equipped with facilities for individuals with disabilities' needs.
2. Increased awareness among members of the community regarding the importance of individuals with disabilities needs and the necessity of providing for their needs.

3. Most individuals with disabilities have found difficulties in searching for places that will satisfy their needs.

4. There is a need for a website that provides information to individuals with disabilities on public and private places where the facilities they need are available.

Therefore, we will create a website with a user-friendly interface to serve individuals with disabilities in searching for public and private places that offer the facilities they need.

5.1.2 Analysis the results of the interview. The interviews are divided to two sections (see Tables 2 and 3). First section contains six questions and addressed to individuals with disabilities. Total number of participants was three. In the following, each question in this section will be highlighted and the answers of each will be analyses.

Q1: What are the difficulties you face to go to university?

Participant A and C does not face difficulty when go to university, but Participant B has been faced some difficulties when go to university and she needs person to help her.

Q2: Do you move easily within the university or have been experiencing some obstacles? What type of obstacles you face?

Participant A and C are having difficulty in move within Princess Nourah bint Abdulrahman University (PNU), such as entrances to metro stations, some entrances to colleges and some auditoriums does not offer suitable tables. Participant B is having few difficulties in moving within King Saud University (KSU) such as the numbers of auditoriums are not available in Braille, but KSU provides Universal Access Program (UAP) that provides a facility within university but there is no training on UAP.

Q3: What are the facilities that serve you within the university?

Regarding Participant A, providing a suitable elevator and a special path for individuals with disabilities in restaurants, but there is no high awareness between students in PNU regarding considering the situation of individual with disability. Participant B agreed with Participant A in addition to providing the UAP. Also, Participant C agreed with Participant A in addition to the advantage of allowing the cars to stop at the front of the station door.

Table 2. Interview (Section 1)

Question Number	Questions	Objectives
1	What are the difficulties you face when going to university?	To emphasize the importance of the project.
2	Do you move easily within the university or experience some obstacles? What type of obstacles you face?	Get information about entrances in the university and if the individual with wheelchair can move easy. Discover obstacles in the university that could face individuals with disabilities. This also could be helpful in increasing awareness of this group about some facilities they do not know about them.
3	What are the facilities which serve you within the university?	Get more information about facilities at the university. This also could be helpful in increasing awareness of this group about some facilities they do not know about them.
4	Based on your knowledge and experience, what are the places that could have the appropriate facilities?	The proposed inclusion of the places in the database after the verification of the existence of facilities.
5	Do you need person to helps you when you go to: - Hospitals <input type="checkbox"/> Yes <input type="checkbox"/> No - Government Departments <input type="checkbox"/> Yes <input type="checkbox"/> No - Malls <input type="checkbox"/> Yes <input type="checkbox"/> No	Provide places that have facilities available before going to her.
6	Did you hear about Facilities card? <input type="checkbox"/> Yes <input type="checkbox"/> No	Increase the awareness of this group about Facilities card and providing information to them about the card and how to get it.

Table 3. Interview (Section 2)

Question Number	Questions	Objectives
1	Does the university offer enough facilities for individuals with disabilities?	To raise awareness and obtain information about the current facilities offered as a data for the database in the proposed project.
2	What are the facilities provided on campus to serve individuals with disabilities?	Get more information about facilities at the university.
3	What are the difficulties and problems faced by students with disabilities in mobility within the university?	To show the importance of the project.
4	Are all or most of the individuals with disabilities at the university know about the existing facilities?	Increase the awareness of the important of sharing knowledge about facilities offered.
5	How do you think we can increase awareness of individuals with disabilities for the availability of facilities?	Increase the awareness of individuals with disabilities for the facilities
6	Is there a possibility to offer funding for our project?	To posting our project of order to help individual with disabilities.
7	Do you have suggestions?	The results may help the researchers to get some help in improving the proposed application.

Q4: Based on your knowledge and experience, what are the places that could have the appropriate facilities?

The places that provide appropriate facilities are Albujairi Park, King Faisal Specialist Hospital, Granada Center for shopping and some hotels.

Q5: Do you need person to help you when you go to:

- Hospitals Yes No
- Government departments Yes No
- Malls Yes No

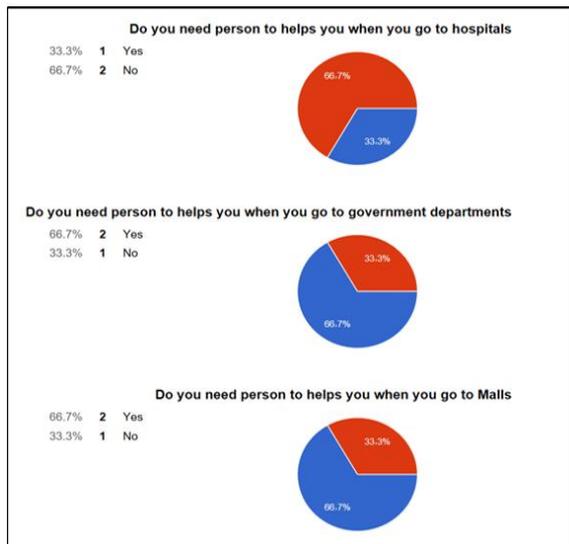


Figure 8. Graph illustration of the statistics for answers of question 5

5.1.3. Summary of interview responses: The results obtained from the responses of the interview can be summarized as follows:

1. There are some equipped facilities for individuals with disabilities in the university, but they are not used in the right way and there is no high awareness between students.
2. Most individuals with disabilities faced some difficulties in mobility within the university.
3. There is a need for a website that provides information for individuals with disabilities on facilities they need. Therefore, we will create a website with a user-friendly interface to serve individuals with disabilities in searching for places that offer the facilities they need.

5.2. Images

Some images of the web site interfaces are outlined in Figure 9 and Figure 10.



Figure 9. Screen shot for eGuide System admin home page



Figure 10. Screen shot for eGuide System admin Search for a place page

5.3. Future work

We hope to improve the project to serve as many as a possible from individuals with disabilities. As future work the eGuide can be improved to be used as an application on mobiles. In addition, the eGuide could be enhanced to give user the possibility to choose type of multiple disabilities and send an e-mail to the user showing him the new places that were added to the eGuide according to the type of disability of the user. The project can be improved to support English language, so the user could choose the language either Arabic or English. Moreover, it can be enhanced by adding the feature of informing user when choosing the place about the status of the special parking for individuals with disabilities if it is available or fill in case of congestion in parking. Finally, connect our eGuide with google map.

6. Conclusion

We have designed, developed, implemented and tested eGuide project. eGuide is a website for helping individuals with disabilities. The project is expected to provide a large support to individuals with disabilities in Riyadh. It provides the ability to know places that provide the services and facilities they could need. ATbar Has been added to support browsing the project interfaces by individuals with learning disabilities.

7. References

[1] D. & Lab4net, “Woussoul,” Woussoul. [Online]. Available: <http://www.woussoul.org/ar/>. [Accessed: 30-Apr-2017].

[2] “قطر متيسرة للجميع” ما هو تطبيق “قطر متيسرة للجميع” [Online]. Available: <http://accessibleqatar.com/?lang=ar>. [Accessed: 30-Apr-2017].

The Impact of a Dual Certification Program on the Confidence and Competence to Work with Students with Disabilities

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1. Introduction

In the United States, those seeking dual certification in general education and special education enroll in several courses and student teaching in special education that may be their only preparation to work with students with disabilities. It is important to determine whether such courses impact their attitudes, concerns and competence to work in inclusive settings. It would also be important to see if demographic differences (gender, major area, prior experience with individuals with disabilities, previous training, knowledge of disability legislation/policy, and perceived competence) are related to attitudes, concerns and competence. Finally, does the final student teaching experience impact the knowledge and skills acquired prior to this experience in a positive or negative way? According to Zeichner and Conclin [2], we need to know more about the context of instruction in teacher education programs and how the opportunities provided impact teacher quality. Previous studies have found that effective teachers adjust their teaching to fit the needs of different students and the demands of different instructional goals, topics, and methods [1]. If practitioners are unaware of the needs of different (students with special needs) students, they may not engage in effective pedagogy to promote success for all. The context of dual certification programs in the United States in which pre-service teachers acquire knowledge and experience to work with students with disabilities is therefore an important context to consider.

2. Research Questions

This research will investigate the attitudes and perceived self-efficacy toward inclusive education of teacher candidates at two institutions in two different states. The specific research questions are as follows: 1) To what extent, if any, are the dispositions (sentiments, attitudes, concerns) of teacher candidates in a dual-certification preparation program to work in inclusive settings impacted by curriculum in special education? 2) To what extent, if any, is the efficacy of teacher candidates in a dual-certification preparation program to work in inclusive settings impacted by curriculum in special education? 3) To what extent, if

any, are the dispositions and efficacy of teacher candidates in a dual certification preparation program to work in inclusive settings impacted by their student teaching experience? Findings will add to the research base on teacher education in special education and inform the design and implementation of dual-certification programs by examining the relationship between field experiences and student teaching and the successful formation of both desired dispositions and teacher candidate efficacy toward inclusion.

3. Methodology

Undergraduate and graduate candidates were surveyed using the SACIE + TEIP (Sentiments, Attitudes, Concerns about Inclusive Education + Teacher Efficacy for Inclusive Practice scales, 2011). Survey findings produced descriptive statistics for quantitative analysis. Focus groups of student teachers were also conducted, recorded and transcribed. Transcriptions were analyzed using a grounded theory approach to qualitative analysis. Candidate demographics were also analyzed to investigate whether differences (gender, major area, prior experience with individuals with disabilities, previous training, knowledge of disability legislation/policy, and perceived competence) are related to attitudes, concerns and competence. Questions related to demographics were collected as part of the SACIE + TEIP instrument. All data was collectively analyzed with a mixed-methods approach to promote full understanding of the extent, if any, of the impact program courses and experiences have on teacher candidate perceptions and self-efficacy. The SACIE+TEIP (2011) is an established, international, valid and reliable measure related to our research questions. We chose to supplement the resulting quantitative data with qualitative data through a mixed-methods approach to promote more comprehensive understanding of the complexities of the teacher education context. This research was conducted at two different universities in two states. Mount Saint Mary College in NY and the University of Wisconsin-Oshkosh.

4. Expected Outcomes

1. We expect that the student teaching experience would have an impact on teacher candidates' confidence and competence to work in inclusive settings.
2. We expect that the more preparation a candidate had, the higher level of confidence and competence would be found.
3. We expect that there would be no demographic differences between groups of teacher candidates in confidence and competence.

References

[1] Darling-Hammond, L., (2002). Research and rhetoric on teacher certification: A response to "Teacher Certification Reconsidered," Education Policy Analysis Archives, 10(36). Retrieved [date] from <http://epaa.asu.edu/epaa/v10n36.html>.

[2] Zeichner, K. M., & Conklin, H. G., (2005). Teacher education programs. In M. Cochran-Smith & K. M. Zeichner (Eds.), *Studying teacher education: The report of the AERA panel on research and teacher education* (pp. 645-736). Mahwah, NJ: Lawrence Erlbaum Associates.

Session 5: Inclusive Education

Title: Education for All? What Are the Experiences of Parents Who Have Children with Intellectual and Developmental Disabilities?
(Author: Rakshita Shekhar)

Title: Instrumento de Aprendizaje de Pre-Braille Autónomo
(Authors: Catalina Avendaño, Freddy Villa, Ana Arteaga, O. Alvarado Cando)

Title: Towards Better Preparing Future Middle and Secondary Teachers for Inclusion: First Steps
(Author: Denise R. Foley)

Education for All? What Are the Experiences of Parents Who Have Children with Intellectual and Developmental Disabilities?

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University of Kent, Canterbury, UK

Abstract

Background: Children with intellectual and developmental disabilities (CWIDD) continue to be the most vulnerable to educational exclusion. To ensure barrier free access to their education, parents' need to be empowered. Method: Semi structured interviews of 30 parents of 32 CWIDD were conducted and analysed using thematic analysis. Result: Parents in this study strongly believe that education would enable their CWIDD to have an independent future but that schools in general don't care. Irresponsibility and neglect from teacher, lack of convenient transport and child's distress at school were the main reasons for parents not to send their CWIDD to school. Conclusion: Parents of CWIDD prefer mainstream schools and seek school environments that are non-discriminatory, caring and able to make the child learn basic, functional skills. This study provides further support to inclusive education.

1. Introduction

629 000 children in India between the ages of 0 and 19 have IDD (Verma et al., 2017). 41% of CWIDD between ages 5 and 19 have never attended school. In comparison, 18% of visually impaired, 21% of hearing impaired and 23.72% of children with orthopaedic disabilities had never attended school [15]. Between 2000 and 2014, 35.97% of CWIDD were out of school. But 2.97% nondisabled children including 4.2% scheduled tribes and 3.24% scheduled castes, groups identified as the most vulnerable to educational exclusion in India, were out of school [13].

These numbers clearly indicate that children with intellectual and developmental disabilities (CWIDD) are at the highest risk of being excluded from schools. However, there is lack of literature identifying factors that pose as barriers for CWIDD to access education. Peshawaria et al. [12] reported that lack of school transport was a hindrance. Parents in Kalita and Sarmah's study [10] cited frustration as the most common reason for pulling their disabled child out of school.

A more recent governmental survey reported disability and health of the child as the reasons [13]. Interestingly, this same survey also found that poverty was the most common barrier in the entire study, but did not specify how common this theme was among CWIDD.

The limitation of these studies was that they were not focused on understanding barriers to school access. Multiple studies have been undertaken on inclusive education by the government of India but on the entire cohort of children identified as having special educational needs, due to which the unique educational needs of CWIDD have become invisible [14]. Those studies that do present data on CWIDD have used unreliable methods to identify CWIDD [13], [15].

Thus, there is a need to conduct a study focused on CWIDD, to find out why so many CWIDD are out of school. One important, often unacknowledged way to do this is to consider parents' perspectives because they are the primary decision makers [10].

One of the first studies exploring educational perceptions of Indian parents having children with disabilities was conducted in 1995 [12]. Participants in this study expressed worry for their child's future due to low academic achievement. Researchers in this study went on to develop the NIMH family needs schedule but it has only 3 basic questions on educational needs: do you need transport; do you need help deciding on a service; do you need information on the effect of sending your child to either a mainstream school or a special school.

More recent research shows that Indian parents use religious, biological and situational factors to understand disability [7], [8]. They see education as an access to independence of their child [1]. They move from regular educational settings to special educational ones [8].

However, the objective of these recent studies was to understand the perception of IDD that parents held and their consequential coping models.

Hence, this study was designed to explore in detail, the perceptions, experiences and beliefs that parents held about the education of their CWIDD and the

motivations for their decisions around education. The objective was to identify barriers to school going behavior of CWIDD and understand expectations, desires and needs of these parents, which if met, could improve this behavior.

2. Method

Through purposive sampling and snowballing, 36 parents of 38 children, between the ages of 6 and 18, of Indian origin, living in India, diagnosed with IDD, were recruited. 6 participants hailed from the city of Bangalore and the rest, from Hyderabad. They were interviewed for 45-60 minutes using semi structured interviews. While 1 participant revealed during the interview that their child was over the age of 18, 1 withdrew from the study. 4 participants did not provide complete information and therefore were excluded from analysis. In the final sample, 5 children were going to a mainstream school, 5 to a special school, 11 had dropped out and 9 had either never gone to a school or gone for a total of less than 6 months. This last group for all practical purposes was named as “no school”. Care was taken not to recruit more than 2 participants from the same school to avoid sampling bias. A total of 26 mothers and 4 fathers participated in this study.

Ethics approval was received for this study from the Tizard Centre Ethics Committee, University of Kent, UK. 19 interviews were conducted at homes of the participants and 11 at the child’s school.

Thematic analysis was applied to the data. After the interviews were transcribed, the transcripts were coded line by line. They were read multiple times so that the researcher could immerse herself in the data. These were then grouped into bigger themes and interesting, relevant quotes were noted down. Each of the bigger themes with their relevant codes were penned down on a flash card each, for each participant. Then, all the flash cards having the same theme were grouped and read again. Common sub themes were identified and entered in a Microsoft excel for each participant. These sub themes were then regrouped into 4 major themes and some sub themes. Inevitably, some themes were omitted so that only the main points come across. The coding process was primarily completed by one researcher. This is an acceptable practice [3], [4], [5]. It is based on the premise that thematic analysis does not produce “a real” picture. Rather, it is an active, reflexive, creative process undertaken by the researcher.

Themes and their names underwent multiple reiterations. The primary author’s dissertation supervisor guided this process

3. Results

The demographic details of participants and their children are given in Tables 1 and 2. Among the participants’ children, the number of boys was slightly higher than the number of girls. The average age of the participants’ children was 12.7 years. Approximately one third of the children were aged between 15 and 18 years. The average age of children currently in mainstream schools was 10 years; of those in special schools was 11.6 years; of those in the no school category was 12.2 years and of drop outs, was 14.8 years. In most cases, children had started school at the age of 4. A little less than one third had started school after age 5. Only 2 children had never undergone any sort of educational intervention.

More boys belonged to the no school and currently school going categories. Slightly more than half of those from FBP were currently attending school regularly. Their parents were also more likely to be trained. Parents of children from the no school group were least likely to be trained. Almost half of all children had epilepsy and mobility issues. All of them comorbid physical health issues. So, did half of those from the FUP category. Thematic analysis revealed 2 major themes.

3.1. Education helps development

This theme is related to the perceptions and beliefs that parents held about education of their child with IDD. The sub themes and their relationships have been shown in Figure 1.

Almost all parents saw education as an access to a secure future. Education, they believed involved gaining knowledge or critical awareness about the world, which might in turn give them the needed independence. It also engaged children meaningfully. ‘For the self-sufficiency. To spend his time properly. to gain knowledge through learning. Not for his present. I would say his future.’ P2

Table 1. Demographic details of participants (part I)

Code	Demographic;		
	Interviewed	Child Gender	Child Age (years)
P1	Mother	Male	11
P2	Mother	Male	11
P3	Mother	Male	7
P4	Father	Female	18

P5	Mother	Female	14
P6	Mother	Male	17
P7	Mother	Female	10
P8	Mother	Male	18
P9	Mother	Female	16
P10	Mother	Female	14
P11	Mother	Male	16
P13	Mother	Male	14
P14	Father	Male	13
P15	Mother	Male	11
P16	Father	Male	10
P18	Mother	Female	18
P20	Mother	Female	9
P21	Mother	Female	15
P22	Mother	Male	6
P23	Father	Female	10
P24	Mother	Female	6
P25	Mother	Male	10
P27	Mother	Male	16
P28	Mother	Female	9
P29	Mother	Female	13
P30	Mother	Male	16
P31	Mother	Male	13
P32	Mother	Female	14
P33	Mother	Male	13
P34	Mother	Male	13

All parents felt that by being amongst non-disabled peers, their child could learn better.

'Only in a regular school she can learn anything.'
P10

School provided an opportunity for their child to have social interactions.

'She has become alone at home. My other 2 children are good, happy with friends.' P9

For this reason, parents preferred a mainstream school for their child. All but two children who ever went to a school attended a mainstream school first.

Table 2. Table 1. Demographic details of participants (part II)

Code	Demographics		
	School Status	Economic Category	Comorbid Health Issue
P1	Mainstream School	FBP	None
P2	Mainstream School	FBP	None
P3	Special School	FBP	None
P4	Dropped out	FUP	Epilepsy
P5	Dropped out	FUP	Mobility Issues
P6	Dropped out	FUP	CB
P7	Dropped out	FUP	Mobility Issues
P8	Dropped out	FUP	None
P9	Dropped out	FUP	Drooling
P10	Special School	FUP	Drooling
P11	Special School	FUP	Drooling
P13	No School	FBP	Mobility Issues
P14	No School	FBP	Mobility Issues
P15	Special School	FUP	CB
P16	Special School	FBP	None
P18	Dropped out	FUP	None
P20	Mainstream School	FUP	Mobility Issues
P21	No School	FUP	Mobility Issues
P22	No School	FUP	Epilepsy
P23	Dropped out	FUP	None
P24	Mainstream School	FBP	None

P25	No School	FUP	Mobility Issues
P27	No School	FUP	Mobility Issues
P28	No School	FUP	Sleeplessness
P29	Dropped out	FBP	Epilepsy
P30	Dropped out	FUP	None
P31	Mainstream School	FBP	Mobility Issues
P32	No School	FUP	Mobility Issues
P33	Dropped out	FBP	CB
P34	No School	FUP	Mobility Issues

Key: FBP – financially better off
 FUP – financially under-privileged
 CB – challenging behavior

3.2. Schools don't care

This theme describes the experiences that parents had while dealing with the schooling system. The thematic diagram in figure 2 depicts the hierarchy of various themes.

Despite their belief in education, parents portrayed very low confidence in the schooling system. More than half of the children had changed at least 2 schools. Parents who were currently sending their child to school had changed 3.4 schools on average. About a quarter (Most from the no school category), had dropped out after just 1 school. Although the average age of starting school was 4.9 years, more than half had also remained out of school for a minimum of 5 years.

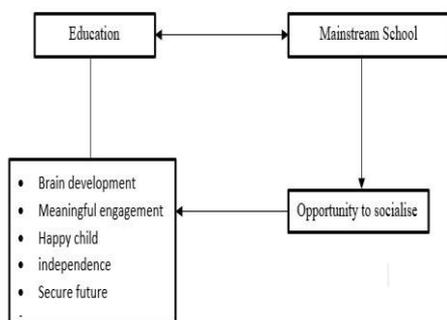


Figure 1. Pictorial representation of the perspectives that parents have utilizing sub themes of the main theme "Education helps development"

Those in the no school category were at home for an average of 7.7 years whereas those currently going to school had stayed for 1.9 years. Only half of the children from the no school category had started school at or before the age of 4. Children going to a special school tended to spend a little more time at home – approximately 2.9 years. More than half of those between ages 15 and 18 had dropped out of school. Only one fifth of those children who had stayed at home for more than 1 year without schooling had returned to school. In addition, only one third of those who were registered to receive government services were availing them.

Most parents wanted to give their CWIDD the same opportunities as their non-disabled peers would get but felt that schools disagreed.

"I told the teacher, it's ok if he doesn't write. I just want him to go to school with the other kids. She said, 'you'll worry, later on, why the child is not learning despite paying so much money. So, see some other school meant for these kids'". P33

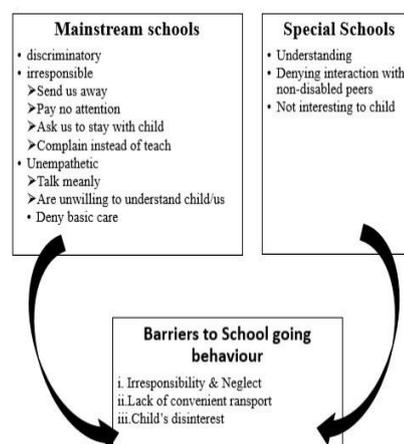


Figure 2. Thematic map of theme "Schools don't care", showing the relationships between various sub themes

Teachers avoided taking responsibility for the child and expected parents to fill in the gaps.

'What they tell, you know? When we go for admission – you have to be with him. You have to come along. Then, I can teach him at home only, no?' P13

'Nobody takes the responsibility. even the grade teacher won't take that responsibility. sometimes, he has even been forced to stay at home for a period of 8 to 15 days. he was forced to. by the teachers.' P1

'The teacher would call me every day to school to complain about my child.' P8

More than half of the parents reported having been asked to take their child away from school

because the child was intellectually disabled or displayed challenging behaviors or had a drooling issue.

'But that teacher said, the others will also become mad. Don't send her.' P9

Parents cited lack of convenient transport as another barrier.

'She can't walk with balance yet. So, we face difficulty in just bringing her to school. If she can go on her own, it'll be good.' P7

However, parents were comparatively happier with their experiences at special schools. Parents almost always chose these schools after facing rejection at a mainstream school.

Teachers here were perceived to be empathetic towards parents. They provided guidance/counselling and constructive feedback.

'Now, he has started following instructions. He loves participating in activities.' P15

'They say, "You are not alone". "A special child makes a family special".' P3

'The teacher told me to teach my 2 boys to use the bus, so that they could come to school in time. So now, after they go, I can get my daughter ready and bring her a little late. She is the most disabled.' P11

These few positive experiences however were not enough to keep children at special schools. Most of the children who ever went to special school were currently out of school.

Many a times parents pulled their child out when they saw that going to school was causing psychological damage to them. They acknowledged that this could be a result of bad experiences at a previous place and not necessarily at the current school. This theme was most common among those who had dropped out of school. No parent stated poverty as a reason for their child being out of school.

'Some teacher had hit her. So, she became very scared of school. Out of that fear, she would get a fever and wouldn't eat anything for 2 days. So, we thought why give her trouble by sending her to school.' P9

4. Discussion and Conclusion

The results of this study highlight an interesting phenomenon: all parents, regardless of their own education, are acutely aware of the benefits of peer learning for their CWIDD, alongside non-disabled

peers. However, they seemed to believe that schools in general don't care.

Drop-out rates increase steeply with age, especially after age 8 for CWIDD [10]. This could explain why the average age of children currently in school is pre-adolescent. Schools probably are not able to cater to the comorbid complexities associated with teenage and IDD.

Surprisingly, transport is a major barrier to education of CWIDD even after 22 years! [12]. All parents whose children had mobility issues currently or in the past complained of severe hip and back pain caused by carrying the child. But only a few such parents were observed to be using wheelchairs or stretchers. Under usage of mobility devices could explain why lack of convenient transport was a major reason for a child to be out of school. This needs to be further researched.

The study suggests that the likelihood of continuing schooling might also be dependent on the severity of disability of the child and financial ability of the parents. It is possible that the increased societal participation of parents of children with lesser disability combined with their increased exposure to training is a cause for their higher resilience. A corollary to this fact is that more odds are stacked against children with more severe disabilities and consequently their parents. However, one limitation of this study was that participants' financial status was estimated based on the observation of the size of the house, number of family members residing, number of private services opted for, approximate amount spent on services and mention of financial difficulties. Since the study was skewed towards the FUP, comparison could not be made based on income levels. In addition, due to practical constraints, it was not always possible to get information on the exact nature or severity of disability of the child. Therefore, the relationship between these characteristics must be statistically confirmed.

In this study, more girls had dropped out of school than boys but no evidence was found to suggest that this was a result of discrimination. In addition, this was the only finding where there was a clear gender difference. This is a surprisingly refreshing result considering that discrimination against the girl child's education has been frequently documented in India (Social and Rural Research Institute, 2014). Previous studies on out of school disabled children also support these results [15]. With discrimination and negligence in schools, some parents believed that their girl was safe from sexual exploitation at home. It is also possible that apart from the complexities of teenage, IDD and bad learning histories, schools were unable to adequately teach girls how to maintain menstrual hygiene. It is also worth noting that parents did not explicitly mention this fact, perhaps due to cultural inhibitions.

“Future of the child must be good. If anything happens (at school), it’ll cause problems for us, isn’t it? When she grows older”. P28

These results must be considered with a caveat in mind. Firstly, the cities where the participants resided are two of the most developed cities of India and have the lowest school drop-out rates. They are also culturally quite different from the rest of the country. In addition, parents gave only estimates of the ages, at which their child joined a school or left it, and the number of schools, they had approached but which had denied their child admission on the grounds of disability.

Despite these limitations, it is evident that parents seek a non-discriminatory, empathetic and caring environment which can: 1. make the child learn basic functional skills and 2. be role models for parents. Academic performance doesn’t feature in this list like it did in Peshawaria et al. [12]. These desires are not very different from those of parents of nondisabled children and every school would be expected to provide such a learning environment. Thus, this study supports the stand taken by the government of India – every child regardless of his/her disability and the degree of it, can be and therefore, must be educated along with his/her nondisabled peers in a way as to satisfy parents.

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Instrumento de Aprendizaje de Pre-Braille Autónomo

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Resumen

Este proyecto consiste en un dispositivo interactivo para aprendizaje de pre-Braille autónomo, que su objetivo es mejorar el proceso de aprendizaje en países en vías de desarrollo como Ecuador. El sistema está desarrollado en software y hardware libre mediante la Raspberry Pi y el lenguaje Python, respectivamente. El sistema consta de dos celdas para formar los caracteres simples y dobles del código Braille; además cuenta con una retroalimentación audible del código formado para que el estudiante pueda trabajar de manera independiente. El prototipo tiene el 100% de efectividad al reconocer los símbolos del código Braille y reproducir fonéticamente el mismo.

1. Introducción

El sistema Braille fue inventado en el siglo XIX, es un código basado en 6 puntos que forman un símbolo para representar un carácter alfanumérico. Por lo tanto, será igual para cualquier idioma. [1]

En la Figura 1 se puede observar el alfabeto Braille para la lectura donde los símbolos correspondientes a la primera fila (letras a-j) ocupan sólo los cuatro puntos superiores del signo generador. Los símbolos de la segunda fila (letras k-t) son iguales a los de la primera, pero se le agrega el punto inferior izquierdo, a excepción de la "ñ" que es propia del idioma español, por último, los símbolos de la tercera fila se agregan dos puntos inferiores (letras u-z). [2]

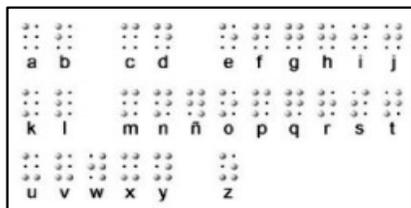


Figura 1. Alfabeto Braille [2]

Los 6 puntos que contiene el símbolo sólo permiten 64 combinaciones, siendo insuficientes para toda la variedad de letras, símbolos y números de cada idioma, para solucionar este inconveniente se utiliza los "símbolos dobles" [1].

Para obtener el sistema de numeración del 0 al 9 se antepone el símbolo de número de los símbolos dobles a las letras de la 'a' hasta la 'j'. Es decir, si a la letra "a" se le antepone el signo de número se origina el número '1', así sucesivamente se forman los números hasta anteponerlo a la letra "j" para obtener el número 0. [3]

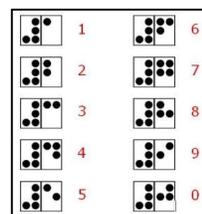


Figura 2. Sistema De Numeración [3].

El sistema Braille ha permitido a los niños con discapacidad visual aprender a la par con sus compañeros videntes en un ambiente escolar inclusivo, lo que mejora su calidad de vida [4]. El aprendizaje del código Braille modo lectura comienza por lo más sencillo como es una letra (pre-Braille) a lo más complejo como lo son palabras, oraciones y frases [5].

Existen métodos orientados a la enseñanza en adultos, como: *Bliseo*, orientado a personas alfabetizadas; *Alborada*, que evoluciona de palabras sencillas a complejas; y *Pérgamo*, especial para el proceso de alfabetización. De manera similar, se mencionan métodos orientados a niños, como son: *Punto a Punto*, con programas de pre-lectura, pre-escritura y reconocimiento de formas o texturas; y *Tomillo*, el cual se enfoca en la exploración táctil [5].

En el proceso de enseñanza aprendizaje de prelectura y preescritura en niños es necesario contar con la retroalimentación constante del tutor, lo que limita el número de estudiantes por docente y el trabajo autónomo.

En este trabajo, el objetivo es desarrollar un sistema de aprendizaje de pre-Braille con retroalimentación autónoma, figura 3. La formación del símbolo se dará mediante interruptores magnéticos, que estarán conectados a un microprocesador encargado de

recolectar la información y dar una retroalimentación audible al usuario.

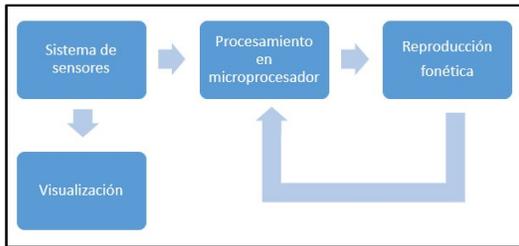


Figura 3. Estructura del Sistema

2. Metodología

Para el desarrollo del equipo se optó por hardware (Raspberry Pi) y software libre (Phyton) para que la tecnología sea accesible a las personas y exista la posibilidad de armar el prototipo en casa. El dispositivo está formado por dos símbolos con los 6 puntos correspondientes del sistema Braille cada uno, con el fin de poder formar tanto números como letras, mediante los símbolos dobles. En la figura 4, se presenta el diagrama del equipo donde se aprecian los sensores, el procesador, la visualización y la reproducción fonética.

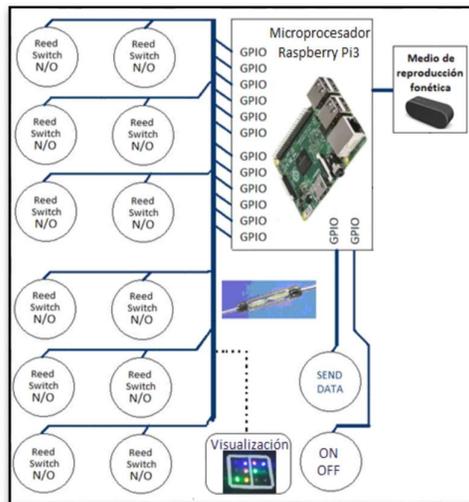


Figura 4. Conexión Electrónica

A. Diseño de Hardware:

Se utilizaron un total de 12 interruptores del tipo “Reed Switch”, los cuales se cierran ante la presencia de campo magnético. Estos sensores están conectados mediante una resistencia de “pull down” a las entradas GPIO del Raspberry. Es necesaria la presencia de campo magnético para que cumplan su función los interruptores, para lo que se ha utilizado un imán de neodimio en cada pieza. Se ha elegido este tipo de imán debido a la gran fuerza de magnética que ofrece [6].



Figura 5. Piezas individuales contenedoras de imanes

Las señales digitales obtenidas a través de los interruptores son conectadas a su correspondiente led; esto a fin de obtener certidumbre de que el interruptor tiene correcto funcionamiento, a su vez que funcionará como indicador visual para el tutor o la persona encargada.

B. Diseño de Software

El software se basa en la lectura lógica de los pines GPIO del microprocesador, para realizar las comparaciones y el reconocimiento del símbolo formado. El envío de la información a la Raspberry se realiza mediante un botón de *Envío*, que activa la comparación del símbolo y la reproducción fonética de la letra representada.

En caso de formar un símbolo que no sea perteneciente a alguna letra del sistema Braille, el reproductor permanecerá en silencio; esto con el fin de evitar los mensajes negativos que puedan repercutir en el aspecto psicológico del estudiante. Se darán las respectivas correcciones posteriormente a la asesoría pedagógica con docentes especializados.

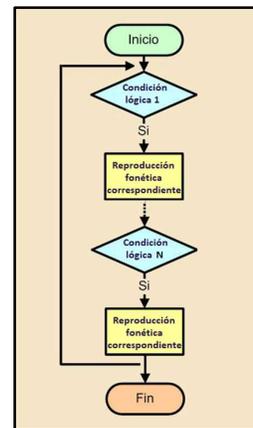


Figura 6. Diagrama de flujo

C. Sistema

El sistema consta de dos espacios para poder representar las letras así como los símbolos dobles, ver figura 7. El rectángulo de color negro, izquierda, es el utilizado para representar los símbolos dobles y el

rectángulo de color blanco, derecha, se utiliza para las letras en minúscula (en caso de que el símbolo negro se encuentre vacío).

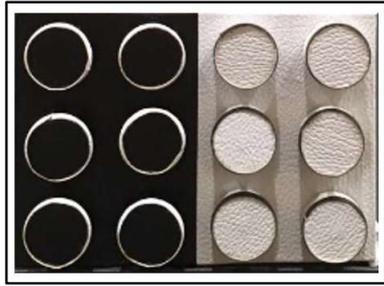


Figura 7. Colocación de sensores para generar símbolos

3. Resultados y Discusión

El prototipo final, figura 8, fue creado en madera para que sea resistente y liviano para el traslado del centro educativo a la casa y viceversa. Se hicieron pequeños agujeros para el botón de encendido, cable de alimentación y para la conexión de un parlante externo.

En la parte superior se aprecia los doce agujeros para colocar los sensores magnéticos. El botón de envío se encuentra en la parte inferior central de color azul cubierto con material EVA, el cual presenta propiedades buenas de protección, firmeza a bajas temperaturas y resistencia a las fisuras por tensión [7], para diferir de la textura de los sensores y el dispositivo; el sentido del tacto juega un papel importante en el proceso de aprendizaje de un niño [8]. Los LEDs en la parte inferior derecha sirven para que el tutor sepa el estado de los sensores: encendido (activo) o apagado (desactivo).



Figura 8. Prototipo final

El dispositivo se probó para cada símbolo de la figura 1, figura 2 y los caracteres en mayúsculas de la figura 1. La exactitud del símbolo formado con la reproducción del audio fue del 100% para cada prueba de símbolo realizada, tanto con la voz femenina y masculina.

4. Conclusiones y Trabajos Futuros

El prototipo es de fácil traslado en una mochila escolar, gracias a su bajo peso y robustez. Las pruebas de funcionamiento se realizaron con la totalidad de los caracteres usados en la enseñanza del pre-Braille.

Posterior al correcto funcionamiento de este proyecto, se pretende realizar las pruebas de validación con personas no videntes incluidas en el sistema educativo del Ecuador y determinar el efectividad en el proceso de enseñanza-aprendizaje

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Towards Better Preparing Future Middle and Secondary Teachers for Inclusion: First Steps

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Abstract

Of the 50 million students enrolled in public schools across the United States, 13 percent (over 6.5 million) are eligible for special education services [1]. Great strides have been made towards inclusion such that most (over 60 percent) students with special needs receive half to ALL of their instruction and related services in general education settings [2]. Though on both conceptual and practical levels inclusion is the norm in public schools, consistently, new and early-career teachers describe how ill-prepared they feel to teach students with special needs in regular classrooms [3, 4]. This is especially true for teachers at the middle and secondary levels [5, 6].

From their first days on the job, most US educators are evaluated on their “impact” on student progress across the general curriculum—often measured annually high-stakes tests [7]. Further, teachers are evaluated on their “effectiveness” with certain “target” groups of students who are traditionally most at-risk for poor outcomes [8]. These include students from linguistically, racially, culturally and/or socio-economically diverse backgrounds and especially, those with high-incidence disorders and disabilities [9].

Though the range of specialized needs that their students will present to general education teachers on a daily basis is well-known and the fact that educators are evaluated on the outcomes of ALL their students, the literature suggests that teacher preparation programs have not “kept up” in preparing future teachers for these realities [10]. This gap in teacher preparation is not limited to the US. [11]

Highlighting some recent, substantial philosophical and pedagogical shifts in a teacher-training program, this report will describe the first offering of a course specifically created to better prepare future middle and secondary educators to effectively teach students with special learning and behavioral needs. Though established at a medium-sized, urban, public university in Massachusetts—a small state in the northeast US with a large population (over 16%) of public school students with special needs—the prospective benefits to educators across a variety of international settings are significant.

In addition to summarizing the performance of 90 pre-service teachers (projected, across three sections) relative to the expected learner outcomes for the course, we will share copies of assignments with grading rubrics that can be amended by teacher trainers and early career teachers, alike. These will include a lesson plan template grounded in evidence-based instructional practices, incorporating the principles of Universal Design for Learning and differentiated instruction, as well as, the specific accommodations and modifications outlined in students’ Individual Education Programs (IEPs).

Exemplar inclusive middle and secondary lesson plans from across the curriculum (including artifacts), as well as, free/ inexpensive resources which can be readily customized to meet a variety of local and national standards will also be shared.

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Session 6: Special Education Needs

Title: Construction of a Developmental Aptitude Criterion for Diagnosing Learning Disabilities among Elementary Stage Students in the Kingdom of Bahrain
(Authors: Rimeyah H. S. M. Almutairi, Abdalla A. Alsmadi)

Title: Empowering Pre-Service Teachers to Become Change Agents in Embracing diversity- A Practical Exposure
(Author: Mpho Otukile-Mongwaketse)

Title: Prevention of Dysgraphia in Cases of Diagnosed Psychomotor Delay: A Longitudinal Study on 10 Cases in 2 Nursery Schools
(Authors: Luigi Sangalli, Angelo Lascioli, Andrea Lascioli)

Title: Longitudinal Study Carried out on a Sample of People with Down Syndromes to Explore Special Education Results Concerning Reading, Writing, and Calculating Skills
(Authors: A. Luigi Sangalli, Angelo Lascioli, Andrea Lascioli)

Construction of a Developmental Aptitude Criterion for Diagnosing Learning Disabilities among Elementary Stage Students in the Kingdom of Bahrain

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Abstract

This research aimed at introducing a new constructed Developmental Aptitude Criterion (DAC) to diagnose and filter learning disabled (LD) students. This is supposed to serve as an alternative method of the discrepancy criterion (DC) in the detecting LD without the need to wait for academic achievement. The sample consisted of 2052 elementary grade students in Bahrain. 15% of the sample was LD students as detected by the DC and 10% of the sample were identified with LD according to the DAC. Different instruments were used: Raven's Progressive Matrix Test and Developmental Aptitude Diagnostic Scales (DADS). Results indicated that there was a weak correlation between developmental process and academic achievement. Logistic Regression was employed to check for DADS ability to predict the probability of LD existence on an individual. Profile examples of developmental LD cases and some other overlapping categories were mentioned. Keywords: developmental aptitude criterion, Discrepancy criterion, learning disabilities, Bahrain.

1. Introduction

Since 1963, the interesting in the field of learning disabilities (LD) has been increasingly noticed. Many professionals, experts, and authorities who are interested in the area of LD - with their different specialties and orientations from public organizations and national associations for parents, psychologists, neurologists, and educators- have made several attempts and efforts to define LD but they have not agreed upon a specific definition [7]. There is no doubt that various definitions cooccurred with the problems of diagnosis and criteria for identifying LD. One of the most widely used criterion is the Discrepancy Criterion (DC) between the ability as measured by intelligence tests and academic performance as measured by the collection of academic tests [1]. According to this criterion, LD exists when there is a large discrepancy

between mental ability and academic achievement in one academic area such as reading [10]. Discrepancy criterion appeared in (1975) coinciding with the promulgation of the law (94 \ 142), which raised the slogan of education for all children with disabilities. This 42years-old discrepancy model still in use as the main diagnosis procedure for learning disabilities. Despite the un certainty about its credibility, DC still has the final word in identifying people with learning disabilities.

Al-Zayyat [5], [6] referred to a number of short comings of the discrepancy criterion. First, the discrepancy criterion was based on the significant variance between the student's intelligence and academic achievement. However, The credibility of the theoretical basis on which the concept of intelligence is built is questionable, In addition, there is no single test of mental ability or general intelligence measures all cognitive abilities in a comprehensive, proven and credible manner. Furthermore, different tests produce different estimates of general mental ability. Siegel [17] presented an example of a case study suffered for fourteen years the consequences of using the IQ-achievement discrepancy model to diagnose learning disabilities. Larry was placed in a category of "mentally retarded" children when he scored 78 (below average). At the age of eight, Larry had a hard time learning to read, write, write, compute, short-term memory and spelling, At the age of 34-yearold he had an IQ score 119 (above the average). later on, It turned out that Larry had dyslexic. Second the discrepancy criterion also suffers from the overlapping of certain categories, such as underachiever and gifted with learning disabilities (twice exceptional) with learning disabilities only. This overlapping case inflation the economic cost of caring of the un realistic number of learning disabled students. Third, Perhaps the most serious shortcoming of the discrepancy criterion is its devotion to the waiting-for-failure characteristic, as it depends on the discrepancy between mental capacity and academic achievement. But the academic achievement is

counted only in the third or fourth grade. The best time for an effective intervention and treatment has been wasted under the discrepancy criterion.

Therefore, Special Education of the Federal Government of the United States of America agreed to support the adoption of the Response To Intervention (RTI) model instead of discrepancy criterion.

Although RTI is an effective and promising tool in the field of learning disabilities, but it tends to be more therapeutic than a diagnostic tool. Kavale [14] emphasized that RTI alone is not enough as a key tool for diagnosing learning disabilities, besides, it takes a long time to decide that a classified LD student responds to the intervention provided which means in such a case that a wrong diagnosis was made, and the expensive price in terms of time, effort and psychological damage was paid. Therefore, applying DC and RTI as a diagnostic criterion to identify LD is an unfair for students with learning disabilities. It is widely agreed that LD are caused originally by developmental deficits, so it is more logical to start looking through examination of the student's initial developmental processes. Hence, the urgent need comes for a new criterion based on the assessment of as many primary developmental characteristics (attention, perception, memory) as possible. Therefore, the present study aimed at introducing a new constructed criterion to diagnose learning disabilities hoping to reach a more accurate and comprehensive diagnosis for learning disabilities. The new suggested Developmental Aptitude Criterion (DAC) provide both quantitative and qualitative diagnosis and allows to compare profiles of different developmental processes for different students.

2. What is the Developmental Aptitude Criterion (DAC)?

DAC was constructed in the light of the psychological processes model as an explanation of learning disabilities. This model is based on a specific assumption that the limitations of different psychological processes such as attention, perception, and memory are a primary manifestation of simple functional disorder and academic problems. The occurrence of such disabilities due to the shortcomings that can lead to a different deficit of academic skills [6].

2.1. DAC has the following contributions:

First, more credible and precise qualitative and quantitative diagnosis for individuals with LD. Second, DAC provides qualitative and quantitative data about different primary developmental processes and their dimensions, thus helping profiling for each student. Third, DAC enables to identify strengths and

weaknesses which helps to develop appropriate remedial plans. Fourth, DAC allows to compare between normal developmental and LD profiles. Fifth, DAC is anew criterion that is more credible, reliable and precise for diagnosing LD.

2.1.1. Diagnosis mechanism based on DAC: First, initial diagnosis using total score: Regardless of the academic achievement DAC depends only on the assessment of the developmental performance of the primary developmental processes (attention, perception, memory). Total dimension and subdimension sort can be used for diagnosis for different categories as presented by Figure 1.

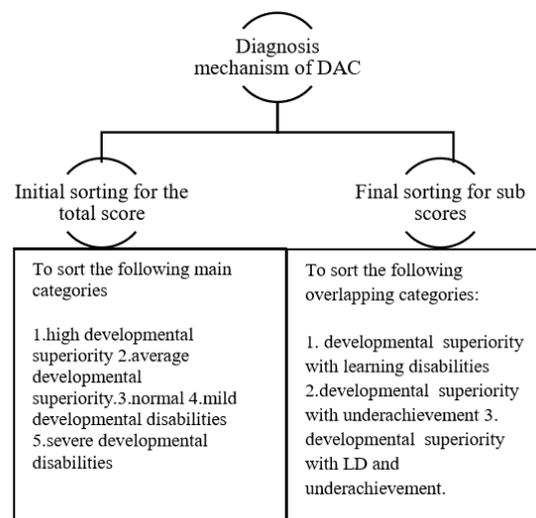


Figure 1. DAC diagnostic categories

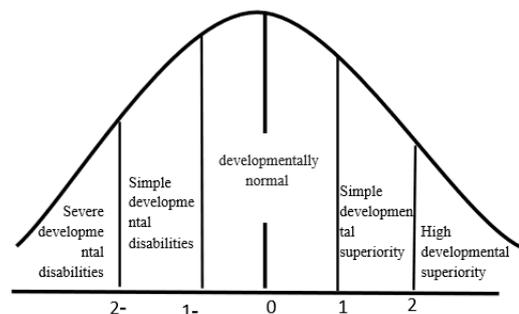


Figure 2. Main categories resulting from the initial diagnosis using standardized total score

2.1.2. Second, in detail diagnosis using sub-dimension scores: DAC relies on direct performance assessment of the developmental scales (attention, perception, memory). Consequently, raw scores are converted into norms and compared with peer's performance of same chronological age when compared with his or her academic achievement-if he or she is a student. But if an examinee is a preschooler it is enough to assess his or her performance on the developmental measures and compare it with the developmental criteria for his or her peers at the same

chronological age. Through variant and discrepant performances on developmental scales (in attention-perception and memory) and academic achievement, the following as presented in classes as presented in Table 1 can be obtained.

Table 1. Expected categories in detailed diagnosis using DAC

No.	Primary developmental processes attention perception memory	Academic achievement	Category
1	Some are higher, and others are lower than normal in similar percentages	Average	twice-exceptional
2	Some are higher and others are lower than normal in similar percentages	Low	triple-exceptional
3	Some are higher and others are lower than normal (developmental superiority -surpassing disability group)	High	twice-exceptional
4	Some are higher and others are lower than normal (disability surpassing talent)	Low	twice-exceptional
5	Some or all are above normal only	High	developmental superiority
6	Some or all are above normal only	low/average	twice-exceptional
7	Some are below normal only	Low	learning disabilities
8	Some or all are above normal only	Very low	learning disabilities & underachiever
9	All in the normal average	Average	Normal
10	All in the normal average	Low	Underachiever

2.2. Defining learning disabilities according to DAC

According to DAC, learning disabilities can be defined as a disorder of cognitive processing components in one or more primary developmental processes (attention, perception, memory). This disorder makes a person's performance in some cognitive process and tasks lower than expected at the same chronological age with at least one standard deviation. Consequently, there will be academic learning disabilities in one or more fields such as oral expression, listening-based comprehension, written composition, basic reading skills, reading comprehension, computational operations, and reasoning. students with academic problems due to visual, audio, motor impairments, mental retardation, emotional disturbance, or cultural, environmental and

economic deprivation are not included under this term.

2.3. Comparing DAC with other Criteria

Although DAC is basically derived from the core definition of LD that LD is a spelling or disorder in the primary developmental processes, constructing DAC resulted from the failures of the existing commonly used criteria in the field of LD (discrepancy and RTI). Consequently, constructing DAC was consistent with the definition of LD on one hand, and avoiding the limitations and drawbacks of the practical diagnostic criteria for LD on the other hand. Table 2 compares DAC with other criteria.

Table 2. Comparing DAC with other diagnostic criteria

Comparison area	RTI	Discrepancy Criterion	DAC
Intervention	Observing failure through layers	prevailing academic failure	Early
Type of analysis	Qualitative	Quantitative	Qualitative and quantitative
Structure	Depends on three remedial stage	Depends on a specific to judge. IQ tests and academic achievement	Depends on standardized developmental scales (attention, perception, memory)
Availability of academic achievement	Dependent	Dependent	Independent (uses academic achievement only in identifying underachiever
Assessment			
Task	Focuses on a student's response to interventions	Focuses on including a student in special services	Focuses on analyzing developmental profiles: attention, perception, memory- identifying strengths and weaknesses to use in an individual treatment plan

3. Sample

The sample for this research consisted of 2417 first sixth grades registered in primary public schools for the 2013-2014 academic year in the Kingdom of Bahrain.

4. Instruments

1.Developmental Aptitude Diagnostic Scales (DADS): consist of 19 independent measures of the

primary developmental processes: attention, visual audio perception, visual-motor coordination, memory, and their sub-dimensions. DADS were designed to be collective, easy to use, administer, score, and costly effective. It was designed in the form of video media.

2. Raven’s Progressive Matrix Test, (non-colored) [3]: Test Description: The Raven test is based on the practical performance in IQ measurement, where the matrix consists of a large form of deletion of a part of it and the examination shall determine the whole minus 6 or 8 forms shown. The test consists of a (60) matrix divided into five groups, each containing a 12-tiered matrix in difficulty of observation accuracy until the measurement of public relations that relate to abstract mental aspects is reached.

4.1.1. Reliability and Validity of DADS: Reliability indices of DADS were established through internal consistency coefficients split-half coefficient method. DADS proved to be highly reliable (.601-.986). The validity of DADS was verified through judgments of content validity, construct validity, factorial analysis validity, and criterion validity. DADS proved to be highly valid (.65 - .972)

4.2. Diagnosis Procedures

1. Cases of health problems like sensory disabilities integrated students of mental disability, culture or economic deprived students have been excluded through examining school health records, such cases were 158 students. Another 207 students were excluded for absence.

2. Then DADS was applied to all remaining 2052 elementary school students in the Riffa, ISA town cities in the Kingdom of Bahrain.

3. The total score screening diagnosis for revealed 206\ 2052 (10%) learning disabled students according to DAC as presented in table 3. Analyzing scores of primary dimensions revealed another level of diagnosis and presented in Table 4.

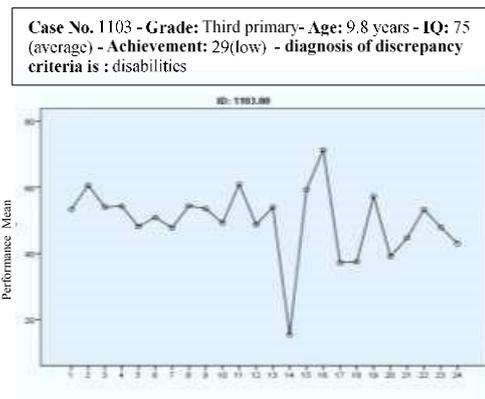
Table 3. Ratio of the main categories to the initial sorting of the frequencies and percentages at each main diagnostic category according to DAC

Main diagnostic categories	Frequencies	Percentage%
High developmental superiority	78	8.3
Simple developmental superiority	167	1.8
Normal students	1601	78
Simple developmental disabilities	170	3.8
Severe developmental disabilities	36	8.1
Total	2052	100

Table 4. Frequencies and percentages for each primary developmental dimension of each main diagnostic category according to DAC

Main diagnostic categories	Memory		perception		Attention	
	%	Freq.	%	Freq.	%	Freq.
High developmental superiority	1.4	84	3.6	129	8.3	63
Simple developmental superiority	9.6	142	1.6	125	1.8	189
Normal students	8.80	1657	79	1621	77.3	1589
Simple developmental disabilities	5.3	71	5.2	52	1.3	63
Severe developmental disabilities	8.4	98	1.6	125	0.9	175
Total	100	2052	100	2052	100	2052

The main group profiles appearing in the initial diagnosis for DAC were analyzed. The following is an analysis of the developmental profile for two examples.



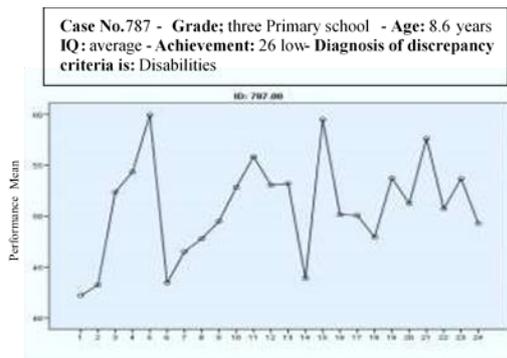
4.2.1. Reading a case developmental profile. This case has severe disabilities in part of attention processes (attention scope). These disabilities were reflected on the case's performance on attention tests, so this case is likely to have LD (attention difficulties). This case also enjoys developmental superiority in visual, audio perception, and memory except remembering audio numbers. This developmental superiority appeared in the case's performance in attention and memory tests, so this case tends to be developmentally superior, and the case's academic achievement was very low, and poor compared with peers. Diagnosing using DAC: This case is classified as developmental superiority with LD and underachievement (Triple Exceptional).

4.2.2. Reading a case developmental profile. This case has a high developmental talent for superiority

attention, visual and audio perception, and memory. This developmental superiority was reflected in the performance on the primary developmental processes scales, so this case presented high developmental, but academic achievement Diagnosis by DAC: developmentally was below superior average for an under achievement.

4.2.3. Graphs key: 1. Visual discrimination 2. Visual closure 3. visual Memory 4. dynamic Visual Synergy 5-shape and inverted 6. Spatial Relations 7. shape & background 8. Total visual perception 9. Phonological awareness 10. Sound-deletion 11. Audio joint 12. Audio closure 13. Overall Audio awareness 14. Attention capacity 15. Selective visual attention 16. Selective audio Attention 17. selective audiovisual attention 18. Total attention 19. Remembering images position 20. Remembering the audio numbers 21 Remembering the relevant clips 22. The arrangement of the same images 23. Total Memory 24. Total Battery.

The vertical axis in the graph is based on the grade of the number, and the situation is considered to be a difficult category if the standard score is less than average with one standard deviation, consisting of $Z = -1$ and corresponding to $T = 40$



5. Results

1. The relationship between primary developmental processes (attention, perception, memory) and academic achievement was examined. Pearson's correlation coefficient indicated that there was a statistically significant. But weak relationship between primary developmental processes (attention, perception, memory) and students' academic achievement in Arabic language and math. Correlation coefficients ranged between 0.050 - 0.284, whereas correlation coefficients between primary developmental processes and math scores ranged between 0.055 - 0.317. Means score of high achieving students were high in all the primary developmental processes (attention, perception, memory) followed by average achieving students, and means score of the primary developmental processes of low achieving students were the lowest.

2. To check for differences in the primary developmental processes attributed to different achievement levels, result of ANOVA analysis revealed statistically significant differences between students mean scores in all primary developmental processes. According to scheff's post hoc comparisons, significant differences were found at all comparisons in favor of high achievement group.

3. The degree of consistency and agreement between the discrepancy criterion and DAC in diagnosing LD cases was examined. The results presented in table 8 indicated that 319 learning-disabled students were identified by the discrepancy, and 206 learning disabled students were identified by DAC. Kappa coefficient for the agreement was .195 indicating a low agreement coefficient between discrepancy criterion and DAC in diagnosing LD cases.

Table 5. number of LD cases identified by DC and DAC

Discrepancy Criterion	Developmental Aptitude Criterion			Kappa value
	Normal students	LD students	Total	
Normal students	1604	129	1733	0.195
LD students	242	77	319	
Total	1846	206	2052	

4. Results of logistic regression analysis revealed, a likelihood prediction formula for each main dimension of the primary developmental process.

$$\ln(\text{ODDS}) = 0.133(\text{visual}) - 1.74$$

So if a student got a score of 7 on visual perception scale.

$$\ln(\text{ODDS}) = 0.133(7) - 1.74 = -0.809$$

$$(\text{ODDS}) = e^{-0.809} = 0.45$$

Then he\ she has an opportunity (0.45) to be normal, so an opportunity to be with LD is higher. For other dimension of developmental process, likelihood prediction formula can be derived as follows: $\ln(\text{ODDS}) = 0.497(\text{hearing}) - 5.063$

$$\ln(\text{ODDS}) = 0.497(7) - 5.063 = -1.584$$

$$(\text{ODDS}) = e^{-1.584} = 0.21$$

$$\ln(\text{ODDS}) = 0.002(\text{Attention}) - 5.063$$

$$\ln(\text{ODDS}) = 0.450(\text{Memory}) - 4.595$$

$$\ln(\text{ODDS}) = 0.450(7) - 4.595 = -1.44$$

$$(\text{ODDS}) = e^{-1.44} = 0.24$$

6. Discussion

According to the results of this study, there is a positive relationship between primary developmental processes (attention, perception, memory), and students' academic achievement in Arabic language and math. Even though it was statistically weak. This weakness in these relationships is attributed to the fact that students' achievement is affected by some other factors beyond the primary developmental processes including school and class setting, teachers' different ratings, the quality of school inputs, students' motivation and aptitude for academic achievement. Consequently, it is difficult to confirm the validity of academic achievement without controlling all the surrounding variables [8].

This study found also that there were statistically significant differences between mean scores of the students in all the primary developmental processes (attention, perception, memory) by the different academic achievement level. The results generally showed that there was an increase in the mean performances of the students on developmental scales with their increasing performance on the primary developmental processes. Several researchers found that there were significant correlational and causal relationships between the competence level of the cognitive processes related to attention, perception, memory, language, thinking and the level of academic achievement by its different elements, levels, and stages. It was also concluded that any biases or deviations in these processes will cause learning disabilities [6], as academic learning disabilities are highly related with developmental learning disabilities, for example (1) learning how to read requires a competence and ability to grasp and use language, an audio perception skill to recognize the sounds of letters of words (phonological awareness or perception), and a visual ability to distinguish and identify letters and words, (2) learning how to write requires competence in several motor skills, for example motor perception, precise motor coordination for finger movements, hand-eye coordination and other skills, and (3) learning how to do arithmetic needs a competence in visual-spatial conceptualization, quantitative concepts, knowledge of the functions and values of numbers and other skills [12]. Several studies agreed upon this result, Al-Saadon [7] noted that math achievement can be predicted by the competent working memory, reading achievement can be predicted by competent working memory in the task of reverse number scope, listening scope task, numerical task, and the static matrix task. These studies [3], [19], [13] stressed the role of the primary developmental processes in information acquisition and academic achievement particularly working area and attention.

This study indicated that the number of LD identified by using discrepancy criterion was 319

children from both sexes (15% of the total sample, 2052), whereas the number of students with LD identified by using DAC reached 206 children from both sexes representing 10% of the total sample (N= 2052). Here, two issues can be considered:

First, Discrepancy Criterion-DAC agreement percentages. Arabic and foreign research indicated that there were different percentages for the prevalence of LD. The American Education Office pointed out that 51% of the students receiving special education services are learning-disabled [15]. In a survey research carried out by the National Counsel of Learning Disability NCLD [11] in the U.S.A. with a random sample of 1980 students, learning disabilities represented 12% out of the total sample [9], whereas Shifrin [16] found different percentages for the prevalence of LD by using various models for diagnosing as follows: Mild discrepancy model (32% males, 26% females), Regression model (39% males, 20% females), Low achievement model (71% males, 61% females), Ability-achievement consistency model (42% males, 26% females) Agreement-disagreement model (74% males, 61% females)

Solaiman [18] referred to a number of concerning research conducted in the Arab environments, several studies indicated that there were different percentages for the prevalence of learning disabilities. Tawfiq (1993) conducted a study in Oman and the results showed that LD appeared in 12% of the males and 9.3% among the females. In Jordan, Al-Kawafha found that LD represented 9.2% among the primary school males and 6.8% among the primary school females. In the U. A. E., Al-Zarrad (1991) found that LD represented 13.7% of the primary school children. In Egypt, Abdul-Hameed indicated that LD represented 57.4% of the primary school students. In fact, it is difficult to determine world or Arab regional percentages for the prevalence of LD because diagnosing techniques were different all over the world. Al-Khateeb [4] noted that the ratings about the numbers or percentages of the children with LD are very different due to the unclear definition on one hand, and lacking agreed upon diagnostic tests on the other hand. Some believe that the percentage of LD occurrence did not reach 1%, others believe that it reached 20%. Consequently, this study does not compare the percentages of prevailing LD measured by both discrepancy criteria and DAC because of lacking reliable, stable and official world or Arab percentages. Second, examining the agreement percentages between both discrepancy criteria and DAC reaching 3.7%, yields that it involves a lot of important connotations: It might be impossible to explain this agreement psychometrically due to different identification percentages of both criteria. In DC, diagnosis is based on the discrepancy between a student's intelligence and actual achievement, whereas in DAC a student is classified with learning-disability if his \ her performance on developmental

measures was below peers' average performance at the same chronological age. However, this agreement can be explained psychologically. In discrepancy criterion, Raven' Progressive Matrix Test was used as an intelligence test. In DAC, the primary developmental measures DADS were used for attention, perception, and memory. The question though, does Raven measure the same primary developmental processes that are assessed by DADS? Discrepancy criterion agreed with attention tests by 3%, visual perception by 3.8%, and with audio perception by 3.2%. Memory tests agreed with discrepancy criterion by 4.1%. It might be that intelligence structure as measured by Raven consists of a homogeneous combination of these primary developmental processes.

It is noteworthy that the diagnosis using discrepancy criterion yielded an ambiguous, vacant, quantitative number. It is not valid for predicting a disability in a student being diagnosed. It cannot be used beyond an initial diagnosis. It cannot describe a student's developmental characteristics or disability in terms of severity, quality, strength or weakness. Therefore, it cannot be used to design individual's treatment plan. In contrast diagnosis using DAC yields qualitative and quantitative information at the same time. It gave a detailed description and percentages of the prevalence of LD on the primary developmental dimensions attention, perception and memory. Additionally, DAC could determine the severity and quality of a student's disability, strengths and weaknesses that can help designing individual's remedial and educational plan. Moreover, DAC provides the cognitive profiles for students under diagnosis, identify the overlapping groups with LD to save economic waste and loss due to wrong diagnosis for learning disabilities.

7. Conclusion

Since the learning disabilities are developmentally origin, students with learning disabilities can be detected. By examining the primary developmental processes like attention, perception and memory A positive correlation between the primary developmental processes and academic achievement was detected. Therefore, attention, perception and memory can be considered as tools for knowledge acquisition. This emphasized the importance of early examination of developmental process at the preschool time in order to prevent the academic failure. When comparing DAC with DC, it is indicated that there is a 3.7% agreement between the two criteria's which may indicate that the intelligence tests used in the discrepancy criteria involve, in part, primary developmental processes (attention-perception – memory)

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Empowering Pre-Service Teachers to Become Change Agents in Embracing diversity- A Practical Exposure

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Abstract

This qualitative paper is intended to promote discourse among professionals, policymakers and educators concerning current and future challenges facing pre-service teacher preparation programmes aimed at supporting learners with Learning Disabilities (LD) in increasingly inclusive and diverse settings. A total of 36 pre-service teachers from the University of Botswana responded to pre and post similar questionnaires (within four weeks of having attended classes for a course entitled EFS 250 - Diagnostic Teaching in Basic Skills for Students with learning Disabilities then later on towards end of semester) on their perceptions regarding how well their course EFS 250 a semester course had prepared them to identify and support learners with learning disabilities in inclusive settings. This study therefore presents (a) findings from research identifying key issues influencing training programs that are information-based and have not successfully created practical exposure to pre-service teachers, (b) how practical exposure to working with learners with LD impacts on enhancing positive attitudes towards learners with LD. Pre-service teachers reported that they were not empowered to be able to offer appropriate support to learners with LD, but upon exposure to working with learners with LD through frequent school visits, they indicated that the practical component of the course enabled them to confidently identify and offer appropriate support to these learners as compared to being informed about them during lessons at the University of Botswana. They further indicated that these frequent visits did not only allow them to give appropriate support to learners with LD but also helped them to develop positive attitudes towards these learners a move which perpetuated them to look forward to their next teaching practice.

Prevention of Dysgraphia in Cases of Diagnosed Psychomotor Delay: A Longitudinal Study on 10 Cases in 2 Nursery Schools

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University of Verona, Italy

1. Introduction

The University of Verona is conducting research on the most effective teaching methods in the treatment of dysgraphia. From the school year 2010/2011 we began to experiment with different prevention techniques in several nursery schools. We have taken into consideration children diagnosed with psychomotor delay and language difficulties who are currently attending primary school. We want to check out what results these pupils have achieved in primary school in handwriting skills.

The work was conducted in two different schools of childhood on children with psychomotor delay. We worked on: fine motor control, bilateral and visual-motor integration, motor planning, in-hand manipulation, proprioception, visual perception, sustained attention, and sensory awareness of the fingers. These are some of the identified component skills.

Supported by the scientific evidence of the effectiveness of preventive techniques on dysgraphia on typical children, we now want to deepen our understanding in the techniques used with children with special needs (diagnosis of psychomotor delay and difficulty in language), within the activities in the nursery schools.

2. Method

Identification of 10 subjects diagnosed with psychomotor retardation and speech disorder, evaluation by DGM-P (2012) M. Boren, G. Pasciulli, L. Bravar, S. Zoia, for the evaluation of dysgraphia. 13 parameters were evaluated: speed, additions, omissions, dissipation, (etc.). Presentation of the special educational activities carried out by the sample.

Comparison of the results among the pupils of the two Nursery schools: Nursey School Santo Cambianica, Berzo San Fermo, Bergamo and Nursery School Bettini Morandi, Ceresara, Mantova, Italy.

3. Analysis of the results

None of the students have difficulty in writing in accordance with 13 parameters assessed through the test. Comparison of the test results between the two schools indicates that the special educational activities implemented are statistically significant for both school samples. The special educational model implemented is presented in the article in detail.

Longitudinal Study Carried out on a Sample of People with Down Syndromes to Explore Special Education Results Concerning Reading, Writing, and Calculating Skills

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University of Verona, Italy

1. Purpose

The University of Verona is conducting longitudinal research on more than 100 people with Down syndrome with the aim of verifying the reading, writing and calculation skills achieved, maintained and preserved over time.

The aim of the research is to identify rehabilitation methods and special didactic techniques that have proved to be more effective, even with Down-Syndrome people. We expect a qualitative and quantitative assessment of the benefits on Down Syndrome people to identify future educational intervention lines aimed at improving the quality of learning processes.

Down Syndrome to acquire and maintain reading, reading understanding, writing and calculating capabilities over time. In addition, we want to evaluate whether the increased performance is related to the rehabilitation and didactic pathway or environmental factors or, moreover, to Q.I. As for people with Down syndrome who have completed the school, we want to point out the repercussions of special rehabilitative and educational work on job placement and the development of personal autonomy.

2. Method

The research sample is distributed across national territory and is equally represented between males and females; The ages range of subjects taken into consideration is from 9 to 30 years. The test protocol chosen for measuring reading, writing and calculating is the one used to evaluate learning disabilities in the Italian population: DDE-2 (2007) G. Sartori, P. and J. Tressoldi; MT-3 Clinic (2016), C. Cornoldi, B. Carretti; BDE-2 (2016) A. Biancardi, C. Bachman, C. Nicoletti.

The results obtained are evaluated according to the sufficiency criterion when the test performance reaches -0.6 ds. At this point, the school class level is identified.

The correlation of the results also takes into account the Q.I.

The parents of the subjects involved were also subjected to a structured questionnaire (Vineland-II (2016), S. Sparrow, D.V. Cicchetti, D.A. Balla) to reconstruct the children's rehabilitation and schooling pathway and obtain data on the autonomy achieved.

3. Expected results

We want to see whether there are special rehabilitation and specialty activities that will enable

Session 7: Inclusive Education

Title: The Same and Different - Early Career Development for Young People with Learning Disabilities in Special Schools
(Author: Jenny Connick)

Title: Investigating Teachers' Attitudes Towards the Visibility of Special Needs Identities: The Role of Representation in School Textbooks
(Author: Fabio Filosofi)

Title: Teoría y realidad de la Educación Especial en Islandia: Soluciones a través del desarrollo de material escolar en un marco de Educación Inclusiva
(Author: David Hidalgo Rodríguez)

Title: Evaluation of Teachers' Views on the Achievement of Learning Activities in Inclusion Classes
(Authors: Muhammed Abdalbaki Karaca, Hakan Sari)

The Same and Different - Early Career Development for Young People with Learning Disabilities in Special Schools

Jenny Connick

Founder of Talentino Ltd in conjunction with Brookfields Special School for Clare Worsdale

1. Introduction

The Government, through the Department of Education, is publishing a new Careers Strategy paper for England in the summer 2016. It will outline the responsibilities of all stakeholders in the area of careers education and enable young people in England to receive a high quality, relevant career development experience that results in them making smarter career decisions that benefit them and UKPLC.

Currently, young people with learning difficulties in Special Schools had not been included in the new policy paper and this is viewed by Talentino® and many other careers organisations, BASE and Special Schools as a significant oversight at best. At worst, it is a negation of the obligation for diversity and inclusion to be inculcated into all policies and procedures created by Government. However, since the first draft of this paper April 7th, 2016, there has been agreement from the Minister to include this group within new policy guidelines.

There is some small attention paid to young people with SEN in mainstream schools but these young people would normally be able to access a mainstream type careers programme with additional support and the career destination would be further education / training or employment.

Pupils with learning difficulties in Special Schools have different career development needs and will benefit from a wider range of career related outcomes so their needs are different and need to be surfaced. The career development methodology also differs and needs to be addressed in policy guidelines.

2. Purpose – why bother?

People with learning difficulties are more likely to be NEET, suffer mental health issues, have lower levels of qualifications, qualifications which are not recognised or understood by employers, are more likely to be unemployed, be bullied as adults and die at a younger age.

According to Government statistics in January 2015 there were 103,970 young people in Special Schools

with 101,575 with EHC Plans. 45,780 were aged between 13 and 19.

In mainstream schools, there were 444,020 SEN young people in year 7 and above with 57,245 with EHC plans.

Talentino wants to create a dialogue where the people working on the National Careers Strategy understand more about what is needed for young people with learning difficulties and ways that their early career development can be delivered as well as the significant benefit and impact it can have.

Ultimately, it wants the new Careers Strategy paper to include the career development needs of young people with learning difficulties and outline how they can be met and funded so that ALL young people have an equal chance of paid employment and enjoy improved social, personal, educational and economic outcomes.

This paper is being written from a positive perspective, using evidence from case studies and seeks to put the notion that early career development is equally as important for young people with learning difficulties as that of their able-bodied peers and equally achievable. The Career development journey and outcomes may be different may they are equally valid. This has significant economic advantages to the individual young person, their families and the UK economy.

3. Policy Context

The Special Educational needs and disability code of practice – 0-25 years Jan 2015 identifies - 8.28 Schools and colleges should raise the career aspirations of their SEN students and broaden their employment horizons. They should use a wide range of imaginative approaches, such as taster opportunities, work experience, mentoring, exploring entrepreneurial options, role models and inspiring speakers.

Two key terms of reference for the current careers landscapes include The Lord Young Report –

Enterprise for All 2014 and the Gatsby Report 2014 do not directly include young people with learning difficulties but could be used in the same way for them. The Lord Young report talks about Enterprise for young people being:

- Captive and meaningful to young people through real-life contact with business and work, particularly for those put off by more theoretical or academic learning; and made relevant in the way the curriculum and exams are designed and delivered.
- Continuous, beginning with inspiration and a first taste of enterprise in primary and secondary education and then the application of that learning through further and higher education, and later in life.
- Coherent, first as a strong and consistent government message to empower educators to embed enterprise in their teaching; second, in the way we measure and distinguish the impact of an institution's enterprise activity; and third, through better coordination and consistency in what already exists, to ensure that all young people are able to access enterprise-related programmes.

The Gatsby report identifies 8 benchmarks namely:

- A stable careers programme Every school and college should have an embedded programme of career education and guidance that is known and understood by pupils, parents, teachers, governors and employers.
- Learning from career and labour market information Every pupil, and their parents, should have access to good quality information about future study options and labour market opportunities. They will need the support of an informed adviser to make best use of available information.
- Addressing the needs of each pupil Pupils have different career guidance needs at different stages. Opportunities for advice and support need to be tailored to the needs of each pupil. A school's careers programme should embed equality and diversity considerations throughout.
- Linking curriculum learning to careers All teachers should link curriculum learning with careers. STEM subject teachers should highlight the relevance of STEM subjects for a wide range of future career paths.
- Encounters with employers and employees Every pupil should have multiple opportunities to learn from employers about work, employment and the skills that are valued in the workplace. This can be through a range of enrichment activities including visiting speakers, mentoring and enterprise schemes.
- Experiences of workplaces Every pupil should have first-hand experiences of the workplace

through work visits, work shadowing and/or work experience to help their exploration of career opportunities, and expand their networks.

- Encounters with further and higher education All pupils should understand the full range of learning opportunities that are available to them. This includes both academic and vocational routes and learning in schools, colleges, universities and in the workplace.
- Personal guidance Every pupil should have opportunities for guidance interviews with a career adviser, who could be internal (a member of school staff) or external, provided they are trained to an appropriate level. These should be available whenever significant study or career choices are being made. They should be expected for all pupils but should be timed to meet their individual needs.

4. Careers Bodies and Influencers

Unfortunately, many of the stakeholders in the current energetic wave around career development for young people have also not overtly included young people with learning difficulties. For example, the new CDI framework does not include any reference to this group.

The report from the UK Commission for Skills identifying 'cold spots', did not look at work experience in this group or even mention this group in their 25-page report.

The new Careers and Enterprise Company says it is keen to develop more material for use in its toolkit for Enterprise Advisers to use with young people with learning difficulties although its initial focus is mainstream schools and Colleges which is probably the reason why none of the fifteen recent Innovation award winners were focused on young people with learning difficulties. It does not currently have a formal stance / statement on this group but does say it intends to include Special Schools in the next wave of its activities. Talentino has been meeting Enterprise co-ordinators around the country and some are including Special Schools and some are not. Talentino® has also contributed to the Enterprise Adviser 'Toolkit' in this area in conjunction with their funder Special School, Brookfields which is an outstanding Special School in Berkshire.

The new Northern Ireland Careers Strategy does give a small mention to young people with disabilities as getting additional support as a group which experiences additional barriers to work.

5. Current career development for young people with learning difficulties

The statutory duty and funding for careers advice and guidance for young people with learning

difficulties lies with Local Authorities but with the increasing cuts and diminishing services, the bare minimum is being done in some areas focusing on the statutory reporting element. Payment is now having to be picked up by schools in some areas which needs investigating.

Many Special Schools create their own career development programme but this can lack visibility and or achieve economies of scale. For example, a national picture has been gained of what mainstream schools are doing but not so for Special Schools. So, these young people's career development needs lack profile and prominence and are not getting prioritised in the same way as young people in mainstream which can't be right.

Mencap statistics show the number of people with learning difficulties who want a paid job is 65% but only 6% have one. This has gone down from 10% five years ago. If the employment rates were the same for disabled and non-disabled people the economy would lift by £30 billion a year.

There has been a lot of very recent acrimony with the cuts to disability allowances resulting in a member of the Cabinet resigning, but this paper is not wholly about money it is about treating young people with disabilities the same as those without.

On leaving school, young people can access Work Choice a programme offered through Job Centre plus or utilise Access to Work funding to support their needs for a particular job. Alternatively, they can go to College and often will complete very similar programmes to those they might have had at school but on a part time basis which is not the best pattern of learning as many benefit from full time learning opportunities and begin to deteriorate if courses are part time.

6. Career Possibilities for Young People with learning difficulties: Working is good for everyone

Research about the reasons why people work include:

- To develop new skills
- Opportunity to use talents
- Being recognised for a job well done
- Social benefits around working collaboratively in a team
- Financial independence
- Better Health
- Better Mental Health

All these reasons apply equally to young people with or without learning difficulties so it is logical to address the career development needs on an equal footing.

Employing young people with learning difficulties is good for employers too. Employers want people

who can be trusted to do a good job, who represent their brand and positively impact your customers. Research shows that young people with learning difficulties do all of these things really well.

Employers are often risk averse and uncomfortable when things are unfamiliar. Many employers have no experience of young people with learning difficulties and make assumptions about what they cannot gain from working.

But the benefits and advantages of working for everyone whether they have a learning difficulty or not are the same – an opportunity to learn new skills, use our talents and be recognised for a job well done.

7. Career development for Young People with learning difficulties in Special Schools – what is the same and what is different?

The aims of a career development programme in Special Schools are the same as those in a mainstream school and can sit comfortably under the Gatsby benchmarks and Lord Young respective banners. The programme can include many of the activities identified in the Careers and Enterprise toolkit.

Elements that are the same include:

- Increase aspirations
- Inspire young people
- Early preparation from KS4 as a minimum
- Involvement and support of families/ carers
- Engagement with employers in a range of employer led activities
- Increased understanding of what a working environment is like and the protocols involved
- Exploring the widest range of potential career options
- Making Career decisions that are right for the individual young person
- Work experience
- Supported Internships
- Development of work related skills
- Securing the benefit of paid part time work whilst still at school
- CV preparation
- Interview preparation and practice
- Becoming employable around what employers want including mitigating the lack of formal educational qualifications as they will very often be competing without GCSEs
- Understanding the local employment picture
- Understanding the soft skills employers will be interested in e.g. communication, working in a team
- Understanding what Enterprise and self-employment looks like

- Utilising external careers organisations

So many elements are exactly the same as for young people without learning difficulties. But there are differences and these do need to be surfaced and factored into the new Careers Strategy. Additional elements and considerations that need to be factored in include:

- Additional agencies including the Local Authority, supported employment providers, Job Coaches, possibly Social Services, Health and therapy professionals and others as the needs of the child dictate
- Extra attention given to how to compete for paid jobs without the benefit of academic qualifications
- Development of Vocational Profile - similar to the new Enterprise Passport
- Dedicated Job Coaching to develop specific job-related skills
- Local employer's recruitment policies and procedures being conducive to applicants with a range of abilities

8. Career Development Value Chain

A 'Career Development Value Chain' needs to be created for young people with learning difficulties which clearly identifies who would be involved at which stage and which starts in schools at the beginning of KS4 and extends throughout school and extends into post school at College and in employment giving the best chance of a positive career outcome. The initial and ongoing engagement is outlined in Table 1.

Table 1. The initial and ongoing engagement

Career Development Value Chain	KS3	KS4	Post 16	After school	19- 25
School Careers Programme		start			
Parents/carers involvement and support	Start				
Employer engagement		start			
Job Coaches			start		
Supported employment provider			start		
Annual EHC Plan Transition Planning Year 9	ongoing starts				
Work experience		start			
College			introduce		
Supported Internships			introduce		
Work based training programmes			introduce		
Social /Children's' Services support <i>not for all</i>					
Housing support <i>not for all</i>					
Other agency support					

8.1. Learning Aspects

The aspects that are different for young people with learning difficulties from mainstream careers education and development are as follows:

- Extended time is necessary to reinforce learning with lots of repetition need and specialist learning

materials, so classroom-based career development needs to start whenever the child is ready, at the end of KS3 or start of KS4

- Extended and ongoing support and encouragement for parents/families to provide a positive backdrop. It is not unusual for parents to have learning difficulties themselves and not work or and be worried about losing benefits. There is also the aspect of their own unresolved grief which can really surface when they think about their child leaving school. Their concern for the safety of their child is often a huge issue too. These aspects are very different from parents of able bodied children. Support for parents can come in the form of school-based meetings or 1-1s or and at the EHC Plan reviews where employment outcomes are identified
- Employers need to be brought into the programme early and their involvement sustained to maximise the possibility of young people achieving paid work
- Engaging with local employers who are confident about working with young people with disabilities or who can be trained and developed to become confident with a diverse workforce and are willing to review recruitment policies and procedures which are conducive to enabling young people with learning difficulties to get paid work
- Additional time and input to develop work related skills and time to rehearse working which will include Job Coaches, extensive work experience, engagement in Enterprise and other work-related learning activities
- A local supported employment provider needs to get engaged early before the young person leaves school and form a bridge between local employers, the Job Coach, the young person, their family and the employers. They can provide support to all the key stakeholders ensuring that everyone is well prepared, and that employment is secured and sustained.
- Local providers of work based supported internships and accessible Apprenticeships need to get involved at school too to provide serious options for young people to consider

8.2. School Career Programme

Another key area of difference is the goals of the school careers programme for students which will be relative to their level of ability and potential career destination.

For students with moderate learning difficulties their career goal maybe to:

- Improve the possibility and probability of paid work and could include permanent paid full-time

employment to which they can travel independently.

For students with severe learning difficulties, for some it may include the previous goal but may also be articulated as:

- Improving quality of life through the development and acquisition of work related skills which could be used in supported employment, supported volunteering or and to complete tasks more successfully in their everyday life.

For students with profound and multiple learning difficulties, the goal could be:

- Enrich life experience through work related Enterprise activities these students would require extensive support to participate in work related activities

In terms of the goals a career development programme in Special Schools, these goals are rightly differentiated but sit on a continuum so that it is not automatic that some students are considered as being suitable for working and some are not but that all are given the best possible opportunity to develop to their fullest potential.

9. Measuring Impact

9.1. Case Studies

Talentino has been working with Special Schools for over four years. They have trained staff and volunteers in Special Schools to run their programme Careers at Every Level which is purposefully created for young people with learning difficulties. The programme has three parts – Classroom based career coaching, Working experience and work placements and Enterprise businesses in school. Since 2011 and by summer 2016 they will have trained 130 Early Career Coaches to run the Careers at Every Level programme with just over 2000 young people with learning difficulties in scope.

The first founder school was Brookfields who commissioned Talentino to help them create a programme which would improve the possibility and probability of work for the most able (SLD and MLD) students. At the beginning, a handful of students would go out on work experience. Four years later, all MLD and SLD students in KS4 and post 16 enjoy regular and meaningful work experience which impacts positively on their career aspirations. The school has created a network of 50+ local employers who regularly offer work experience. Last year between January and April 80 students went out on work experience. The local employer Sainsbury's has created a 6-week induction programme for all Brookfields students who can access it as an

introduction to work and have started to employ adults with disabilities.

Note: Talentino train staff and volunteers who qualify Early Career Coaches in Special Schools to run their programme Careers at Every Level which is purposefully created for young people with learning difficulties. The qualification is accredited by the European Mentoring and Coaching Council.

For the last two years Talentino and Brookfields have run a small annual conference for all the Special Schools working with Talentino to update Career Coaches on latest developments and run an internal 'marketplace' so schools can help each other with various projects. At the conference, Talentino also runs an impact measurement tool created by a PHD student at the University of Warwick. The tool identified the 27 different areas that schools expect careers education to have a positive impact on. In the first year 5 schools responded and in November 2015 12 schools responded. The results can be seen in the table below identifying the level of improvement observed by teachers in schools running the programme.

The tool is completed by the Special Schools who work with Talentino but it is completed anonymously. They are asked what level of impact in terms of the level of improvement they think the career development programme has generated for young people with learning difficulties (Careers at Every Level) has had on the 27 indicators.

Many of the indicators are concerned with a wide range of aspects of early career development and employability. In addition, some of the indicators focus on improvements in school life like interaction and engagement and positive behaviours. Others look at health and wellbeing. Any school using this tool would be able to assess the impact of their careers programme on pupils.

The indicators can be grouped as follows:

- School / student performance
 - ✓ Grades
 - ✓ Engagement with school
 - ✓ Subject specific drop-out rate
- Early Career Development
 - ✓ Early Career Choice
 - ✓ Confidence in achieving career goals
 - ✓ Confidence in career choice
 - ✓ Suitability of subject to desired career
- Employability
 - ✓ Employability
 - ✓ Employability in desired field
 - ✓ SEN specific employability
 - ✓ Work related skills
 - ✓ Probability of paid employment
 - ✓ Probability of unpaid employment
 - ✓ Confidence in finding employment

- Health and wellbeing
 - ✓ Wellbeing
 - ✓ Happiness
 - ✓ Positive behaviour
 - ✓ Interaction with peers
 - ✓ Family life
- Positive classroom environment
 - ✓ Teacher interaction
 - ✓ Confidence in careers services
 - ✓ School enjoyment
 - ✓ Subject enjoyment
- Personal development and independence
 - ✓ Confidence in achieving career goals
 - ✓ Peer interaction
 - ✓ Confidence in personal skills
 - ✓ Probability of financial independence
 - ✓ Probability of independent living
 - ✓ Involvement in the community
 - ✓ Communication skills
- Parental involvement
 - ✓ Parental involvement
 - ✓ Family life

The top scores for 2015 showing an improvement or slight improvement (which is just as relevant in Special schools) for 80% or more responses have been highlighted in green. The red ones are not so relevant to Special Schools (see Table 2). There is a clear picture of what the impact is, and it can be tracked going forwards and repeated annually in conjunction with destination data.

9.2. Other Case studies – snapshot of other Special schools working with Talentino

9.2.1. Charlton Park Academy. It is a large Special School in Greenwich. Since October 2013, they have run an in-school Enterprise business – Munchies - based around food enabling sixth formers with Severe learning difficulties to develop skills which could improve the possibility of external work experience which could lead to supported employment, improve the quality of independent living either at home or in residential care.

Evaluation has shown improved confidence in students, improved communication, more positive behaviours, and increased aspirations of both students and their families. The Enterprise business continues to run making a weekly profit which provides their opportunities for students.

9.2.2. Northfield. It is an EBD school in Oxford that has been running the programme for three years. They have seen an engagement with students who are hard to reach and raised aspirations which have resulted in less students becoming NEET after leaving school. The school has also saved money because they have been trained to deliver the programme.

9.2.3. Hill House. It is a small residential school in Dorset for young people with severe Autism and associated challenging behaviours. Their staff have become the first cohort of formally qualified Early Career Coaches. They have seen improvements in the behaviour and communication and motivation of students. They have also created Enterprises and engaged local employers.

9.3. Careers Policy

Careers policy that is inclusive and respects Diversity will need to make reference to and provision for meeting those additional requirements as well as identifying what remains the same with respect to terms of reference. The aspects which are different are different for young people in Special Schools with learning difficulties will have ramifications for:

- Making the point that many of the same terms of reference are the same as for mainstream but that this is not enough to ensure young people with learning difficulties will enjoy the same career outcomes.
- Appreciation and valuing all the different levels of careers outcomes for young people with a range of learning difficulties.
- Appreciation and valuing the learning style of a young person with a learning difficulty will require a different career development programme provision.
- Promoting the valuable difference young people with learning difficulties can make to employers' businesses.
- Identifying the Career Development Value chain as a model for early engagement for all key stakeholder groups.
- Additional CPD for staff in Special Schools who will need additional training to deliver a cohesive career development programme.
- Employer training (possibly via the Careers and Enterprise Company EA network?) to increase confidence, engagement, access to selection processes.
- Provision for parent/family encouragement.
- Ensuring that Job Coaches and supported employment provision is available locally across England utilising "excellent" organisations, e.g. BASE.
- Local providers of supported internships and accessible Apprenticeships are involved early on in schools.
- Special Schools have an opportunity to showcase best practise and help other schools to deliver impactful career development programmes
- Impact data is collated and reported on as well as destinations data.

Table 2. Top scores for 2015

	No effect	slight improve	improve	SI & I	
Grades	5	4	3	12	58
Engagement with School	2	4	6	12	83
Early Career Choice	4	5	4	13	69
Employability	1	6	6	13	92
Wellbeing	0	7	6	13	100
Teacher Interaction	1	5	6	12	92
Confidence in achieving career goals	2	6	5	13	85
Confidence in career choice	2	6	5	13	85
Confidence in career services	2	6	5	13	85
School Enjoyment	5	1	7	13	62
Parental Involvement	5	6	2	13	62
Peer Interaction	3	6	3	12	75
Subject specific drop-out rate	2	0	2	4	50
Suitability of subject to desired career	2	0	3	5	60
Employability in desired field	1	1	3	5	80
Subject enjoyment	1	1	3	5	80
SEN specific Employability	5	5	4	14	64
work-related skills	2	4	9	15	87
probability of paid employment	3	7	5	15	80
probability of unpaid employment	1	8	6	15	94
confidence in finding employment	3	7	5	15	80
confidence in personal skills	2	7	6	15	87
probability of financial independence	5	7	2	14	64
probability of independent living	4	6	5	15	74
happiness	0	8	7	15	100
positive behaviour	2	6	7	15	87
involvement in community	0	8	7	15	100
interaction with peers	2	6	7	15	87
family life	3	9	3	15	80
communication skills	2	6	7	15	87

10. Recommendations

1. There is no collective visibility of early career development including work experience, employer engagement, employer engagement and employment with learning difficulties in Special Schools
2. There is no visibility of what 'good' looks like in terms of early career development for young people with learning difficulties in Special Schools

related outcomes in Special Schools in the same way that there is for mainstream schools

Recommendation One: Commission research to gain visibility at a national level of the early career development experiences of young people

Recommendation Two: As part of the research in recommendation one, gain an insight at a national level of what 'good' looks like in existing programmes and employer engagement for young people with learning difficulties in Special Schools

3. There is no mention of the early career development needs of young people with learning difficulties in Special Schools against the Gatsby benchmarks or the Lord Young Enterprise Passport ideology

Recommendation Three: Ensure that within the new Careers Policy this group is included explicitly and that they can be included in exactly the same way but the delivery methodology of a careers programme will be different and that this is relevant, acceptable and of equal value

4. There is no mention of the early career goals of young people with learning difficulties in Special Schools against the Gatsby benchmarks or the Lord Young Enterprise Passport ideology

Recommendation Four: following on from this inclusion to make the point overtly that the Career goals may be different and articulated at three levels but have equal value to the career goals of more able young people.

11. Conclusion

Creating better life outcomes – educational, social, personal and economic - for the 103,970-young people aged between 13 and 18 in Special Schools in England today is worth it at every level, for the individual, their family, the employers and the public purse.

Many of the Government’s aspirations to improve the career development experience of young people in the mainstream in England apply equally to these young people.

There are some differences but these can be incorporated by educating the careers industry and helping Special Schools to deliver careers education excellence locally. Employers can be encouraged and supported to engage benefiting their customers and their organisations as research shows.

Understanding how these young people can achieve their full career potential, however that is described, needs better understanding by surfacing existing best practise, involving the experts and supporting equality of opportunity for all these young people acknowledging their potential in statute has to be the right thing to do.

When I started Talentino I was inspired by Dave Barker of the National Valuing Families Forum who said ‘We believe in the presumption of paid work for young people with learning difficulties’ – do you?

Investigating Teachers' Attitudes Towards the Visibility of Special Needs Identities: the Role of Representation in School Textbooks

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Abstract

Grounded in disability studies [1], the current study investigates the attitudes of teachers working in Italy in state primary schools towards the textual and visual representation of special needs identities in materials. Former literature in this field mainly focuses on one aspect: textbook analysis aimed at verifying the visual and textbook representation of disability [2]. However, no study up to date has investigated teachers' attitudes towards the visual or textual representation of special needs. As inclusion has been defined a "premise, a vision and a framework"[3] teachers' attitudes and cognition clearly acquire central importance in the actualization of inclusive practices. Practitioners are often asked to be bringers of change and are, hence, given the responsibility to adopt more inclusive practices where publishers are lacking [4]. In the Italian context, school textbooks are a fundamental tool as they are widespread and are therefore responsible for the vision of reality presented to students through images and text. Hence, school inclusion should start, above all, from inclusive representation of special needs identities so as to break the barriers of prejudice and exclusion. The current study explores three main issues: the teachers' attitudes towards the visibility of special needs identities in materials in use; the teachers' response and difficulties to the introduction of special needs inclusive materials in their classrooms; and finally, the teachers' reflections as a result of the research process itself. The study will take place over three phases following Creswell's sequential exploratory mixed method [5]. This approach is associated with transformative research as a way to favor teachers' reflection on inclusion [6].

In the first phase, data will be collected from a limited number of informants through semi-structured interviews; the interviews will be coded and emergent themes used to design a Likert scale questionnaire to be administered to a larger number of informants. This first phase of the study is currently being completed. In the second phase, materials displaying special needs identities will be introduced in the classroom. Semi-structured observations will be performed to analyze the teachers' behavior and unveil eventual criticalities. Finally, teachers will be interviewed to test their awareness towards the introduction of the display of special needs identities in textbooks and materials.

This study is expected to unveil positive attitudes towards the idea of disability representation in textbooks in contrast with a difficulty in managing a special needs inclusive pedagogy in the teachers' everyday school life. Indeed, criticalities are expected to arise as a consequence of the introduction of inclusive materials. In particular, the interaction with students and their families will be explored to analyze potential criticalities and suggest a way forward. The study expects to verify whether teachers tend to conform to a pre-existing reality because they are not helped by a political and social context. It should be noted that the transformative aim of this research is key to the study. Evidently, respondents are expected to reflect on the representation of special needs through interviews, questionnaires and the

introduction of inclusive materials. The teacher-respondent's reflection should encourage greater awareness of the presence / absence of individuals with special needs in school materials and textbooks.

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Teoría y realidad de la Educación Especial en Islandia: Soluciones a través del desarrollo de material escolar en un marco de Educación Inclusiva

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1. Introduction

Todos aquellos para quienes la Educación no es solo una profesión sino una pasión, se sentirán como yo especialmente atraídos por la Educación Especial. Si la Educación es ya de por sí una necesidad humana y un instrumento para mejorar nuestro presente conceptúo la Educación Especial (a la cual me gusta conceptuar como intervención educativa) como una medicina o tratamiento o solución imprescindible para mejorar la vida de las personas cuyo diagnóstico o dificultades de aprendizaje sitúan bajo la órbita del área.

En el caso de los profesionales de la Educación Especial debe pues reivindicarse una doble vertiente vocacional que nos sitúa en el umbral de los límites sobre la dedicación/implicación personal en el ámbito educativo.

2. Motivos de la participación en el Congreso Por qué el World Special Education Needs Congress

Más allá de la polémica que existe entre la vertiente médica y social, son los profesionales de la educación especial quienes pasan gran parte del día en compañía de los niños y niñas. Por lo tanto este es el foro perfecto para aprender de la experiencia de otros profesionales, compartir ideas y proponer soluciones. Es un evento de carácter práctico, protagonizado por profesionales y cuyos resultados revierten al ser aplicados en el día a día de nuestros alumnos.

En el caso de la Educación Especial los talleres de trabajo como este pueden ser beneficiosos para la obtención de soluciones, métodos, actividades, propuestas de carácter eminentemente práctico y empírico (que por otra parte son necesarias en un área en construcción).

3. Objetivos de la ponencia

3.1.1. Evaluar el caso de Islandia (a partir del modelo educativo escandinavo como marco de referencia) así como analizar la realidad actual en el

área. Punto de referencia informe que tienes último en EdSpec.

3.2.1. Establecer un diagnóstico adecuado de las necesidades existentes en Islandia a partir de los problemas, déficits y logros de los protagonistas de la Educación Especial en Islandia. Mantener un puente paralelo con otras realidades en este punto.

3.3.1. Introducir/ Presentar al público el material educativo que se está desarrollando como solución a las necesidades educativas del área en Islandia. Discutir sus beneficios y sus inconvenientes, así como hacer partícipes del debate sobre las posibles mejoras que puedan efectuarse en el mismo.

4. Presentación

La Educación Especial lleva desarrollándose en Islandia con fuerza durante las últimas décadas, especialmente los últimos años. Sin embargo resulta todavía un fenómeno relativamente nuevo. Si tanto el área educativa de la que hablamos, como la inserción de personas con determinados diagnósticos dentro del sistema educativo es un asunto relativamente joven a nivel europeo e internacional, tanto o más de lo mismo cabe decir en cuanto al caso islandés, donde la introducción y desarrollo en sectores como el educativo presentan un eminente retraso respecto a otros países. No obstante y sobre todo con mucha fuerza en los últimos años, la Educación Especial está creciendo en base al apoyo gubernamental (la mayoría de la educación en Islandia es pública – lo mismo ocurre por lo tanto en el ámbito de la Educación Especial), que ha dotado y dota de recursos financieros, técnicos y humanos en sus partidas presupuestarias. Al calor de lo cual siguiendo esta lógica, del mismo modo, se ha implementado la formación de un tejido profesional considerable dedicado al área, así como se ha facilitado el desarrollo de un tejido social (crecido básicamente a través de los padres y sus asociaciones) y en general facilitado el surgimiento de una apreciable conciencia social.

Este proceso se ha vinculado con el sentimiento de pertenencia social y ayuda mutua que la cultura

islandesa posee, para combinarse en el diseño de un modelo de educación inclusiva muy beneficioso sobre en todo en los tramos primario y secundario del sistema público cuyos beneficios son muy notables para alumnos y familias.

Cuáles son los resultados del bagaje de este modelo hasta nuestros días?. El año pasado llegaron a

todos los profesionales del área los resultados derivados de una Auditoría Externa realizada por especialistas europeos y que hace un análisis técnico de la situación en el área (Education for all in

Iceland, External Audit of the Icelandic System for Inclusive Education Final Report -European Agency for Special Needs and Inclusive Education-). En función de mi experiencia como trabajador/investigador en el área y, profesional de la educación durante más de cuatro años aquí, me hallo bajo mi punto de vista en disposición de los criterios adecuados para interpretar un resumen de algunos de los puntos más importantes:

4.1.1. Ausencia de concreción y/o desarrollo de mecanismos, acciones, etc., contemplados en el sistema. Sobre todo entre las últimas fases de la educación primaria y la secundaria.

4.2.1 Falta de información en cuanto a la organización, objetivos y parámetros de cumplimiento.

4.3.1. Influencia positiva de los resultados en la etapa de maduración escolar y posterior ingreso social (por ejemplo durante la edad adolescente/adulta en el mercado laboral). Si vinculamos los datos resultantes de semejante informe con nuestra experiencia escolar diaria podemos realizar un diagnóstico concreto de los avances y déficits del área a través de cada uno de los actores: Avances respecto al pasado, situación actual y déficits en:

- Alumnos
- Padres / Tutores
- Profesorado y asistentes / Dirección
- Instituciones gubernamentales
- Tejido social (compañeros, familias, etc.)

Siendo preceptivo en función de la prevalencia del fenómeno y su tratamiento realizar las siguientes preguntas para la aproximación hacia un diagnóstico adecuado y por ende diseño de soluciones: -(v1) Qué resultados o beneficios aporta la programación y acciones diarias en la vida de los alumnos?, - cuál es la realidad y límites de la Educación inclusiva en Islandia

- (v2) Gozan los padres/tutores de herramientas adecuadas en el sistema educativo, están satisfechos tienen los elementos de juicio suficiente para juzgar los resultados, existe un contacto habitual entre éstos y los profesionales

- (v3) Existe suficiente formación entre el profesorado, qué dedicación directa y cotidiana tiene

con los alumnos y cuál es su rol en la integración social gracias a la implementación de un marco inclusivo

- (v4) Son los medios facilitados suficientes, cómo se concretan las acciones establecidas, se proporciona información suficiente

- (v5) Es evidente el compromiso del resto de la sociedad con los alumnos y cuál es el régimen de convivencia entre personas, facilita el marco de educación inclusiva una relación adecuada entre personas más allá del ámbito escolar.

5. Diseño/configuración de soluciones vinculadas al diagnóstico realizado

La configuración de actividades (Necesidades del sujeto + Concreción de los objetivos del área)

Extraemos del diagnóstico realizado la necesidad de construir actividades escolares como método para conciliar los problemas existentes en el área, consolidar los avances obtenidos y orientar los objetivos trazados por las instituciones y la dirección de los centros.

Las actividades deberán centrarse en:

- La construcción de un relato diario del alumno basado en una metodología que implemente el aprendizaje a través de los mecanismos formales e informales de comunicación

(adaptados a la edad, el diagnóstico y las circunstancias personales del sujeto) dentro de un marco de educación inclusiva.

- La estructuración y monitorización completa e integral del espacio y tiempo del alumno en el centro durante la jornada escolar completa (con especial énfasis en tiempos de recreo, comidas, etc.).

- Potenciación de la integración del alumno en actividades de tipo recreativo dentro del marco escolar: deporte, música, arte.

- Búsqueda por la promoción de expresiones propias que empleando el concepto de “pensamiento creativo” faciliten la autoconcienciación del sujeto.

- Exploración de los canales de comunicación adecuados entre adultos responsables en el proceso educativo del alumno, principalmente dirigida a la comunicación, discusión de resultados, debate y valoración de la evolución del alumno en su contexto escolar (y sus repercusiones más allá del mismo).

- Empleo adecuado de las nuevas tecnologías educativas en el área de la Educación Especial.

6. Presentación de los materiales escolares generados

Avance de los adelantos realizados, contribuciones o mejoras en los mismos (Debate entre especialistas).

Evaluation of Teachers' Views on the Achievement of Learning Activities in Inclusion Classes

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Abstract

Learning activities are called learning programs that are taught through activities planned at school or outside the school. A good learning event can be achieved through qualified teachers [2]. Developed training programs are divided into four basic elements as teaching-learning process, purpose, content and test cases. From these items it is known that the teaching and learning process is more important [1]. Teaching and learning processes are also referred to as learning activities with another expression. Educational situations include materials, methods, techniques and classroom activities. Learning activities constitute the basis of these dimensions. These effective learning activities are considered to be the most important part of the training programs. Especially, it is important to arrange the learning activities of classroom teachers who are inclusion students according to the needs of special needs students. This is because participation in the activities of special needs learners will be facilitated by classroom teachers creating learning activities that take into account the individual needs of students with special needs. On the other hand, it seems that there is limited research on the work done by classroom teachers in the arrangement of learning activities for mainstreaming students. Therefore, the purpose of this research is to assess the work done by classroom teachers in the organization of learning activities for the inclusive student. 26 class teachers in Konya participated in the research in elementary and secondary school inclusive classes. This study was conducted by qualitative research method. The data were collected using semi-structured interview technique and were analyzed with using Descriptive Analysis Method. The results of the research will be presented in detail at the congress.

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Session 8: Special Education Needs

Title: The Prevalence of Reading Disability among Primary Stage Students in the Kingdom of Bahrain
(Authors: Muneera Ali Hussain Alfadhel, Mansoor Sayyah)

Title: Evaluation of Using Information Technologies in Education of Students with Mild Intellectual Disabilities in Terms of Teachers' Views
(Authors: Hakan Sari, Tuğba Pürsün)

Title: The Effects of the STOP and LIST-Strategy on the Writing Performance of a Sixth Grader with Learning Disabilities
(Author: Matthias Grünke)

Title: Teaching in Rural Montana: The Experiences of Novice Special Education Teachers
(Author: Susan P. Gregory)

The Prevalence of Reading Disability among Primary Stage Students in the Kingdom of Bahrain

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Abstract

The aim of this research is to know the prevalence of reading disabilities (RD) among the primary school students in Bahrain and to know the factors that affects the prevalence rates such as, the residential areas (governorates), and the difficulty type (realizing the word or reading comprehension) and gender. The target research population is the 4th primary- school students in Bahrain of the school year 2014–2015. Research population is (1006) Bahraini pupils from Bahraini districts schools. The researcher used the following research tools: Sequential colored matrixes tests [1], and achievement test for the fourth-grade students (prepared by the researcher). As well as (recognizing the word) test done (by the researcher), and the scale of diagnostic appreciation of (RD) [4]. After making the suitable statistical tools to answer the research questions, the researcher found the following results: 1-The percentage of (RD) in Bahrain for the fourth-grade students reached about (%10.47). 2-There are significant statistical differences in the rates of the prevailing of (RD) for the fourth-grade students in Bahrain according to the difficulty type. 3-There are significant statistical differences in the rates of the prevailing of (RD) for the fourth-grade students in Bahrain according to the gender differences towards males. 4-There aren't significant statistical differences in the rates of the prevailing of (RD) for the fourth-grade students in Bahrain because of the different school districts.

1. Introduction

The field of learning disabilities is one of the most complex areas of education in general, given the nature and size of the phenomenon. According to the American Bureau of Education, the prevalence rate (51.1% of the total number of people enrolled in the special education program) is at the international and Arab level [2] The results of some surveys show that the percentage educational systems has increased at a high rate within the regular school,

such as Al-Enezi [8], which aims to find the prevalence of learning disabilities among elementary and middle school students in Kuwait.

Reading is one of the main axes of academic learning disabilities, if not the main and most important one. Many researchers consider it to be the main cause of school failure. It affects self-esteem and self-efficacy [5].

Researchers also found that reading disabilities represent the most common types of academic learning disabilities, and that 80% of students with learning disabilities have reading disabilities [5]. Abdul Rahim [3] refers to the concept of learning disabilities as a partial inability to read, to understand what a student is reading, to be sustained, not to result from low mental capacity, hearing or visual impairment, or emotional disorders, or disorders resulting from poor social conditions. "

Many researchers have tried to decide the prevalence of learning disabilities and found them to vary by demographic variables such as gender, age, and socioeconomic level [6]. This research is considered one of the foundations that can give an indication to those concerned and to those involved in this field of realizing the problem about the extent of the disabilities of learning to read in elementary school students. To cut this problem that threatens the future of our children, And the preparation and financing of educational programs. This research is considered one of the foundations that can give an indication to those concerned and to those involved in this field of realizing the problem about the extent of the disabilities of learning to read in elementary school students. To cut this problem that threatens the future of our children, And the preparation and financing of educational programs. In the light of the lack of the Kingdom of Bahrain to check the survey of the prevalence of learning disabilities on the one hand, and the prevalence of the prevalence of learning disabilities with some taxonomic variables. (type, type of difficulty, and residential area), however, this research came to know the prevalence of learning

disabilities in the Kingdom of Bahrain in the light of some taxonomic variables.

2. Research Methodology

This research was adopted in its application to the descriptive approach, as it works to study the phenomenon as it is in reality

Without interference, and this is consistent with the current research aims.

2.1. The research samples

Approximately (10%) of the research population was enrolled in the fourth grade of primary school, reaching (1006) students. This is the total number of the sample represented by the research community (457 males and 549 females) from (20) schools in all governorates of the Kingdom of Bahrain. The sample was selected according to the randomized cluster method.

2.2. Search tools

The following tools were used in the search:

- The test of the successive color matrices of Raven, the Arabization of al-Qurashi [1].
- A measure of the behavioral characteristics of learning disabilities [4].
- Achievement in reading for the fourth grade of primary (researcher's preparation, 2016).
- Achievement test in defining the word for the fourth grade of primary (researcher's preparation, 2016).

Raven's successive color matrix matrices [1]: This test is one of the most common nonverbal intelligence measures used to measure general mental capacity. The correlation between the colored matrices was calculated. The results showed that there was a positive correlation at 0.35. The validity of the test was calculated using the methods of predictive honesty and formality. The test proved to be highly reliable (0.79) and the half-split method between the test halves using the Gitman equation. The stability coefficient (0.82) in the second application, and the internal consistency method, between the sub-sections of the test, Statistically at the level of (0.01).

A measure of the behavioral characteristics of learning disabilities [4]:

The validity of the content was calculated as the correlation coefficients of each paragraph were used in the total scores of the learning disabilities scale. The correlation coefficients of the reading disabilities index ranged from (0.62 -0.767), indicating the consistency of paragraphs

Measurement of reading disabilities as measured by.

The correlation between the reading disabilities and measures of academic and developmental disabilities was calculated. The results showed strong correlation and statistical function between the coefficients. The stability of diagnostic measures was calculated between (0.941-0.982), and stability coefficients were obtained in the midterm split, ranging from (0.922 to 0.976).

Achievement test in reading for the fourth grade of primary (researcher's preparation, 2016): The test aims to measure the level of reading among fourth graders. Psychometric properties of the test Sincerity test:

Content certified

In order to verify the validity of the test, the test was presented to a group of specialists in the field of Arabic language. The percentage of agreement between the arbitrators on the reading test ranged from (70% to 100%).

Stability Test:

To verify the stability of the test, the internal consistency method used for the consistency of the vocabulary was used in the Alpha Cronbach and the Guttman Split-half, and the stability was in alpha Cronbach (0.846), and the stability in the half-way (0.835).

Achievement test in word recognition for the fourth grade of primary (researcher's preparation, 2016):

- The aim of the test is to diagnose the difficulty of reading the word in reading in the fourth-grade pupils.
- The validity of the test has been calculated.
- Believe the content.

The test was presented to (5) specialists and experts in the field, and took their opinions on the test, and ranged between (80% - 100%). The test was modified in the light of the opinions of the arbitrators, indicating that the test has an acceptable degree of honesty.

Stability of the test:

To verify the stability of the test, the internal consistency method was used for the stability of the vocabulary in the Alpha Cronbach and the Guttman Split-half, and the stability was in alpha Cronbach (0.607), and the homogeneity was (0.797).

2.3. Measures

Sample Sorting Steps The spacing test is applied by:

1. The successive matrix matrices [1] were applied to all the primary sample of the research. The average IQ of the first sample was extracted in the mentioned test, which is in the 50th percentile.
2. The experimental test was performed in the reading (researcher, 2016) on the primary sample after the pilot experiment to verify the psychometric characteristics of the test. The average performance of the first sample was extracted in the mentioned test.

The average score was 15.06 with a standard deviation of (4.61).

3. Students whose IQs were intermediate or above and their scores in the intermediate reading test were identified (with one standard deviation). In this light, the number of pupils to whom the spacing test applied was (178).

4. The exclusion criterion was applied to (178) by examining the school records of each student in order to exclude all types of disability, severe emotional disorders or environmental conditions, and (18) were excluded from the test students.

5. The diagnostic assessment scale was applied in reading [4] to (160) students, to exclude those with a total of (52) students, thus the last sample number (108).

6. The word identification test (researcher's preparation, 2016). was applied to the last sample of the reading disabilities of (108) students. It was found that (69) students with learning disabilities identified the word (72.6%) of the last sample (27.4%) of the last sample. The number of absentee students during the course of the test was (13) students in the last sample.

2.4. Statistical Methods

The statistical data were analyzed using the statistical package program (SPSS). To confirm the statistical properties of the test, statistical methods were used: Alpha Cronbach and split-half, as well as the arithmetic mean and standard deviations. To answer the research questions, frequencies and percentages were used, and the Chi-Square test was used.

3. Results

Results of the first question are discussed below. Question 1: "What is the prevalence of learning disabilities among primary school students in the Kingdom of Bahrain?"

In order to answer the first question, the frequency and percentage of pupils with reading disabilities in the light of the first sample (1006) were calculated as shown in Table 1.

Table 1. Frequency and Percentage of Pupils with Reading Disabilities

Total	Number of Students Reading Disabilities	Percentage	Value χ^2	Level of significance
1006	108	%10.47	620.38	0.000

The results in Table 1 show that the number of pupils with learning disabilities reached (108) students and

(10.47%). The results of the Kay square test showed that the ratio was statistically significant, with a mean value of less than (0.05).

The results of the second question "Are the prevalence of learning disabilities in primary school students different from the difficulty pattern (word recognition, reading comprehension) in the Kingdom of Bahrain?" are presented in Table 2 below.

Table 2. The Prevalence of Learning Disabilities and Difficulty Pattern

style of difficulty	Number	Percent age	Value χ^2	Level of significance
Reading comprehension	26	%27.4	19.46	0.000
word recognition	69	%72.6		
Total	95	%100		

The results of Table 2 show that the number of students with reading comprehension disabilities reached (26) students and (27.4%), while the number of students with disabilities with the word was (69) students and (72.6%) The results of the Kay square test showed that the difference between the two ratios was statistically significant, with the value of the observed significance level (0.000), which was below the predefined significance level (0.05), indicating that the prevalence of learning disabilities varies according to the difficulty pattern.

The results of the third question "Do the prevalence of learning disabilities among primary school students vary by gender (male, female) in the Kingdom of Bahrain?" are outlined in Table 3.

Table 3. The Prevalence of Learning Disabilities and Gender

Gender	Number	Percentage	Value χ^2	Level of significance
male	72	%66.7	12	0.001
female	36	%33.3		
Total	108	%100		

The results of Table 3 show that the number of males with reading disabilities reached (72) students, in the rate of (66.7%), while the number of females with reading disabilities was (36) students, in the rate

of (33.3%). The Kay test showed that the difference between the two ratios was statistically significant, with the value of the observed significance level (0.001), which was less than the predefined significance level (0.05), indicating that the prevalence of learning disabilities among male primary school students was higher (see Figure 1).

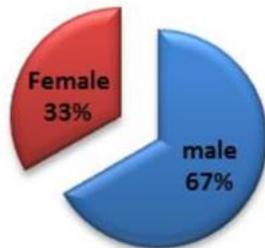


Figure 1. Prevalence of Learning Disabilities among Male and Female in Primary School

The results of the fourth question “Are the prevalence of learning disabilities among primary school students different from the residential area in the Kingdom of Bahrain?” are outlined in Table 4.

The results of Table 4 show that the percentage of pupils with reading disabilities in the southern region is (26.9%), while the percentage of pupils with reading disabilities in the Northern Region is 31.4%, the percentage in the capital governorate (21.3%), while the percentage in Muharraq Governorate (20.4%).

Table 4. The Prevalence of Learning Disabilities and Residential Area

residential areas	Number	Percentage	Value χ^2	Level of significance
South	29	%26.9	3.48	0.323
North	34	%31.4		
Capital	23	%21.3		
Muharraq	22	%20.4		
Total	108	%100		

The results of the Kay square test showed that the differences between the percentages were not statistically significant, with the value of the observed significance level (0.323) which is greater than the predefined significance level (0.05), indicating that no the prevalence of reading disabilities varies by region (see Figure 2).

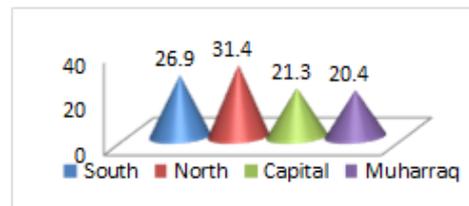


Figure 2. Prevalence of Learning Disabilities in Different Residential Areas

4. Discussion of Results

The prevalence of reading disabilities among primary school pupils (10.47%) was due to several reasons, including:

1. Despite the existence of the learning disabilities program in all primary schools in the Kingdom of Bahrain, the diagnostic and treatment mechanism for people with learning disabilities is based on the academic aspect only, without paying attention to the developmental aspect.

2. Lack of awareness and knowledge in general, both at the school level, or parents with the characteristics of students with learning disabilities, and how to deal with them.

3. The weak relationship between the school and the family, the family and school relationship have a significant impact on the academic and social skills of students, as they greatly affect academic achievement [9].

4. Low social, economic and cultural level of the family, which affects the lack of enough educational stimuli for the student.

The current research results in a difference in the prevalence of learning disabilities according to the type of difficulty. This result can be explained in light of the following:

1. The word is the primary part of the reading process. It includes many of the language skills and phenomena necessary to convert the symbols into spoken words. Thus, the entire reading process depends mainly on these skills. Failure to do so results in failure in the second part of reading. Reading comprehension, if the normal student has difficulty in learning some of these linguistic phenomena, so what are we with disabilities learning to read!

2. The majority of Arabic language teachers still believe that reading is one skill, while the knowledge of the word and reading comprehension consists of several skills that need several strategies to master them. There are no specific strategies, methods, or programs to teach reading Word and reading comprehension suits those with learning disabilities. 3. The diagnostic process is not based on what should be. The proper diagnosis is the basic basis for determining the current situation of the student in terms of difficulty and degree, and then the development of the proper treatment plan.

4. The therapeutic activities also lack the scientific foundations on which they should be based. Therefore, most of the activities provided to pupils do not exceed the limits of the teacher's personal judgment, and therefore give them to all students on the various reasons behind the difficulty.

5. Lack of the normal teacher to do his role represented in the intervention before referring students to the teacher of special education, which leads to increase the burden and burden on the teacher of special education, thus shortening the performance of his work to the fullest, and this prevents the performance of effective educational practices, whether that at the level of identification, detection, diagnosis, treatment or follow-up, as we aspire to.

It was found in this research that the prevalence of learning disabilities among males is higher than that of females. This result can be explained considering the following:

1. Due to biological factors, males may be more prone to learning disabilities due to late maturation. Females and neural growth in females at birth are estimated to be faster than those of males, with a duration of between (3-6) weeks, this difference in maturity is about two years at puberty [7]. 2. It is estimated that the number of male students with learning disabilities exceeds the number of female students with learning disabilities, about two to three times, and the reasons for this difference has nothing to do with mental abilities, but may be due to medical factors, increasing the weight of male birth more than Females are more likely to have difficulty in childbirth. In addition, the nature of male activities is more violent than females, and recurrence may result in malfunction. Male hormone may have a relationship, and there are factors related to maturity, since females mature before males.

1. The results of research on cerebral insemination of information in males and females, it shows that females have a higher specialization in the left brain (verbal tasks) compared to the right brain (visual spatial functions), thus preferring to read, and verbal tasks on mathematics.

2. Socialization plays a prominent role in showing these differences between the sexes, the nature of females tends to sit at home, which gives them more opportunity to study, and the performance of school duties to the fullest, and take the issue of study seriously and attention, unlike the socialization of males, most of his time is spent abroad, and he does not take things seriously, which in turn increases the chances of females exceeding males in school, regardless of their intelligence.

The current research indicates that the prevalence of learning disabilities is not different in the residential area due to several reasons, including the following:

1. The characteristics of the Bahraini society in terms of population census, limited geographical area,

customs and traditions, methods of socialization, and the interaction between the components of Bahraini society. These factors contributed to the absence of differences between the four governorates as a homogeneous society. Especially considering the exclusion of non-Arabic-speaking cases from the research sample to neutralize the language factor in influencing the search results and their credibility. 2. This can be explained in light of the fair distribution of educational services by the governorates of the Kingdom of Bahrain in terms of the number of schools, teachers, supervisors, follow up and support services. This has contributed fairly to these services in these governorates. There are no differences in the prevalence of reading disabilities among them.

5. Conclusion

Learning disabilities are disabilities that affect different areas of life, and a person's lifespan. However, with real support and early intervention, children with learning disabilities can continue to live successfully and distinctly. To get real figures, this research has come to represent the problem in the form of numbers; so that specialists can find the right solutions and proper treatment programs, to cut the problem and the risk of aggravation in the future.

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Evaluation of Using Information Technologies in Education of Students with Mild Intellectual Disabilities in Terms of Teachers' Views

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Abstract

Involving the use of information technologies (IT) in education of students with mild intellectual disabilities provides these students to increase their interests and motivations towards learning. Additionally, the use of IT materials, instruments, visual and auditory resources, new methods and techniques that are necessary in educational environment makes contribution to an effective and efficient educational progresses. In these progresses, the teachers' views about the use of information technologies in education of students are important for planning educational progresses. However, in our country, there are limited number of researches about the use of information technologies in education of students with mild intellectual disabilities. Therefore, this study is a descriptive research about the evaluation of using information technologies in education of students with mild intellectual disabilities in terms of teachers' views. The study was conducted with 30 teachers. In the study, "Interview Method", as one of the qualitative research methods, was used and "Semi-Structured Interview Form" was developed by the researchers. The data collected from the study were analyzed with "Content Analysis Technique." According to research findings, it appears that teachers prefer using computers and projectors in education of students who have mild intellectual disabilities. Further, it has been found that teachers do not have adequate knowledge about softwares. IT materials contribute to educational progresses of teachers and students in increasing interests and motivations towards learning; and it appears that these materials cause inattention to students' readiness.

The Effects of the STOP and LIST-Strategy on the Writing Performance of a Sixth Grader with Learning Disabilities

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Abstract

Poor writers generally spend only little time to develop an outline for their texts before composing them. However, far too many students in elementary and secondary education fall behind in their planning skills, because they do not receive appropriate instruction. In this single case study, we tested the effects of an easy to implement strategy (STOP & LIST), focused on teaching learners to identify the purpose of a writing assignment, setting appropriate goals, list the ideas that come to mind, and sequence them. Our participant was a 12-year old boy with learning disabilities (LD). He completed repeated measurements during a baseline period (first A-phase, five days), an intervention period (B-phase, five days) and a post-intervention period (second A-phase, five days). While he received instruction in using the STOP & LIST-strategy, his performance was on a significantly higher level than on days with no treatment. The implications and limitations of the findings are discussed.

1. Introduction

Planning is a substantial part of text production. In most writing models, the process of generating and organizing ideas plays a central role [2], [31]. The fundamental and pervasive CDO (compare, diagnose, and operate) approach by Scardamalia and Bereiter [29] is based on the assumption that two kinds of mental representations are built up and stored in long-term memory: (1) representations of the text as put on paper (or typed into a keyboard) up to now, and (2) representations of the text as intended. Hence, there is a constant comparison going on in the mind of a writer between initial plans and current results.

Individuals who do not invest enough time into contemplating about the purpose of the given task, brainstorming their ideas, and sequencing their thoughts, will not be able to adequately engage in this process. As a result, they usually submit relatively short, incomplete, and badly organized texts [7], [23]. Previous studies have shown that poor writers first and foremost distinguish themselves from their normally performing counterparts by the unusually

short amount of time they invest into planning [18], [27]. Because the ability to “think on paper” plays such a large part in everyday culture [9], it is of vital importance to make sure that every student acquires adequate planning skills while receiving instruction in composition writing during his or her elementary and secondary education [15]. Unfortunately, this often does not happen to the extent necessary. As Troia and Graham [33] point out, “Teachers ... frequently comment that they lack the knowledge, skills, and strategies they believe would be helpful to them in facilitating children’s emerging competence as writers” (p. 75). Not explicitly teaching text composition skills is certainly not unrelated to the high rate of children and youth who demonstrate severe delays in their capability to produce a text. For those who meet the criteria of a so called Written Learning Disorder [34], and thus show respective deficits of around two years, it is reported to be 10% and higher [21], [22].

Fortunately, there are a number of well-proven strategies to enhance composition planning skills in struggling writers and help them to catch up with their classmates. These include semantic webbing, story mapping, goal setting, and many others [32]. A common feature of all effective approaches seems to be the directness in style. If the steps of a given procedure are taught explicitly by first modelling them and then scaffolding students in their efforts to use them independently, attempts to teach planning skills are very likely to turn out to be effective [3], [4], [12], [28].

One promising, yet rather unknown prewriting technique is called STOP & LIST. The term serves as a mnemonic reminder of the different actions one needs to perform in order to come up with a serviceable draft for a text. It stands for “Stop, Think of Purpose, List Ideas, and Sequence Them” [13]. These five steps are explicitly taught using the famous self-regulated strategy development (SRSD) model by Harris and Graham [17]. This approach serves as a framework for structuring the treatment into the following six stages: (1) activate background knowledge in the minds of the students, (2) discuss the strategy, (3) model its usage, (4) let the students

memorize the procedure, (5) provide opportunities of collaborative practice, and (6) facilitate the independent application of the strategy in everyday life settings.

In the case of STOP & LIST, the teacher initially elicits, which effective behaviors the students already execute in order to get ready for producing a meaningful text. Next, he or she introduces the acronym for STOP & LIST, explains the purpose of the strategy, and highlights the potential benefits of using it. Subsequently, the teacher models the procedure with concrete examples while thinking out loud. In the next step, he or she provides close guidance and continuous feedback for the students as they try to apply the strategy for themselves. Guidance by the teacher fades out over time until the students have reached mastery in planning texts of a specific genre and complexity level [26].

To date, there are two published studies that explicitly tested the efficacy of the STOP & LIST-strategy with learning disabled (LD) students: One by Graham, Harris, and Troia [14] and one by Troia and Graham [32]. In both cases, the intervention turned out to be potent in terms of different indicators (strategy use, quality, length, advance planning time, ...). However, the two studies are rather dated and conducted with participation of a researcher who was significantly involved in developing the approach.

The purpose of the present study was therefore to expand the very limited body of existing research on the benefits of the STOP & LIST-strategy in increasing the story writing performance (quantity and quality) by evaluating its effectiveness with an LD 12-year old boy. It was expected that a short treatment of just five sessions would procure noteworthy improvements, but not result in lasting enhancements in text production skills.

2. Method

2.1. Participant and Setting

The participant was a 12-year old boy in sixth grade, labeled LD by a multi-disciplinary team. He attended a special school for slow learners in Northrhine-Westfalia (Germany). The institution offered specialized instruction for students with deficient abilities to listen, speak, read, write, spell, and do mathematics. According to his classroom teacher, the boy frequently demonstrated behavioral problems, such as noncompliance and tantrums, when presented with challenging tasks. His student's record revealed that he knew his math concepts and operations. After all, his reading and spelling abilities were in the lower average range. However, his expressive writing skills were far below normal for his age group. His classroom teacher reported that he usually submitted particularly brief texts of just one or two sentences when asked to write an essay. This

information speaks to the assumption that he exhibited a WLD, a specific type of LD (see above).

3. Measurement

A female graduate student in Special Education collected multiple writing probes from the participant by asking him to compose a story using pen and paper in response to a prompt. The prompts were taken from a list on a website for teachers (<https://squareheadteachers.com/2013/06/25/60narrative-writing-prompts-for-kids/>) and were randomly assigned. We used the number of correct word sequences (CWS) as a quantitative indicator of writing performance. A CWS is defined as two adjacent, correctly spelled words that are grammatically acceptable within the context of the phrase [10]. Correlations between CWS and several criterion measures (including a holistic rating) are usually very high. In addition, this measure is sensitive to change in student performance over time [8]. A research assistant counted the CWS in each story twice. In over 90% of the cases, the results were identical. If the research assistant came to differing sums, the count was conducted a third time.

To appraise the quality of a text, we applied a writing rubric developed by Dunn and Miller [6], ranging from 0 (no text) to 7 (a clear introduction, main event, and conclusion with use of paragraphs and voice and almost completely correct use of grammar and syntax). Six graduate university students of Special Education, who recently completed a course on writing instruction for students with LD, performed the scorings. All of them were blind to the purpose of the study. They discussed each text in random order until they agreed on the points that it should be allocated to.

4. Experimental Design and Procedure

An ABA design with five daily measurements per phase was employed. It is a research plan for single-case studies in which a subject is first introduced to a baseline condition (A). In it, no treatment is initiated. Next, the participant receives the intervention (B), after which he or she returns to the baseline condition (A). An ABA design assesses maturation and history threats to internal validity, thus allowing functional, rather than correlational, deductions [11]. During all three phases (first A-phase, B-phase, and second A-phase), the measurements took place in a quiet corner of the classroom, while the rest of the children were engaged in independent reading or math activities.

In the B-phase, the aforementioned graduate student spent five 30-minute lessons teaching the participant how to apply the STOP & LIST-strategy. The intervention followed the basic direct instruction pattern of "I do it", "We do it", and "You do it" [1]. Initially, the graduate student modelled the proper

way to perform the steps of the strategy by sitting down quietly, recapitulating the purpose of the task and thinking about the given story prompt, taking notes on what she could write about in response to the given headline, and sequencing her ideas. Subsequently, she scaffolded the participant's attempts to emulate her actions by providing assistance and feedback whenever deemed necessary. Finally, the graduate student allowed the boy to try out the strategy for himself. During this final phase of instruction, the participant only received help when he asked for it or when he got sidetracked. In the first of the five lessons, the focus lied on the "I do it"-part of the direct instruction pattern. The following three sessions were dedicated to alternately modelling and scaffolding the strategy. During the last lesson, the participant was asked to perform the steps independently. Over the whole course of the intervention, the graduate student encouraged the boy to use notepaper and apply the strategy whenever he gets into a situation at school where he is supposed to write an essay.

The graduate student received two two-hour training sessions by the first author prior to the study. During the instruction, every step of the treatment was demonstrated to her using video clips that showed the first author teaching the STOP & LIST-strategy to a small group of fifth graders with LD. In addition, she received a detailed script to follow. To further enhance intervention fidelity, the graduate student and the first author stayed in daily contact via email or phone during the B-phase to clarify and questions and to make sure that the treatment was carried out as intended.

5. Results and Discussion

As can be seen in Figure 1, the number of CWS prior to the intervention was low. However, the participant's performance strikingly increased upon the onset of the intervention and dropped as soon as he stopped receiving explicit guidance. It is noteworthy that the boy did not produced texts as short as the results in Figure 1 seem to indicate. His performance ranged between 6 and 78 words (as counted by the first author). However, he wrote relatively few adjacent, correctly spelled words in a grammatically acceptable fashion.

Based on a visual inspection of the data, it can be concluded that the strategy instruction also triggered an increase in story quality. In two cases, the six graduate university students (see above) rated the texts even with the best possible value (7). In the intervention phase, 100% of data points pertaining to the number of CWS and to the quality appraisals exceeded the highest measurement from baseline.

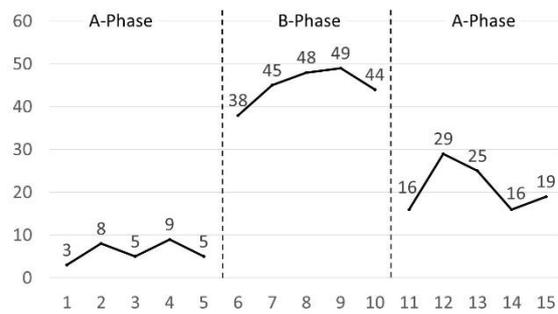


Figure 1. Number of CWS for the participant across all three phases.

The outcomes in Figure 2 mirrored the ones presented in Figure 1. Pearson's r between both measures equaled .95 ($p < .001$, one-tailed).

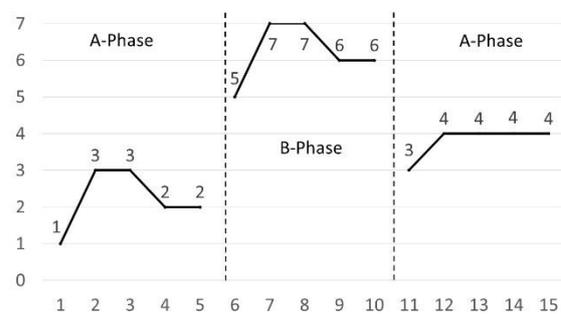


Figure 2. Values of the quality ratings for the participant across all three phases.

After support was withdrawn, all data points were below the lowest measurement taken during strategy instruction. Thus, the most common effect size for single case research, Percentage of Non-Overlapping Data (PND) [30], equaled 100 in all cases. For further analysis, we calculated Tau-U scores, which combine non-overlap between phases with trend from within the treatment condition [25]. The first and the second A-phase acted as a control and were therefore both compared with phase B. The Tau-U-score was 1.00 for the quantitative (90% CI = [0.555]) and 0.92 for the qualitative indicators (90% CI = [0.475]) with p -values $< .001$, suggesting that the intervention was highly effective as compared with the levels in both A-phases.

It can thus be concluded that the results of this study seem to confirm our supposition about the benefits of the STOP & LIST-strategy. The participant showed distinctive improvements in the number of CWS and in the way his texts were qualitatively rated as soon as he was supported in applying the steps of the procedure by a graduate university student. There was no overlap in the measures of success between the two conditions (baseline vs. intervention). We used an alternative treatment design (ABA) and predicted that the STOP

& LIST-strategy would initiate marked, but not sustainable performance enhancements. The trajectory of the data clearly indicates that even a very short intervention of just five sessions can result in longer and better texts on the side of a student with LD. However, such a brief training is ostensibly not enough to produce stable effects.

This study was certainly limited with regard to a number of aspects. First of all, our experiment included only one participant. Involving more students would have surely added validity to the outcomes [19]. Moreover, the validity could have increased had we incorporated randomization. The on- and offset of the treatment or the number of probes in each phase were not determined by chance. However, had we stretched the duration of the experiment (e.g. to six weeks) and appointed the commencement of each phase randomly (given the restriction that each phase should at least include five daily measurements), any assertions about causal effects of the intervention on the dependent variables would have been even more compelling than in this particular case. The same goes for adding more phases to our withdrawal and reversal design.

Furthermore, the way we captured writing performance cannot be considered the only reasonable option. Besides the number of CWS, we could have also identified the amount of total words written (TWW), of words spelled correctly (WSC), or of correct minus incorrect word sequences (CIWS) [20]. There is no consensus among researchers on which procedure captures the productivity most adequately [5], [16], [24]. What applies to the quantitative aspect of the assessment is also true for the qualitative perspective. In the studies that are included in the meta-analyses by Cook and Bennett [3], Gillespie and Graham [12] as well as Rogers and Graham [28], specifically created writing rubrics are the most common means for appraising the level of excellence of a text. However, these tools are certainly not an objective way of assessment. But regardless of any possible criticism about our way of operationalizing the dependent variable, what speaks to the meaningfulness of our decision to go with the number of CWS and the writing rubric by Dunn and Miller [6] is the fact that both measurements are highly correlated.

In conclusion, our study provides evidence that the STOP & LIST-strategy has the potential of being a practical intervention in terms of effectiveness, time, and effort. It would be very easy for any classroom teacher to implement. Even though a short treatment of just five sessions cannot induce lasting improvements in writing performance of struggling learners, it seems to be able to help them instantly to reach a higher level. It can be assumed that such an instantly effective approach has a positive impact on the motivation of students who have had a history of failure in the area of writing. Future research should

focus on replicating our findings, on testing the strategy with other genres than stories, and on evaluating with different samples, using diverse ways of assessing the benefits of the intervention.

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Teaching in Rural Montana: The Experiences of Novice Special Education Teachers

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Abstract

In the United States there is a shortage of teachers entering the field of special education. In the state of Montana, licensed teachers may teach in a special education position for a limited time while they obtain their special education endorsement. This study interviewed a group of these teachers to learn more of their experiences as they started teaching students with special needs.

1. Introduction

In the United States there continues to be a need for special education teachers. Reported figures from the 2013-14 school year indicated that 49 states reported a shortage of special education and/or related service personnel, which includes speech pathologists, school psychologists, physical therapists etc. In addition, the numbers of special education teachers reported to be leaving the teaching profession is twice that of teachers in regular education. However, the need for special education teachers continues to grow with the U.S. Department of Labor projecting that employment of special education teachers will increase by 6% from 2014-2024 [6]. To meet the lack of qualified special education teachers, many states have developed alternative routes to special education certification [2], [3], [5].

2. Meeting the need in Montana

Montana's need for special education teachers has been consistent over the years [1], [4]. Montana is a large rural state, ranking 4th in size and 44th in population with the estimated population per square mile is 6.8 [8]. Montana's department of education, the Office of Public Instruction (OPI), identified special education as one of the critical education shortage areas for the 2015-16 school year. Quinlan and Furios [7] reported that across the state there were 191 vacant positions in special education with at least 80% of those positions being

difficult or very hard to fill. Rural schools in Montana have found it particularly challenging to fill these positions.

The rural nature of the state means that special education teachers have to be potentially able to serve children with all types of special needs from when they start school to when they graduate. Teachers entering this field in Montana have to first have a teaching license and second, they have to have taken a program of study at a higher education institution that has prepared them to teach children with special needs from Kindergarten through 12th grade. This program of study leads to the state awarding a special education endorsement on their teaching license.

To meet the needs of schools in more rural areas, Montana implemented a project by which a licensed teacher could teach in a special education position while taking courses leading to a special education endorsement. This project, known as the Office of Public Instruction (OPI) Special Education Endorsement Project, requires these licensed teachers to complete their endorsement within a three-year limit. The purpose of this study was to examine the experience of those licensed Montana teachers as they navigated their first years teaching students in rural school districts.

3. Participants

There were 30 teachers starting in the OPI Special Education Endorsement Project during 2014-2017. All were licensed teachers, but none had an endorsement to teach students with special needs when they started in the project.

4. Procedures

A letter was sent to each teacher in the OPI Special Education Endorsement Project with an overview of the study, an invitation to participate and a consent form to be returned in an addressed envelope. A follow up invitation was sent a month later and 18 teachers agreed to participate, representing a 60 % response rate.

Teachers who returned consent forms were interviewed by phone for approximately 30-40 minutes. The teachers were asked what the benefits and challenges they faced in teaching special education in a rural school as they learned the role of the special education teacher. The interviews were transcribed from the recordings of the phone interviews then each author analyzed the transcripts independently and identified themes from the transcripts. Then the authors collectively reviewed themes and areas of agreement.

5. Results

5.1. Benefits of teaching special education in a rural school.

Individual instruction with students: Teachers stated that teaching in a rural school meant that their case-loads were smaller than in larger districts, giving them the opportunity to work individually with those students. They said this afforded them a closer connection to those students and found a real benefit in "Being in a small district and getting to work one on one". "I love rural schools. I think your staff is tighter know and you know your students better."

Connection to families: The teachers described the connections they developed with families and that the culture of a rural community facilitated those connections. "I like rural settings just because you get to know the kids and the families and to me that's the most important. You get to build those relationships. You see them grow. I like small schools for that simple reason."

Sense of community: The teachers described the overall sense of community that comes from teaching in a rural school. "I like the sense of community. We know most of the parents. We know all the kids. We are able to spend more time with the kids." "I love the community. It's tightknit and there are problems associated with that but if you build good relationships they have your back."

5.2. Challenges of teaching special education in a rural school.

Paperwork: Many teachers described the difficulties they encountered in learning the paperwork requirements of developing Individual Education Plans (IEP). "It was overwhelming because I didn't have anyone specifically sit down and help me write an IEP". "In the beginning it's all very confusing, all the acronyms, the paperwork and how the process works. It takes a little while to get your head around that."

Lack of resources: Many of the teachers reported lack of resources was a challenge. Access to new

materials, textbooks. "That was my biggest struggle this year, not having the resources"

"The only downfall I feel is that all I keep hearing is 'we don't have any money to improve anything' 'we don't have any money to get a new curriculum'"

Isolation of the special education teacher: Many of the teachers commented on the isolation of a special education teacher. In a rural school, they were often the only special education teacher. Other special education teachers were some distance away. "I felt like I was out in an aisle. There was no other sped teacher that I could go to...It would be nice to have someone that could come on site just to brainstorm with". "I went from being on a team to being on my own...sometimes I consider it a lonely place, my own little island"

6. Discussion

From these interviews, it is evident that the culture of rural communities benefits the schools in those communities. The teachers felt a sense of connection to the local community and their relationships with their students and families were enhanced by this. They felt they had more opportunity for individualized instruction with smaller class sizes in those schools.

One of the main challenges that those teachers faced were the Individualized Education Plan (IEP) process and paperwork. The IEP is a legal contract and the process quite intimidating to the novice, so it is understandable that there would be teacher anxiety. In addition, Montana requires that the IEP information be entered into a specific electronic format, thereby creating additional potential difficulties.

It is understandable that restricted budgets in a smaller school and lack of more readily available resources would be a challenge for these special education teachers. Students with special needs often require additional and more specialized materials and equipment to assist with accessing the general education curriculum.

Finally, as these teachers learned their new role as the special education teacher they developed an appreciation for the isolation of the role of that teacher in the rural school. Some teachers had previously taught in a general education classroom, so experienced that more keenly. They found the transition from going from being a member of a team to being that one teacher in the school with the special education expertise was somewhat isolating. However, many of the teachers also commented that despite this they found it very rewarding to teach in special education and were committed to continuing to teach in that field.

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Session 9: Special Education Needs

Title: The Prevalence of Mathematics Disabilities among Primary School Students in the Kingdom of Bahrain

(Authors: Maali F. KH. S. AlKhatlan, Abdalla A. Alsmadi, Mansoor Sayyah)

Title: Social, Emotional and Behavioural Difficulties in Mainstream Primary Classrooms: The Construction of Discourses and Relationships between Teachers and Children

(Author: Helen Childerhouse)

Title: Post Cochlear Implant Twin Female Child Diagnosed with Epilepsy

(Author: Maha Al Sulaiteen)

Title: Discovering New Learners by Using Dynamic Assessments

(Authors: Krisztina Bohacs, Heidi Flavian)

The Prevalence of Mathematics Disabilities among Primary School Students in the Kingdom of Bahrain

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Abstract

This current study aimed at finding the ratio of Mathematics Learning Disabilities (MLD) among 6th-grade students in the Kingdom of Bahrain. The study has also tried to find out whether this ratio varies according to gender, governorates, and type of MLD. A sample consisted of 1042 6th-grade students was examined. Four instruments were used: Raven's Progressive Matrices, calculations Test, 3- Reasoning Test and Diagnostic Assessment Scale for MLD [10]. As a result, 56 male and female were classified with MLD, which represents (i.e.: 5.4% of the sample). Results also showed that there were statistically significant differences in ratio of students with MLD according to governorates, the southern governorate indicated the highest rate of MLD. Results also showed significant statistical differences in ratio of the students with MLD due to gender in favor of male students.

1. Introduction

Mathematics is the cornerstone for building and developing other basic sciences. Therefore, it is very important to be taught at all levels of education. The lack of mathematics education at early stages, might affect learning and academic achievement in many other areas. Mathematics and reading disabilities are the most common types between learning disabilities. Lerner [18] has defined the term MLD as “a disturbance in learning mathematical concepts and calculations and associated with a disorder of the central nervous system”.

Al Zayat [9] also states that the general law 94142 for the education of disabled persons for 1997 includes calculation mathematics and mathematics reasoning as two main areas where students experience difficulties in learning mathematics. To reduce the volume of the disability and the prevention of their effects, should know the size of the problem, in order to take the necessary measures to the authorities. According to DSM-5 four sub skills are founded in the mathematics disorder: number sense, memorization of arithmetic facts, accurate or fluent

calculation, and accurate math reasoning, mathematics learning disabilities are common prevalence (5%-15%), occur early during the first years of formal schooling, and persist into adulthood.

Al Zayat [9] mentioned that the statements of the National Center for Educational statistics in the United States of America indicate that 22% of American adults cannot perform simple calculations, he added that the proportion is expected higher in the Arab world, Because of the lack of attention at the official level of this phenomenon makes increasing the proportion of MD is a hidden fact for many, The results of previous studies (Jovanovic et al. [17]; Vahed [20]; Al Shaybanii [5]; Al Hasan [3]; Al Faoury [2]; Al Waeli and Hijazi [7]) indicate that the rate of prevalence of MD differ from one society to another, the results showed that the percentages were at the international level (0.46% - 9.9%), the Arab world (13.26-22.4%) and the Arab Gulf (3.8% - 14.3%).

The Kingdom of Bahrain has lacked knowledge of the prevalence of MLD in the 6-grade according to the database of the Arab Gulf University and the University of Bahrain. Therefore, this research was conducted to find out the percentage of MLD among 6-grade student in the Kingdom of Bahrain.

2. Sample

The sample consisted of 1042 students (504 males and 538 females) that in the academic year (2014/2015), the sample consisted approximately 10% of the population which was 10878 students.

Tools

In this study, several instruments were used: Raven's Progressive Matrices, mathematical achievement scores, calculations test, criterion related validity was 0.68, and reliability indices for split-half and test retest were 0.75 and 0.602, reasoning test in Mathematics, criterion related validity was 0.689, and reliability indices for split-half and test-retest were 0.815 and 0.867. Finally, the Diagnostic Assessment

Scale for MLD [10], which had an acceptable validity and reliability indices.

2.1. Procedures of MLD diagnosis the following

First, Raven's, calculation and reasoning test were applied to 1042 students. All mathematics achievement scores were collected and found of a mean of 63 and standard deviation of 14.72. All students scored one standard deviation below the mean were retained. Provided that their IQ score was above average (n= 60). Then, Al Zayat [9] was applied, accordingly four students were excluded. The final number of students diagnosed with MLD was 65 (i.e. 5.4%).

3. Results

1. The prevalence of MLD among 6th-grade students was found and present in Table 1.

Table 1. The Prevalence of MLD among 6th-grade students in different Governorates

Governorates	Freq.	Freq. of LMD	% of MLD	% within LMD	Gender	
					male	female
North	351	14	1.3%	25%	7	7
Muharraq	205	7	0.7%	12.5%	0	7
Capital	246	10	1%	17.9%	9	1
South	240	25	2.4%	44.6%	18	7
Total	1042	56	5.4%	100%	34	22

2. The results showed that the percentage of calculation learning disabilities (CLD) reached 28.6%, while the percentage of reasoning learning disabilities (RLD) was 10.7% that present in Table 2, and through the use of chi-square test, which indicated that there are no statistically significant differences between the ratio of CLD and RLD.

Table 2. The percentage of CLD and RLD for MLD students

Type of MD	frequency	percentage
CLD	16	28.6%
RLD	6	10.7%
CLD+RLD	19	33.9%
Other of MLD	15	26.8%
total	56	100%

3. The results also showed that percentages of MLD among males and females were 3.3% and 2.1% respectively. A chi-square test with a significant value of 3.91%, showed statistical a difference in favor of males.

4. The prevalence of MLD in different governorates of Bahrain North, Muharraq, Capital and Southern governorates was examined. The results indicated the following presents, 25%, 12.5%, 17.9% and 44.6% respectively. The value of chi-square was (16.5), it is statistically significant, chi-square test ($\chi^2=16.5$, $p \leq 0.001$) showed that, there were statistically significant differences between the percentages In favor of southern Governorate and that present in Figure1.

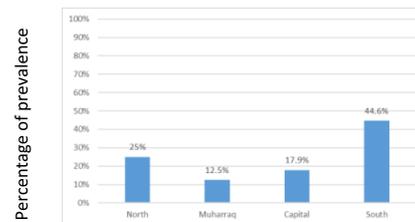


Figure 1. Prevalence of MLD in different governorates

4. Discussion

The results of this study showed that the prevalence of MLD in Bahrain was 5.4%. While the prevalence of MLD was 22.4% in Egypt (Al Waeli, Hijazi, 2012), 14.3% in Oman [5], 13.7% in Kuwait [1], and Al Hasan [3] in Saudi Arabia, said that the prevalence reached 3.8%. In contrast, in non-Arabia studies, the prevalence of MLD was less, Vahed [20] in Iran, said that the percentage reached 0.46%. Dirks et al. [16] in the Netherlands showed that the percentage reached 7.6% with reading disabilities. Finally, Jovanovic et al., (2013) indicated that the percentage of MLD in Serbia was 9.9%.

These differences might due to differences between the term MLD adopted by each study. It should be noted that there are degrees of MLD (simple, medium and severe), there is also a masked class with MD that is difficult to detect, There are other categories that interfere with MLD and if these categories are not excluded the percentage will be exaggerated, Thus, if the MLD is diagnosed in the light of a standardized definition and accurate diagnostic steps, this may reduce the large variation in the prevalence rates. Also, the difference between used tests and multiple criteria has a big role in the result of detection, there are studies that adopt special measurement tests to determine achievement and IQ levels for discrepancy, While other studies take the results of school mathematical achievement which may not be precise other studies differ in determining the value of the standard deviation around the mean. Some studies adopt one standard deviation, while others rely on half a standard deviation less than the mean as a cut off score.

It should be noted that the results of this study revealed that the percentage of CMD reached 28.6%, while RMD was 10.7%, this result can be traced back to the fact that during the process of judging the special tests for this study, the judge agreed to exclude a number of questions which measure the most difficult levels. Even though these questions do exist in the textbook. It also should be noted that reasoning skills have been recently added to modern curriculum, and there was little interest in teaching reasoning skills compared to other skills, which makes it difficult to show individual differences among students. The technological development and the acquisition of students of electronic devices is very widely common, these invented programmed games raise the skill levels of reasoning for students.

The ratio of MLD among males was greater than females, which agreed with a number of studies (Al Faoury [2]; Al Shaybanii [5]). This result could be explained by social and cultural factors, where males are allowed more than females to spend time out with their friends and toys, but females were spending time at home, so they allocate more time for their academic work.

Finally, the prevalence of MLD in the southern governorate was the highest, which might be interpreted by the fact that it is an industrial and oil province. The results of the De Mora et al. [14] study indicated that coastal areas in the southern province are characterized by high concentrations of copper, mercury, and lead. Al Tahlawi [6] reported that pollution of mercury, which is often exposed to humans by eating fish, has a harmful effect on the stomach and intestines, and that when the mercury penetrates the brain causes serious harm to the mother's embryo, may lead the child to mental retardation and a negative impact on his concentration, exposure to a small amount of lead leads to the destruction of the central nervous system, which in turn contains psychological processes, their imbalances represent learning disabilities. In addition to the above, the other result of the De Mora et al. [14] adds that the region itself had the highest concentrations of petroleum hydrocarbons, and organic chlorine compounds in the marine environment compared to the Arabian Gulf coast and the Gulf of Oman. The study of Al Khatlan [4] indicates that marine sediment in the southern province is contaminated with total coliform bacteria, and *Escherichia coli* bacteria resulting from the discharge of sewage after partial treatment, the complications of the infection also lead to encephalitis. The study of Al Ajami and Al Dukhi [1], Al Zoubi [11], agreed with the results of the current study, that the prevalence of learning disabilities in Kuwait reached a maximum in the Ahmadi Governorate, And the differences were statistically significant. The results explained that Ahmadi is an

oil region and considered to be one of the highest polluted regions compared with other governorates.

5. Conclusion

The study showed that the prevalence of MLD in the Kingdom of Bahrain closer to the low rates according to the studies that have been seen and try to discover the factors behind MLD in males. The results of the study showed that the differences were statistically significant, it is also necessary to look for the reasons that led to MLD for the governorate without the other, and control these reasons to reduce the aggravation of this ratio.

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Social, Emotional and Behavioural Difficulties in Mainstream Primary Classrooms: The Construction of Discourses and Relationships between Teachers and Children

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1. Scope

This research identified the experiences of teachers who support learners identified with social, emotional and behavioural difficulties (SEBD) in mainstream primary schools. A narrative approach enabled teachers to share their complex portrayals of practices and feelings about their roles. The study explores how the relationships between teachers and their pupils are influenced by perspectives on models of disability and disability rights, and performativity. Reflections on the way these teachers constructed discourses about why some children exhibit disruptive behaviours provide an understanding of how their negotiation of this challenging context impacts on the relationships they form with the children. The stories the teachers shared highlighted the different discourses they develop about the behaviours exhibited by the children in their mainstream classrooms. They appear to identify four different ways of positioning the behaviours: medical diagnoses; inappropriate upbringing which results in child vulnerability; immaturity in development; and deliberate choice to demonstrate disruptive and disturbing actions. Each of these categories are described by the teachers and the discourses they use, both verbal and non-verbal, can be attributed to whichever of the positions they consider relevant to the reasons behind the behaviours. The findings suggest that teachers experience confusion due to the complexities and contradictions they are faced with when trying to support learners identified with SEBD in an education system which incorporates policies guided by different models of disability: the categorisations they build are a way of making sense of the difficulties they face in the classroom. It is argued that a rights-based approach to teaching children who exhibit challenging, disruptive and concerning behaviours would emancipate children from the restrictive views and beliefs teachers seem to have developed. Approaches which focus on children's rights to inclusive learning opportunities, which reflect their

entitlement to an education, would go some way to addressing the confusion, contradiction and pressures these teachers described.

2. Objective and Motivation

Expectations and structures of the education system in England have changed rapidly over the last three decades. This has led to teachers experiencing multiple pressures associated with teaching in mainstream primary schools. Attrition of teachers and levels of exclusions of primary aged children exhibiting behaviours which are not considered conducive to teaching and learning, continue to raise concern. This research explored the feelings of teachers who are working to support children carrying the label of SEBD within this complex and challenging context. It recognises the complex experiences and concerns of teachers which provides detail and depth to media headlines. Different modules of disability have posed different questions about how the perceptions of teachers and children are constructed when the concept of 'special educational need' is central to learning environments. This research sought to achieve some understanding of how teachers feel about what it is like to support specific learners (often considered to be 'SEN' or 'SEBD') in their classrooms. In doing so, this presentation will encourage further discussion amongst those who teach or have an interest in the disability rights of those in mainstream educational settings.

Post Cochlear Implant Twin Female Child Diagnosed with Epilepsy

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Abstract

A 10 years old female child patient diagnosed with bilateral congenital sensory neural hearing loss when she was 2 months of age. Patient had strong family history of hearing loss as her grandmother and parents' uncles are deaf- mute. Patient had bilateral cochlear implant in two different sitting; right ear was implanted on 11th August 2008 while the left done on 3rd May 2010 as per family request to do the operation in two different years. Patient has been regularly visiting in cochlear implant clinic for re-programming according to cochlear implant programming schedule. Patient's mother noticed that her daughter had several episodes of going in a trans-like state, stopping what she does and staring directly ahead.

The episodes can last for a few seconds up to around 1 minute. There are no other clinical signs or evidence of jerky movements or any focal deficit. These episodes happened after she wakes up from sleep or when she is tired but there is no certain pattern for them. She had 1 episode which sound like complex partial seizure and 1 of these episodes happened while she was next to the swimming pool. After these episodes, on 1 or 2 occasions, she appeared confused and seemed to be doing some automatism. Physical examination revealed as normal without any evidence of neurocutaneous stigmata, abnormal neurological signs, any weakness or paralysis or any other neurological concern.

This case diagnosed as juvenile absence epilepsy (part of idiopathic generalized epilepsy) and showed no role of cochlear implant to trigger epilepsy. Which means if a child is diagnosed with epilepsy and severe to profound hearing loss can have cochlear implants to help him in communication by developing language and speech which will change his method of communication from sign language to spoken language.

Discovering New Learners by Using Dynamic Assessments

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Abstract

Assessments within educational systems have been developed from the beginning, from the perspective of the educators who wanted to follow their students' achievements. Whereas the original goal of exams and assessments was to evaluate learning in order to help students learn better, throughout the years learning assessments became a tool to compare between students and to diagnose intellectual abilities. This comparison occurs not only between students at the same school, but also between students from different schools and different countries. Thus, without considering the differences between the school systems, nevertheless the cultural differences. Moreover, nowadays standardized assessments are also used as a basis for placement students in different learning programs in school.

Educating children with intellectual disability integrates variety of challenges both for the educators and the children. The need for individual learning programs increases as intellectual disabilities increase, but the standardized/static test results do not prove to be enough for educators to prepare a thorough individual educational plan or to conduct a high-quality cognitive intervention that is carefully tailored to the exact needs of the individual.

Without reducing the importance of standardized assessments, as educators we need to ask ourselves if these are the appropriate tools we should use when we wish to promote children's learning, nevertheless children with intellectual disabilities. Although by using standardized assessments educators can get clear information about their students' achievements, the results do not describe the learning processes students have undergone, nor can these assessments explain the differences among students or the differences between one year and another [2]. Dynamic assessments were developed from the understanding that the goal of the assessment is to monitor learning processes rather than their results [3]. From this perspective, the DA takes longer and the focus is on the learners and how each of them are developed. While assessing school systems, like with learners, dynamic assessments allow understanding processes of change and thus how to continue promoting these changes.

Dynamic Assessment (DA) refers to an assessment where an active mediating -- or teaching process -- of a child's perception, learning, thinking and problemsolving takes place. The process is aimed at modifying an individual's cognitive functioning and observing

subsequent changes in learning and problem-solving patterns within the testing situation [5], [6], [7]. This process, not only that allow better understanding of one's thinking skills, but allow better understanding of the mediation one needs in order to become more efficient thinker. According to the basic definition, DA should make it possible to evaluate the person's learning potential/propensity, not just his or her actual knowledge and skills.

DA reshapes the test situation from one that is highly standardized to an interactive process between three essential components, namely the learner, the assessor and the task [1], [4].

The need for assessment is clear for all those who wish to improve the quality of education systems. There is no dilemma whether or not to use educational assessments. The dilemma relates to the question of which assessments will provide the most useful information that can be used by educators. Moreover, experts should use a framework of assessment that will allow tracking of learning processes, pedagogical approaches and maintaining the quality of education over time.

Throughout this paper we would like to present the opportunities Dynamic Assessments provide educators who wish to develop their students' thinking processes along with their academic achievements in school.

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Posters

Curriculum Research for Students with Intellectual Disabilities: Content Analytic Review

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Abstract

Curriculum content, the issue of what to teach is fundamental. For students with intellectual disabilities (ID) the choice of educational content is crucial to meet their needs in a life span perspective. Although inclusion is an endorsed ideal, mainstreaming cause dilemma. Curriculum research for this learner group is sparse. Prior studies call to extend curricular research about content. Utilizing a curriculum theoretical approach, the purpose of the current review is to analyze trends in curricular research, and highlight the implications for further curricular research and policy. Curricular research articles from 1994-2016 were identified from databases, using systematic search procedures and specific criteria for inclusion. A content analytic review was conducted using both a deductive and inductive approach to categorize the literature. Based on the thematic codes in prior review studies, functional life skills- and cognitive academic content formed the analytical fulcrum. The results show that cognitive academic articles had the highest coverage in the literature. Further, functional life skills articles show a recent decline in publication frequency. It is suggested that if curricular research on functional life skills stagnates, curriculum policy and practice may fail to provide students with ID the skills necessary for social and practical adaption in their communities. A discursive connection to normative curricular frameworks is essential to analyze and guide curricular choices. This article provides analytical insight and directions for future research in the field of curriculum research for students with ID. Further research is needed to analyze and develop curriculum for this group of learners.

Recent Trends in Mentoring and Counselling Programs for Talented students in KSA Schools

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Abstract

Talented students need varied quality counselling services, as they have high mental capacities. Educational institutions give due care to those students, taking into account their psychological, social and mental needs. They provide individuals with collective and personal counselling programs which suites their stages of development in accordance with the Modern counselling theories. The study used the analytical approach, where the literature on the implementation and application of mentorship and psychological counseling theories was reviewed and then analyzed. The aims of this research are:

- *To shed light on recent trends in mentoring and counseling of talented students in the educational field.*
- *Demonstrate the methods of implementation of the guiding process in accordance with recent mentorship theories.*

How does Intelligence Predict Sign Language and Fingerspelling Skill of Deaf and Hard-of-Hearing Children in Latvia?

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Abstract

The aim of this study was to investigate the relationships among intelligence, sign language comprehension, and fingerspelling skill in deaf and hearing-impaired (DHI) children. Thirty-nine DHI children aged 8 to 12 years from special schools in Latvia participated in the study. The Wechsler Intelligence Scale for Children, fourth edition [1], Latvian version (WISC-IV^{LV}), was used to evaluate intelligence. For evaluating the Latvian sign language (LSL) comprehension and fingerspelling skills of DHI children, two new tests were constructed. Stepwise regression analyses were conducted to determine the effect of intelligence factors on sign language comprehension and fingerspelling skills of DHI children. The results show that Verbal comprehension is the best predictor for LSL comprehension and fingerspelling skill. A model including the WISC-IV^{LV} subtests, Similarities (Verbal Comprehension), Letter-Number Sequencing (Working Memory), and Picture Concepts (Perceptual Reasoning), accounted for the significant amount of the variance in LSL comprehension. Fingerspelling skill was best predicted by two WISC-IV^{LV} subtests – Digit Span (Working Memory) and Comprehension (Verbal Comprehension). Sign language and fingerspelling skills are significantly related to sign language experience (the age at which the skills were acquired and years of use), parents' hearing status, gender, and grade.

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Social Competences of the Junior High Schools Blind Students

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Abstract

The aim of this study was getting to know the level of social competencies among blind students of the junior high schools. There were 92 students, aged 13-17 years old participated in the study, of whom 46 were blind and 46 were normally sighted.

The participants' social competencies were assessed with the standardized Social Competencies Questionnaire for adolescents [1]. By using the questionnaire there is a possibility to measure the general level of social competencies, the level of competencies which are needed to forge a close relationship with others, the level of competencies needed to function in public life and the level of competencies connected with assertiveness.

Data analysis indicated no differences between blind and normally sighted students of the junior high schools in all of the examined spheres. The slight differences between participants weren't significant. Moreover, the blind girls and boys have a similar level of social competencies in every measured area. The present study points out that in general the blind adolescents evaluate their social competencies in the same way that well sighted peers.

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LICE-2017

December 11-14, 2017

University of Cambridge

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Message from the Steering Committee

Welcome to the London International Conference on Education (LICE-2017). The LICE-2017 is a conference that provides opportunity for academicians and professionals to bridge the knowledge gap and to promote research esteem. The Tables 1, 2, 3, 4, 5 and 6 show all the submissions received and accepted per conference:

Table 1. Abstracts

Conference	Countries	Abstracts Submissions	First Review	Peer Review	Accepted Abstracts
LICE-2017	97	1261	220	95	52

Table 2. Extended Abstracts

Conference	Countries	Extended Abstracts Submissions	First Review	Peer Review	Accepted Extended Abstracts
LICE-2017	84	236	192	90	29

Table 3. Full Papers

Conference	Countries	Initial Paper Submissions	First Review	Peer Review	Accepted Papers
LICE-2017	99	2636	532	90	81

Table 4. Posters

Conference	Countries	Initial Poster Submissions	First Review	Peer Review	Accepted Posters
LICE-2017	31	49	12	5	7

Table 5. Panel Discussion

Conference	Countries	Panel Discussion Submissions	First Review	Peer Review	Accepted Panel Discussion
LICE-2017	34	119	15	5	1

Table 6. Workshops

Conference	Countries	Workshops Submissions	First Review	Peer Review	Accepted Workshops
LICE-2017	29	19	24	18	6

The double-blind paper review method was adopted in LICE-2017 to evaluate each of the conferences submissions. Please note that selected papers will be invited for publications in high impact International Journals.

Many people have worked very hard to make this conference possible. We would like to thank all who have helped in making LICE-2017 a success. The Steering Committee and reviewers each deserve credit for their excellent job. We thank the authors who have contributed to each of the conferences and all our Keynote Speakers: Professor Michael Shevlin, Dr Vassilios (Bill) Argyropoulos, Michael Plummer, Professor Jim Nyland and Professor Yulia Lopukhova for agreeing to participate in LICE-2017. We will also like to acknowledge our appreciation to the following organisations for their sponsorship and support: Infonomics Society and Canadian Teacher Magazine. The long-term goal of LICE is to build a reputation and respectable collocated conferences for the international community.

On behalf of the LICE-2017 Executive members, we would like to encourage you to contribute to the future of LICE as authors, speakers, panellists, and volunteer conference organisers. We wish you a pleasant stay in Cambridge and please feel free to exchange ideas with other colleagues.

LICE-2017 Steering Committee Chair
Professor Charles A. Shoniregun
Infonomics Society, UK and Ireland

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Keynote Speakers

Keynote Speaker 1



Michael Shevlin is Professor in Inclusive Education, Trinity College Dublin since 1996. His teaching and research has focused on facilitating the inclusion of children and young people with special educational needs within mainstream schools, promoting the voice of marginalised people within decision making processes that affect their lives, and addressing access issues for young people with disabilities within compulsory and higher education. He, along with a number of colleagues, have completed a number of national studies including Study of Special Classes in mainstream schools (in association with ESRI team), Quali-TYDES project longitudinal study of lives of young people with disabilities (European Social Fund), Transition Experiences of Students with Disabilities into Further and Higher Education, and Project IRIS longitudinal study of special education in Ireland. Michael has been involved in a number of policy making initiatives within Irish education in relation to the development of inclusive learning environments in schools and higher education.

Title: Educational inclusion for students with special educational needs: Is it a case of so far and no further?

Abstract: There appears to be a well-established consensus that educational inclusion is a ‘good’ that should be achieved within our educational systems. Ground breaking international conventions, national policy and legislation all articulate the value of educational inclusion for children and young people from traditionally marginalised communities, in particular, those students who have special educational needs. Students with special educational needs are increasingly supported within mainstream education with dedicated teaching and support personnel, adapted curricula and reasonable accommodations. Despite this progress serious questions and challenges remain. Some researchers (Minow, 1991, Norwich, 2009) have conceptualised these challenges as the dilemma of difference. Within this address, I would like to explore in greater depth what these dilemmas of difference look like in practice and suggest that in many instances these dilemmas are not confined to establishing inclusive learning environments but rather concern fundamental struggles with difference within society.

Keynote Speaker 2



Dr Vassilios (Bill) Argyropoulos is an Associate Professor at the University of Thessaly (Greece) in the area of visual impairment since 2003. He has participated in a number of national and international special educational projects and EU projects coordinator. He serves in the International Council for Education of People with Visual Impairment (ICEVI) as the contact person in Balkan Countries. He holds BSc in Mathematics from the University of Patras (Greece) and a PhD in Education from the University of Birmingham. His research area is special education and more specifically haptic apprehension, braille literacy skills, assistive technology and auditory recognition of documents by users with severe visual impairments.

Title: Typical and non-typical learning environments within Inclusive Systems: a Focus on action research network across 4 European Countries regarding individuals with visual impairments

Abstract: The function of effective networks in typical and non-typical learning environments has been widely seen as a positive way to engage multiple perspectives and ensure that the development of the networks' thematic focus will be effective through being inclusive. It seems that effective networks are in line with social models of disability, which stresses issues like the barriers, and the limitations of the society that isolate and exclude people with disabilities from equal social participation. Contemporary governmental policies, acts and guidelines such as the European Commission's European Disability Strategy 2010-2020 and the UNESCO goal is on eliminating barriers, in areas such as accessibility, equity, employment, enjoyment, education and training. However, although progress is being made on achieving these aims individuals with visual impairments face many barriers regarding their access to cultural centres such as museums. In front of this situation, action research networks are considered to be a powerful tool for people and professionals. This need for collaboration and interagency partnerships is central to this talk, which will examine some of the main cultural themes that appear to be necessary to ensure that active participation at least is achieved, especially for individuals with blindness or low vision across four European countries.

Keynote Speaker 3



Michael Plummer is the new Education Program Supervisor for Phillips Programs for Children and Families (Maryland, USA). He received a B.A. in Journalism and Communications from Point Park University and an M.A. in Education and Curriculum, Theory and Development from Temple University. He is a 2009 Fulbright Scholar with international experience that includes research, programs and consultancies in China. His background also includes work in both the private and for profit education sector with diverse experience in the design and implementation of curriculum, along with extensive experience in both standardized and informal assessment development and coordination.

Title: Leave No Stone Unturned: How to challenge and find meaningful learning opportunities for special needs students.

Abstract: Two steps forward and ten steps back. That's what it's like for many students with special needs. Even with multiple accommodations many of these students still struggle. Finding opportunities for special needs students outside of the curriculum or IEP sometimes is their best shot at success. What do they look like? Where do we find them? It's like a treasure hunt, the clues are everywhere, and you just have to know where to look.

Keynote Speaker 4



Professor Jim Nyland took up the role of Associate Vice-Chancellor (Brisbane) at the Australian Catholic University (ACU) in October 2011. Previously, he has held academic appointments at the University of Queensland, where he was the Director of Corporate Education and Director of UQ Business School Downtown. Prior to this he was Manager and Principal Advisor in the Vice-Chancellor's Office for Engagement at Griffith University and has held managerial positions in a number of universities in the UK. He holds a doctorate in Education and has published research covering curriculum change, the nature of learning and the impact of modernity on educational opportunity. Professor Nyland's work has been international in scope and he has developed programs in the UK and Australia as well as keynote academic papers in Ireland and South Africa. He is particularly interested in extending our knowledge and capacities in 'new learning' both in work and professional settings and in communities which are in transition and face challenges. He is Editor of the new Australian journal *Transform: Journal of Engaged Scholarship* and contributes to current educational debates and issues in regional and national publications.

Title: Emerging Global Issues in University Engagement with Society

Abstract: In a world of turbulence and uncertainty there is always a need to know where the leading edge of change effecting university's engagement with society lies:

- the declining enchantment with neo-liberal market-driven change as a basis for university growth and expansion
- the re-assertion of community-based and place-based values and ideas of social worth, as a key educational objective
- the continuing impact of technological change, robotisation and displacement of meaningful work as we have known it
- the impact of the digital age on young people in particular in both positive and negative ways (the paygo economy, identity issues, owners versus renters, decline in face-to-face interaction/speech, click bait on the internet etc., etc.)
- the need for research to address critical social and economic challenges
- the need for an engaged curriculum within an issues-based university still dedicated to excellence and scholarship
- the impact of global climate change
- access and widening participation in its second phase for the 21st century
- the need to make successful, complex and diverse institutions flourish within a vision of what universities want their future to be.

This paper explores these and other emergent issues in higher education, showing how progressive and leading universities are responding strategically to this leading edge of change.

Keynote Speaker 5



Professor Yulia Lopukhova holds a PhD degree in Educational Studies (2001) and an EdD-degree (Doctor of Education, the highest degree focusing on the practice of education in Russia, 2013) from Samara State University of Education and Social Studies. Her scientific research was focused on the issue of tolerance in the global world. She started her professional carrier in 1996 as an EFL teacher. From 2001 until now she has been working at Samara State Technical University, as Head of the Department of Linguistics, Intercultural Communication and Russian as a Foreign Language. Yulia Lopukhova is the chief coordinator of TEMPUS IV project “Entrepreneurs for Tomorrow”, the European and Russian Master joint program for Sustainable Entrepreneurship in the Volga Region (Russian Federation) contributing to a sustainable economic development of this region (people-planet-profit) in which she focuses on students and staff mobility and gives lectures on Academic Skills and Business Ethics. Yulia Lopukhova is the author of more than 100 scientific papers in the field of educational studies. Her recent research activities focus on Globalisation and Internationalisation of Higher Education and Content and Language Integrated Learning (CLIL).

Title: Redesigning Education for a Transforming World: Global Trends and Challenges

Abstract: Despite the world transforming at unprecedented rates, education has been slow to change. One of the main obstacles in changing the goals, standards, and curricula of education is historical inertia. Even as we re-awaken to the importance of a variety of competencies beyond basic knowledge and skills, it is difficult to effectively insert new subjects and skills into an already established and content-crowded system. However, high schools and universities have to prepare students for more rapid economic and social changes than ever before, for jobs that have not yet been created, to use technologies that have not yet been invented, and to solve social problems that we don't yet know will arise. In a global economy, driven by nimbleness and innovation, it is increasingly clear that success depends on the transformation of an educational system in general. We believe that in order for a twenty-first century curriculum to be truly holistic and follow global trends and challenges, it must incorporate and balance between:

1. Modern Knowledge and Traditional Subjects;
2. Science, Technology, Engineering, and Math (STEM) and Humanities;
3. Outcome and Process;
4. Personal and Societal Goals and Needs;
5. Social Progress Ideals and Respect of Local Norms.

The next point we have to highlight is that modern education should be oriented to curricula internationalisation. Internationalisation continues to be on the agenda of higher education providers worldwide. It has significance for the sustainability of higher education at national level and subsequently the contribution that higher education makes to the development of a nation, its people; and its ability to compete in a global market. But to make education systems resilient we should not forget about globalization which means adaptation of globally marketed products and services (e.g. curriculum) to local markets. Thus, internationalisation of higher education seems to be a double-edged phenomenon, inducing growing collaboration and growing competition among countries and among institutional providers.

Internationalisation takes many forms, including co-taught courses and degrees, online courses, academic faculty exchanges, student recruitment and joint research, collaborative research projects and student exchanges. All this has become possible only recently, with the emergence of the Internet, to a greater part. Today, almost all higher education institutions offer programs that integrate digital media in an online environment to provide flexible learning opportunities, independent of time and place. All of these activities involve reaching out into the international arena in some way and partnering with or communicating with institutions, staff, faculty and students in other countries. All this as well as other modern trends will help us redesign education for a transforming world.

Panel Discussion

Title: Teaching in the Early Years: Integrating Theory and Practice

This panel discussion seeks to explore the importance of integrating theory and practice across the early years and early primary phase. The research underpinning this panel discussion, aims to integrate both the 'why' and the 'how' by giving a theoretical background to areas of the curriculum combined with sections on how that theory looks in practice. Research has been undertaken either by an academic or by an academic and a practitioner. The research examines an area of learning from the theoretical perspective followed by examples of that learning in practice through a mix of case studies, lesson plans, examples of comments from teachers and work by children.

This collaborative approach to the research will be explored and discussed in this symposium and should enable academics, researchers and practitioners to make sense of the theories which form the foundations for teaching and learning in this context. The combined expertise of academics, researchers and practitioners make sense of the relationship between both practical experiences in the classroom and underpinning theories.

The panel discussion will provide a background to how this research came about and allow the authors of the research to discuss their findings. The research broke new ground with the researchers working alongside the classroom practitioners in giving a balanced and creative approach to pedagogy in early childhood. This unique mix of both researcher and practitioner enabled the links between theory and practice to be explicitly linked within current educational practice.

Current research highlighting the importance of the voice of the child in enabling adults to understand how knowledge is constructed and will be a focal point of this panel discussion. Play and playfulness in the curriculum will be another overarching theme throughout this discussion. As this discussion will be a demonstration of theory in practice, it will explore a mixture of pedagogical practices including case studies of children, lesson plans, classroom activities and suggestions for home school links. It will include a mixture of seminal research and topical research to ensure that it is topical as well as based on solid foundations of knowledge.

Examples of pedagogy will be discussed in early years practice from 0-7 years in both English and Welsh settings. The rationale behind using examples from England and Wales is to highlight the differences in the Welsh Foundation Phase and English Early Years Foundation Stage (EYFS). The Foundation Phase spans the age range 3-7 years and the Early Years Foundation Stage covers 0-5 years and by using the two curricula the discussion seeks to highlight the similarities and differences between them.

This panel will summarise the key findings from the research, how these helped to develop an understanding in early years education between theory and practice and the importance of real world research.

Organisers: Amanda Thomas, Claire Pescott, Catherine Jones, Karen Mcinnes, Rhiannon Packer, Philippa Watkins
University of South Wales, UK

PhD and Doctorate Consortium

Title: Trust the Process

The completion of the dissertation is an invitation to the “World’s 2% Club”. Writing a dissertation can seem like an overwhelming journey of revision, feedback, and frustration. Some doctoral candidates find this iterative process feels as if it is an impossible road to failure, instead of a scholarly endeavor of growth. The topic of trust within individuals, groups, and teams is seen as an under-explored topic though fundamental to the leadership that must exist during the pinnacle of the academic journey. “Trust the Process” is a saying that is used with doctoral candidates intended to support them in building relationships, moving forward and experiencing success.

Organiser: Laurie Wellner, Ashford University, USA

Workshops

Workshop 1: Advanced Concepts for a Better Future: A Guide to Building an Accelerated Classroom

This workshop will introduce educators to Advanced Concepts and Accelerated Teaching. Educators will open their eyes to a revolutionary method of instruction that will not only reawaken their purpose as a teacher but will show them that they can be a leader for positive change in education. Let's be the movement for change by saying, "Goodbye", to the traditional (inside the box) method of instruction. Advanced Concepts and Accelerated Teaching will lead us to a Better Future.

Organiser: Amie Canter, Advanced Concepts for a Better Future™, USA

Workshop 2: Using the HPST Framework to Analyze Historical Narrative

This interactive workshop examines strategies for teaching the evolution of U.S./Cuba relations as chronicled by Cuban-American voices. Participants will use a method for analyzing narratives aligned with the New Sunshine State Standards. Through interactive demonstration and discussion, attendees will:

1. examine the patterns of Cuban immigration and the enclaves this created in the U.S.
2. compare US foreign relations policies with immigration patterns.
3. recognize and construct the historical, philosophic, and societal significance of Cuban immigration.
4. interpret and evaluate personal narratives and culture artifacts, including the 1970s TV sitcom, "Que Pasa USA."
5. discuss a framework for analyzing narratives, aligned with New Sunshine State Standards, and offer commentary on Cuba's future using current event documents, graphic novels and aspects of pop culture.
6. engage and evaluate pedagogical approaches to help students understand the current state of U.S. and Cuba relations as reflected and chronicled by Cuban American voices.

Organiser: Jose M. Pombo, Sarah Mathews, Florida International University, USA

Workshop 3: “Goodbye” Gimmicks, “Hello” Researched-Based Instructional Strategies to Improve Classroom Community and Behavior

Want improved classroom climate? Research shows that fewer behavioral disruptions lead to increased time for teaching and learning. During this interactive workshop teachers will learn and experience numerous strategies to alleviate up to 70% of classroom discipline problems and walk away with effective techniques that they can use in their classroom on Monday. Say “goodbye” to classroom management gimmicks that create more work and reinforce misbehaviors and say “hello” to effective behavioral practices that successful school districts have used to reduce discipline problems and make every classroom an effective learning environment. Teachers will receive valuable materials filled with lessons, techniques, and strategies to 1) build relationships with students and 2) enhance classroom routines to successfully sustain a positive learning environment to improve students’ academic achievement.

Organiser: Savanna Flakes, Inclusion for A Better Future LLC, USA

Workshop 4: Curriculum Design for 2030 Global Goals

This workshop will be an interactive session that explores and highlights different aspects of international curriculum development that the Curriculum Foundation Team have been involved with recently. We will illustrate how curriculum design has a direct impact on the capacity of schools and ministries of education to work towards meeting the 2030 Global Goals. Our model of a WorldClass Curriculum is defined by a set of values and principles and has been developed as a result of our work in over 20 countries and our related research programmes over the last 10 years. In this workshop we will illustrate how our model of a World-Class Curriculum can not only have an impact on Global Goal 4 relating to Quality Education, but can also support schools to create development education programmes and context rich curriculum schemes that work towards producing responsible Global Citizenship in order for aspects of the other goals to be met. Our aim, informed and enriched by practice and research, is to help schools deliver quality education where learners are empowered to leave school with the confidence, desire and ability to make the world a better place.

Organiser: Vikki Pendry, The Curriculum Foundation, UK

Workshop 5: Managing Engagement in HEIs as if It Really Mattered – The Development of a Proposed New Model

Low student and staff engagement lie at the heart of a number of issues facing HEIs now. It is time to 'fess up' and tackle it head on. Passive disengagement is lowering standards and the vitality of the HE workplace/study space in many cases. The objective of the workshop is to explore the ways forward, validate a new framework/model and set up areas for further investigation. The main motivation to attend is 'do you want your HEI to be better place to work and study?'

Organiser: Stephen Ellis, Regent's University London, UK

Workshop 6: Mental Health Crisis in Higher Education: Present and Future Challenges for Faculty and Students' Academic Success

Mental Illness is on the rise around the world in higher education. The numbers of students with mental illness is increasing in numbers and also severity. There is an epidemic mental of health illness across institutions for higher learning and institutions also are facing a substantial challenge in meeting the needs of students, faculty, and staff. Mental health disorders can be accounted for approximately half of the disease amongst students in higher education. The college years are supposed to be one of the best experiences that students will remember as they transition further into adulthood. However, the college years can be challenging and will definitely have an impact on academic success. Higher education institutions provide opportunities to address one of the most significant public health crisis within a lifetime for adolescents and adulthood. This study examined mental health disorders in higher education and provides strategies for addressing the current stage of the crisis in higher education.

Organisers: Regina Enwefa, Stephen Enwefa, Gabriel Fagbeyiro
Southern University and A&M College, USA

Mental Health Crisis in Higher Education: Present and Future Challenges for Faculty and Students' Academic Success

Regina Enwefa, Stephen Enwefa, Gabriel Fagbeyiro
Southern University and A & M College, USA

Abstract

Mental Illness is on the rise around the world in higher education. The numbers of students with mental health illness is increasing in numbers and also severity. Indeed, there is an epidemic of mental health illness across institutions of higher learning and institutions also are facing a substantial challenge in meeting the needs of students, faculty, and staff. Mental health disorders can be accounted for approximately half of the disease amongst students in higher education. The college years are supposed to be one of the best experiences that students will remember as they transition further into adulthood. However, the college years can be challenging and will definitely have an impact on academic success. Higher education institutions provide opportunities to address one of the most significant public health crisis within a lifetime for adolescents and adults. This study examined mental health disorders in higher education and provides strategies for addressing the current stage of the crisis.

1. Introduction

Attending college can be a very stressful time for many students and their families. Students are faced with having to deal with a multitude of things such as academic pressure, separation from their family, having to work and support their families that leads to serious complex responsibilities, and military students [1]. Stress is a fact of life for students attending college. Students attending college are also coping with friendships, relationships, distance from home and family that takes time to adjust to. Many students often feel overwhelmed, anxious, isolated, and at times hopeless. A combination of all of these stressors can mentally, psychologically, physically, and spiritually disrupt academic performance and lead to dysfunction in coping in life [1]. Being able to know the warning signs of trouble early, how to respond, will greatly increase the ability for college professors to help improve the quality of life, and most of all, maybe even save a life.

Mental health problems have become common among college students. This may be due to financial constraints, lack of state funding, diversity, income,

denial, inadequate treatment of the actual mental health issue, substance use/abuse, psychotropic medications, traditional vs. historically black colleges and universities, disability, age, and maturity or just some of the common burdens affecting college students in higher education. Many of the mental health disorders experienced by students receive their peak onset during young adulthood.

Due to social media and recognition of mental health issues, the number of students with mental health problems entering college is on the rise. As a result of this increase, there is a necessity for counseling centers to be in high demand in meeting the needs of college students on campus. There have been many challenges over the years for counseling centers to not have the staff, training, and funding to meet the supply and demand of services for students with mental health issues.

Globally, over the past ten years there has been an increased demand for mental health programs and services for institution of higher learning. In view of the challenges being faced by universities across the globe many are being forced to develop programs for prevention and intervention. Universities are struggling to meet the demands and needs for mental health on their campus due to lack of training, knowledge and awareness, sufficient training, policies and procedures. Research in college mental health issues has lacked the appropriate training, funding and information is scarce. Presently, there are one in five college-age adult (between 18-25 years old) who suffer from a mental illness according to the [2], [3], [4]. Historically college students' mental health concerns stem from transition issues, homesickness, and detachment from family just to mention a few. These experiences are happening with all students regardless of ethnicity, race, and gender. Some are found to be quite complex and others significant the [5] reported staggering results as to how students felt while in college. Also, the investigation indicated that approximately 47.7% of students felt hopeless, 35.4% felt depressed, and that it was difficult to function while in college while 8.95% of students seriously felt the need to consider suicide. Anxiety was some of the most reported concern among college students roughly 56.9%. The Figure 1 shows the percentages

depicting some of the findings from the [6] of the need for students seeking counseling support and services.

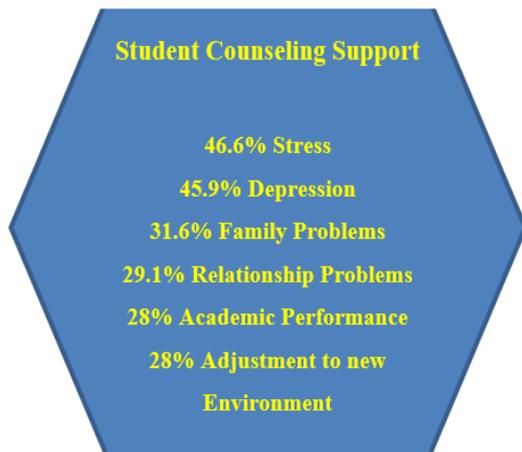


Figure 1. The Need for Students Seeking Counseling Support and Services

At least 33.4% of students have been taking psychotropic medication by the time they enter the university. [7] indicated that 64% of students no longer in college report that they were not attending college because of mental health related reasons. In 2009, there were approximately 21.4 million college students within the United States. 15.0 million college students were white, 2.8 million were black/African American, 2.4 million were Hispanic/Latino, and 1.2 million were from Asian cultures respectfully. These numbers are of critical importance because it signifies that there is much work to do specifically relating to cultural diversity/underrepresented populations underutilizing services available to them on their college campus. Some possible barriers for accessing campus support services may include one or all of the following: cultural background, distrust, spirituality, cultural and institutional barriers such as lack of awareness and expectation for assistance, lack of services in their high schools, denial of their disability or psychological disorder, competition. Each student comes to the college campus with a different perspective to academic success. Statistics has shown that 75% of mental illnesses occur and develop before the age of twenty-five.

2. Prevalence and Incidence of Mental Health Disorders

According to [8], most mental health disorders stemmed from the young adult years at the age of twenty-five years or less. Anxiety disorders has been found to be one of the most prevalent psychiatric challenges among college students. The [7] observed that at least 11.9 percent of college students suffer

from an anxiety disorder. Another common mental health problem among college students would be depression with prevalence rates of at least 7 to 9 percent. [9] reported that over half of all cases of depression had the first onset during childhood, adolescence, or either into young adulthood. Suicide is the third leading cause of death among young adults and is an immense problem for college students. Depression, substance abuse and hopelessness are among the major risk factors to consider for suicide for the college wide age group.

Eating disorders and Attention-Deficit/Hyperactivity Disorder (ADHD) begins during childhood but often persists into adulthood. College students with ADHD diagnosis often exhibit poor academic performance, social difficulties, and some substance abuse use while in college that can have a detrimental affect on academic success. Autism spectrum disorders (ASDs) includes a complex and chronic neurodevelopmental disorder that exhibits deficits in socialization, communication, poor academic success and behavior. Lastly, substance abuse such as alcohol and drugs are quite prevalent during the college years and have been found to be the most prevalent problem among college students. Alcohol consumption among college students can be related to accidental injuries, unsafe sex, sexual assaults, and poor classroom performance.

3. Possible Signs and Symptoms Towards Stress for Faculty to Notice

There are five different stress related factors that impact college life which over time can impact academic success of students. Figure 2 below identifies possible signs of stress from students.



Figure 2. Signs of Student Distress in the Academic Campus Climate

3.1. Academic Signs

There are many academic signs to consider that can interrupt the rigor of student's academic success. Some of these include: repeated absences from class, lab, missed assignments, exams and appointments. You are able to notice a decline in the quality and

quantity of work, extreme disorganization or erratic behavior, social isolation, despair confusion, excessive procrastination, excessively anxious when called upon in class, continual seeking of special provisions such as extra time for deadlines, make-up-exams, or even an extension on a paper, patterns of perfectionism (Can't accept themselves if they don't get an A or outburst in class that they must obtain an A), overblown response aloud in the class in response to grades and other scored assignments.

3.2. Behavioral and Emotional Signs

You may find these students angry most of the time or exhibit hostile outburst, yelling, and aggressive comments in class, unusual withdrawal behavior, swollen or red eyes, change in mood, difficulty concentrating, crying and tearfulness at times in and out of class, irritability, excessively demanding or dependent behavior, observable shakiness, tremors, fidgeting and pacing in and out of the classroom. All of these may be attributed to basic life distress, grief and loss, family conflict, and economic hardships.

3.3. Physical Signs

The college professor will be able to observe a deterioration in physical appearance and basic hygiene, excessive fatigue, exhaustion, falling asleep in class on a continual basis, visible changes in weight, making possible statements about weight, image, appetite and/or sleep, noticeable cuts and bruises on skin, frequent illness, disorganized speech (rapid/slurry speech), smelling of alcohol or possible other substances.

3.4. Gut Instinct Signs

These are basic feelings one may have that something is wrong with the student even though you have been unsuccessful in resolving what the problem may be. One may have a hunch or gut feeling reaction that something is going on wrong with the student, something extraordinarily stands out from other students. The more flags a professor is able to notice, the more likely it is necessary that the student needs help [1].

3.5. Safety Signs

These would be observable such as being unresponsive within the class environment. Some of them may appear to be passed out, physical or verbal aggression directed to self and others within the classroom, stating to other students that they are going away for a long time and no one will be able to find

them. Still others exhibit sense of hopelessness, depression, isolation, withdrawal, become disconnected from reality. There may be written or verb statements that could possibly signal suicide and/or death. The student's behavior makes the classmates and professor feel threatened or have a sense of being in an imminent danger in the classroom environment.

If you have a student exhibiting any of these signs that simply suggest there may be an immediate danger to the person or anyone around them. It is suggested to call your campus police or 911. Contact your campus Counseling Center for immediate consultation. At times it may not seem clear as to when to react or not. It always important to use professional experience, good sound judgment and instincts. If you simply feel there is a general concern about a student, take action fast! There is no harm in offering resources to a student who is in need, however, if you simply ignore the signs there may be possible consequences for failing to respond to the gut feeling or sign exhibited by the student.

4. Choosing the Pathway for Student Success

Once you have been able to identify a student in distress, the next step is to decide on the two Rs: Referral or Report. One must immediately decide if it is necessary to speak directly to the student and offer support and referrals or report it to your counseling center on campus. This decision comes with your level of experience and severity of the problem observed and the ability to give time to the situation, detailed anecdotal notes of observations and other possible factors. If you decide to speak directly to the student and offer support be reassured to never step up to the role as counselor unless you have the expertise/qualifications and experience. Make a decision with the student to meet privately in a public place, use a calm voice, listen, and ask open ended questions that deal directly with the problem, if any. Also, always try to keep communication open and be sure that someone within your department/college has been informed about your meeting with the student.

5. Establishing a Campus Wide Support System

Most campuses have already established a campus wide support system to address student concerns. The exact names of system support vary from state to state. These support systems are to work cohesively together in order to foster a safe and healthy environment for campus climate (see Figure 3).



Figure 3. Possible Members of the Campus Wide Support System for Students

This campus wide team of support should meet regularly to discuss growing concerns/threats in order to be able to act when an active threat is identified.

All students must be treated fairly at all times. Social media use can be an effective tool to use to communicate across the entire campus climate about a particular situation if there ever is a need.

6. Law, Privacy, and the Student

There are some laws that protect the student's privacy that must be abided by. [10] limits the disclosure of information from student education records. FERPA applies to all colleges receiving federal funds. That includes all virtual records maintained by higher education institutions. FERPA only applies to student education records and not to personal knowledge derived directly from the student or personal experience with a student. College officials are able to disclose information about a student to school officials who have the legitimate interests in the information about the student. FERPA does not permit a parent right to access information about a student educational records. It is up to the university to release information to parents, police and others if deemed necessary.

[11] is one of the primary status with administrative simplification provisions. It was enacted to improve the efficiency and effectiveness of the United States Healthcare System. One major goal of HIPAA was to establish national standards for protecting medical records and other personal health information. HIPAA privacy rules does not apply to student treatment records created on campus, whether they are shared with others or used solely for treatment. The confidentiality of these records is protected under federal and state medical

confidentiality and disability laws. Student medical or mental health records are created solely for the purpose of treatment for health and counseling center and only shared with those directly involved in treatment.

7. Could Faculty Cause Distress?

Despite our good intentions for student success, faculty may be the cause of student distress. Today's students face an intense pressure to succeed. The appropriate guidance and support from faculty and staff ensures a living-learning supportive environment where students are able to face many issues they are having for the first time. It is a necessity to get to know your students, foster cooperation and move away from class competition. Faculty must always be clear about expectations and have that information clearly explained on day one and in course syllabus. Do your best to evaluate students without causing them any undue stress. For example, midterm vs. final exam time, holidays, etc. can be hard and stressful times for students to come close to the end of the semester and/or term.

8. Faculty and staff support

Faculty and staff should be able to have training on the general education on mental health conditions, how to support and communicate to students. Faculty and staff must understand that mental health issues are real they are not an excuse for laziness, or irresponsible students. Students experiencing mental health issues want the opportunity to succeed in college. They can be successful if faculty and staff respect and enforce the necessary accommodations a student needs. It is also imperative that faculty and staff understand the mental health conditions on students and most of all their academic performance. Students with mental health illnesses can be successful but just need the opportunity to work and learn in different ways that promote academic rigor and most of all academic success.

9. Conclusion

Mental health problems are on the rise among college students. Academic pressure and expectancies with stressors together, may precipitate the first onset of mental health problems or symptoms. There is a need for colleges to develop websites that include more of a comprehensive and updated approach to mental health issues. It is necessary to engage in professional development for mental health awareness training for faculty and staff. This information can be provided during campus orientation, campus tours, hosting mental health

campus wide events, initiate social activities on mental health in dormitories. Additionally, provide promotional and post promotional materials with information about mental health through campus social media. Faculty may provide screening tools within their course syllabi in order to link students to the resources they would need. Warning signs of mental health issues and what to do about them would be helpful if all students receive a course syllabus that can contain adequate information, videos/links, resources on dealing with stress, bullying, loneliness, and other pertinent issues. There is a need to also coordinate with everyone involved in students' care, including on and off campus providers, provide support for veterans, and offer peer support services.

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Sessions

Session 1: Learning / Teaching Methodologies and Assessment

Title: An Exploratory Study on Incorporating Line Application to Facilitate Business Chinese Reading Class in Thailand: Problems and Solutions
(Author: Ping Xu)

Title: Investigating How the Social Contexts of Youth Influence Their Expressed Understandings of the Nature of Science
(Author: Lydia E Carol-Ann Burke)

Title: Stimulating Innovativeness by Simulating Innovation Processes. Empirical Exploration on Simulation Methods in Primary Education
(Authors: Swantje Weis, Inga Gryl, Claudia Scharf)

An Exploratory Study on Incorporating Line Application to Facilitate Business Chinese Reading Class in Thailand: Problems and Solutions

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Abstract

Due to its mobility, convenience and interactivity, line has quickly become one of the most popular smartphone application among Thai university students. However, little research has been done to investigate the effectiveness of using line application as a teaching and learning tool to enhance university students' business Chinese reading interests, motivation, initiatives and autonomy. This study aims to discover the pedagogical values, problems, solutions and implications of applying line application as an assisting tool for teaching and learning in Thai university business Chinese reading class. Adopting a mixed-method design, the researchers examined the students' feedback on line application project in the form of an end-of-semester questionnaire and follow-up interviews. Participants were 16 business Chinese reading class students enrolled in the second semester of academic year 2016 at an international university in Thailand. All the participants were required to engage in the line application project as a part of the course requirement. Results showed that line application not only facilitates in-class business Chinese reading but also motivates after-class self-directed reading. As an innovative pedagogical approach, line application did bring a lot of benefits to business Chinese reading class. However, there are some problems faced by university students in using line application. Drawbacks and suggestions for improvement were also discussed in this study. It is hopefully that insights gained from examining how line application helps improve business Chinese reading class will shed light on further innovations of language instruction.

1. Introduction

In business reading classroom, it is a noticeable problem that second language learners are reluctant to read business articles, especially those students

with gaps in their L2 proficiency. Even some high intermediate to advanced level students also faced difficulty in reading academic materials. The students are often frustrated by the fact that it is too challenging to read business textbooks which are above their level of understanding. It is tricky to find level-appropriate business reading materials.

During traditional reading instruction, the lecturer teaches students reading strategies on how to find keywords, make connections, skim and scan, infer meaning, use context clues, clarify the main idea, identify cause and effect, draw conclusions, summarize the main points. The teacher is the only one who selects reading topics, checks every student's reading assignment, evaluate students' reading skill. The teacher has to spend a lot of time on monitoring every student's reading fluency, correcting students' reading errors and giving students reading comments. Students couldn't get the teacher's immediate feedback and receive multiple answers or perspectives from peers. In a traditional teacher-centered class, it is a common phenomenon that students become a passive reader and keep silence in L2 business reading activities, just a passive recipient of teacher's instruction.

Due to the prevalence of social media, the digital generations spend many hours communicating on smartphone messaging apps such as Line, Facebook, WeChat, WhatsApp, and Skype, etc. According to the statistics from DI-Marketing [3] online survey, line is the leading chat app in Thailand due to the fact it allows people to exchange text messages and make audio & video call free of charge.

Line application offers an opportunity to overcome poor reading skills and increase the frequency of after-class reading activities. However, little research has been done to investigate the effectiveness of using line application as a teaching and learning tool to enhance university students'

business Chinese reading interests, motivation, initiatives and autonomy.

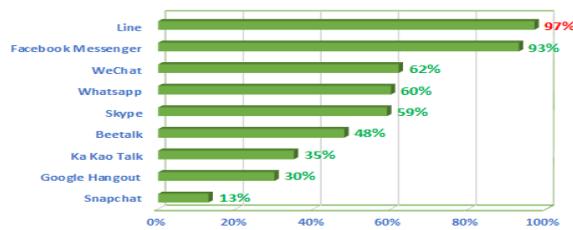


Figure 1. Top Chat Apps in Thailand [3]

To fill the gap, this study aims to discover the pedagogical values, problems, solutions and implications of applying line application as an assisting tool for teaching and learning in Thai university business Chinese reading class.

2. Literature Review

Social Media Usage for Academic Purpose: Bangkok University researchers Bogart and Wichadee [14] explored 144 ESL students using line app to submit assignment or download learning materials. The results showed the usefulness of line-based English class activities. United Kingdom researcher Li [10] explored tourism and hospitality management students' perceptions of social media applications for formal and informal learning. Beijing University of posts and telecommunication researcher Cheng [9] conducted a three-month study to identify L2 learners' communication strategies. The findings revealed that Chinese engineering students used different kinds of communication strategies to complete academic assignment.

Self-selected Reading: Johnson and Blair [4] discussed the significance of students self-selected reading project in an elementary reading class. The findings indicated that self-selected reading allows student *“to value their decision-making ability, fosters their capacity to choose appropriate reading materials, given them confidence, improves reading achievement, and most importantly encourages them in becoming engaged readers.”* Iran researchers [1] conducted a research to identify adult students' perceptions on self-selected and teacher-assigned writing topics. The results showed that students became more inspired to write when using self-selected writing topics. Ho and Choi [7] identified the benefits of self-selecting reading materials. Learners take grater ownership in their leaving process and their motivation to read increase. It was found that

shift in power contributed to students' professional development to become a more critical reader.

Interactive Reading: Devine and Eskey [12] pointed out that *“reading in a second language involves more than decoding; instead, reading is seen as an interactive process whereby the learner's own background and knowledge contribute to understanding reading material.”* According to Boston University researcher [2], reading in a second language as *“primarily unconscious, interactive process continues until the reader is satisfied with the match between text and prior knowledge, and comprehension has occurred.”* Shawn [5] identified *“utilization of the interactive reading model puts more of a responsibility on the teachers to act as facilitators of the reading process rather than monitors of performance.”*

3. Methodology

3.1. Research Objective

To explore the pedagogical values of applying line app as an assisting teaching and learning tool in business Chinese reading class for L2 learners.

3.2. Participants

In this research, the participants were senior students who enrolled in Reading in Business Chinese course, offered at Assumption University of Thailand. It was a three-credit, fifteen-week major elective course in 2/2016 taken by the grade four students from business Chinese department. Their Chinese proficiency level is from intermediate to advanced level. A total of 16 students, 25% intermediate level (HSK4) students, 25% advanced level (HSK5) students and 6.25% (HSK6) high advanced level student.

3.3. Measure

This study took place over five month's period of time. Both quantitative and qualitative analysis were used to identify the pedagogical values, problems, solutions and implications of applying line application as an assisting tool for teaching and learning in Thai university business Chinese reading class. Three types of data were collected: (1) the pretest at the beginning of the semester and posttest given at the end of the semester; (2) observations and interviews; and (3) questionnaire. At the end of semester, the participants were asked to respond to

the questionnaire. All the data were then coded and analyzed by using SPSS analysis.

4. Findings

In this study, the researcher divided all students into eight reading groups with two students per group. Business reading topics were selected by each group every week for students to read and discuss. Student self-selected authentic business Chinese reading materials were used in order to increase students' engagement and intrinsic motivation.

Table 1. The Schedule of Business Reading Task I

Date	Topic	Country
Jan 16 th 2017	CP Group	Thailand
Jan 23 rd 2017	iPhone	America
Feb 1 st 2017	Facebook	America
Feb 6 th 2017	KFC	America
Feb 15 th 2017	Wongnai Restaurant Review Website	Thailand
Feb 20 th 2017	Tao Kae Noi Crispy Seaweed	Thailand
Feb 27 th 2017	Waraporn Steamed Stuffed Bun	Thailand
Feb 27 th 2017	E-Commerce Billionaire Jack Ma	China

During the first reading task cycle, the students selected five topics on food business: KFC from USA, CP Group, Tao Kae Noi Crispy Seaweed, Waraporn Salapao Chain, and Wongnai Restaurant Review Website from Thailand. CP group is Thailand's largest food and agriculture company. Tao Kae Noi Crispy Seaweed owner becomes a top snack producer in Thailand at age of 26, who used to be an online game addict at age 16. Waraporn Salapao Chain offers Thai versions of Chinese steamed stuffed bun. Wongnai.com is Thailand's number one restaurant review website, and functions similarly to Yelp. The last three groups talking about iPhone and Facebook from USA, E-Commerce Billionaire Jack Ma from China respectively.

Table 2. The Schedule of Business Reading Task II

Date	Topic	Country
Mar 22nd 2017	Ichitan Drink	Thailand
Mar 27th 2017	Huawei Smart Phone	China
Mar 29th 2017	Youtube	America
Apr 3rd 2017	UNIQLO Clothes	Japan
Apr 5th 2017	Starbucks Coffee	America

Apr 10th 2017	After You Desert	Thailand
May 1st 2017	Zara Clothes	Spain
May 3rd 2017	Major Complex Cinema	Thailand

During the second business reading task cycle, the students selected three topics on food business: Starbucks Coffee from USA, Ichitan Organic Green Tea and After You Desert from Thailand. The two groups chose reading topics on clothes business: UNIQLO Clothes from Japan and Zara Clothes from Spain. The last three topics selected reading topics on Youtube from USA, Huawei mobile phone from China, and Major Complex Cinema from Thailand respectively.

Line app offers a multi-channel learning platform. In this study, eight reading groups are required to complete three kinds of business reading tasks: PPT, Video, and reading report.

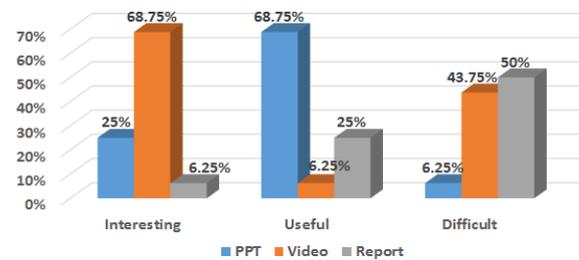


Figure 2. Feedback on Multi Reading Tasks

In terms of students' feedback on reading task types, 68.75% students preferred video is an interesting digital reading experience because video has sound, voice, subtitle, background music, interviewing people, more attractive than other ways. It can attract everyone to watch because students created their own video based on their own idea to make it more interesting. Also, for making the video, students have to interview people that makes them to improve how to communicate with other people in real life.

68.75% students reflected PPT is the most useful digital reading experience because PPT includes a lot of important and useful information on each slide. Group members did the research on the website, made the beautiful PPT, and then sent the group PPT in line chat. So other students can read it online and get reading benefits from it.

Regarding the most difficult task, 50% students identified that written reading report is the most difficult thing because they have to spend a lot of time searching a lot of information and summarize the important information into it. Also, making video Chinese subtitle is difficult. They reflected translate

subtitle to match video and correct the grammar are very hard.

Table 3. Interactive Reading Experiences

Item	Mean	Std.
Keep the useful business Chinese reading materials for the later review	4.56	0.61
Discuss interesting business Chinese articles together	4.44	0.61
Solve business Chinese reading problems together	4.31	0.46
Increase business Chinese reading skill	4.31	0.46
Become a critical-thinker	4.25	0.43
Improve business Chinese reading comprehension	4.13	0.48
Learn real life business Chinese communication	4.06	0.75
Help to correct business Chinese reading mistake	4.06	0.75
Share the website link related to business Chinese reading	3.81	0.73
Overall, it is a meaningful business Chinese reading experience	4.38	0.48

From the questionnaire, the results showed that participants gave the highest score (4.56) to line app's "Keep" function because line could keep the useful business Chinese reading materials for the later review. "Keep" enables students to save and quickly bring up important information without having to scroll through chat history. As a L2 learners, students were benefit from engaging in repetitive Chinese business reading process, because it offers the opportunity to re-think business articles and see more important details they ignored in initial reading. After rereading, students could understand much more unfamiliar business vocabularies and improve business reading fluency accordingly.

The participants gave the second highest score (4.44) to line's discussion function. In line group chat, online discussion becomes more effective in improving reading comprehension because the process of communication promotes active thinking. When experiencing difficulties related to the business Chinese reading task, students could directly post the reading problems in line chat. Most participants consider line groups as a useful and convenient platform for findings answers to their specific questions. (4.31) Some lower level students could ask knowledge-based wh-questions (who, what, when, where). Advanced level students could generate more challenging questions inspire peer's higher thinking skills, such as: analysis, synthesis, clarification or summarization. Overall, line group reading is a meaningful experience. (4.38)

Table 4. Business Chinese Reading Test Scores (n=16)

Pretest	Posttest	Gain
83.1	89.6	6.5

Table 5. Business Chinese Reading Test Score by Gender

Gender	N	Pretest	Posttest	Gain
Male	1	90	95	5
Female	15	82.7	89.3	6.6

Table 6. Business Chinese Reading Test Score by Level

Level	N	Pretest	Posttest	Gain
HSK6	1	90	92.5	2.5
HSK5	4	85.0	90.6	5.6
HSK4	4	85.0	90.3	5.3
Others	7	80.0	88.2	8.2

The business Chinese reading test score was used to evaluate the participants' reading development. The scores of sixteen senior students showed the difference between pretest and posttest. The mean of the pretest was 83.1. The mean of the posttest was 89.6. It meant that the mean of the posttest gain 6.5. Classified by gender and reading ability, the pretest and posttest of business Chinese reading test also have significant differences. From the result above, it could be concluded that line app plays a significant role in improving students' business Chinese reading skills.

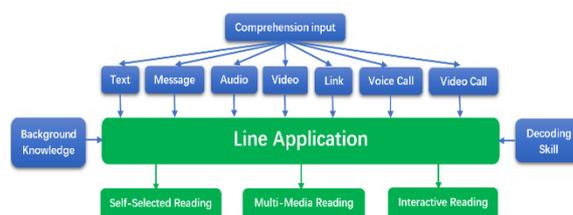


Figure 3. Model of Line App Reading Comprehension Process

After five months, students' business Chinese reading task history and interview record were collected and analyzed through content analysis method. The most cited reply was line app could easily capture students' attention, engaging them in multi-media business Chinese reading activities, such as: text, message, audio, video, website link, voice call or video call. Some advanced level students who participated in the study reflected their business Chinese reading comprehension is enhanced when they make connections to prior knowledge and decoding different kinds of business Chinese reading

comprehension inputs. Two students whose Chinese proficiency equal to native speaker, preferred intensive and authentic business Chinese reading environments in line group.

5. Conclusion

This research reports a one semester study in a fourth-grade business Chinese reading classroom in Thailand. The objective of this research is to investigate the pedagogical values of applying line application as an assisting teaching and learning tool. Classroom observations at the beginning of the semester showed that some students unwilling to engage in business Chinese reading activities. In foreign language business reading course, one of the most challenging tasks is the selection of appropriate business reading materials. In order to increase students' engagement and intrinsic reading motivation, the researcher gave the group members freedom to choose their own reading adventure. In this study, students could read self-selected, high-interest, level-appropriate business Chinese reading articles. After one semester's experiment, the interview results showed that self-selected business Chinese reading materials satisfied students' reading curiosity and critical thinking skills. Most students changed from passive readers to engaged readers who enjoyed the pleasant and satisfying reading experiences.

There are individual differences in L2 readers. Some students are visual readers, benefit from PPT slide reading, video interview/subtitle reading, written report, or website link reading. Some students are auditory learner, benefit from group reading presentation or line discussion/communication. To meet the diverse needs of L2 readers, the researcher utilized line app as a multi-channel reading platform. Line groups offer opportunities to show what the students know through shared reading, guided reading, oral report, written report, line group discussion, PPT presentation, video presentation, and other creative expressions. Also, line app provides a rich interactive language environment for peer learning and peer networking. This study suggested line reading platform is helpful in improving students' reading fluency and comprehension.

6. Implications

Although line app is usually used for social interaction and networking. Line app plays a significant role in foreign language teaching and learning process. The educators could use line app to

create an effective target language immersion environment for students to frequently use the target language practice listening, speaking, reading, writing, and translation. However, some participants reflected facing digital distractions during reading academic articles. Therefore, the future research could focus on: how to fight digital distraction and enhance learning productivity, how to train L2 learners to become a deep reader and focused learner in digital era.

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Investigating How the Social Contexts of Youth Influence Their Expressed Understandings of the Nature of Science

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Abstract

This paper reports on a pilot study exploring youth understandings of the nature of science, using theatre as a medium of expression. Two groups of upper secondary students, one from a private school and the other from a low-income community youth program, participated in the study. At the outset of the research, each student completed a card sorting activity to describe their understandings of the nature of science. Each group then watched and analysed a science-themed play and, in subgroups, created their own performance pieces to convey important aspects of science to their peers. Students in the two groups described their initial understandings of the nature of science in very similar ways but their affective relationships with science, demonstrated through their dramatisations, revealed significant contrasts. This research has implications for developing educator understandings of how young people relate to science and suggests pedagogic adaptations that educators could use to better support student learning and promote participation in lifelong science engagement.

1. Introduction

The limited demographic diversity of youth engaging in university-level science has become a fundamental educational concern in Europe and North America. Educators seek insights into ways of connecting marginalised youth to meaningful science learning. This paper reports on a pilot study utilising science-themed theatre and short drama performances as vehicles by which secondary school students share their understandings of science with educators and theatre practitioners so that meaningful pedagogies can be developed.

2. Research background and objectives

Despite a lack of consensus regarding the essential characteristics of scientific practice (as conducted by scientists), the current trend in curriculum reform has placed study of the nature of science at the heart of developing a student's scientific literacy [1], [2]. The challenge of defining scientific practice against the

backdrop of a very heterogeneous scientific field has led to the construction of various instruments and measures to support school teachers as they teach about the nature of science. These tools have tended towards promoting a canonical understanding of what science is and what it should be for the school student [3], [4].

To address this limitation, there is a growing body of research that explores the interpretive repertoires [5], [6] that students use to describe the science they have encountered through their various life experiences, acknowledging that school is only one way of developing a student's understanding of the nature of science. Gaining a better grasp of how science is embedded in the everyday experiences of students, and how students relate to science on their own terms, will support teachers in devising science pedagogy that is more informed and therefore more meaningful for students [7].

This study employs drama as a medium through which we can learn more about the ways in which students relate to science and understand the everyday value of science in their own lives. Our purpose in conducting the research is to have students teach us about their embedded and embodied understandings of the nature of science, generating new ways of viewing the interaction between youth, science and the theatre that will inform pedagogy, both for science educators and theatre practitioners.

The study explored two questions:

1. What understandings of the nature of science do upper secondary school students bring to new learning contexts?
2. What aspects of their understandings about science and theatre are mobilized when students design a science-themed performance?

3. Methodology/Methods

This pilot study was conducted in an urban setting in a large city in a central Canadian province. Two groups of around 25 young people aged 14 to 18 participated in the study, one group from a private school environment where students anticipated pursuit of science-related courses at university, and a

second low-income community youth group where most students intended to drop science after secondary school. To gauge initial understandings about the nature of science, we used a card sorting activity where students could express the extent of their agreement with 15 statements about science. The statements came from research exploring the range of ideas and conceptions that individuals draw upon when making sense of scientific concepts, e.g., [8], [9], [10], [11]. A similar approach was used by Carlone et al. [12] when exploring understandings of the nature of science in the context of a study examining the science identity of youth.

After viewing a particular science-themed play at a local theatre (written by a Canadian scientist), students worked with a playwright to analyse the various components of the play and develop ideas for science-themed performances of their own. Throughout, students performed small group dramatizations that provided insights into the thematic and affective prioritisations of the youth with respect to the nature of science. Our research analysis focused on the themes and portrayals of science raised by the students in their theatrical displays. Particular attention was set on the ways in which participants moved back and forth between scientific and dramatic domains and the ways in which these movements contradicted or confirmed understandings expressed in the card sorting activity.

4. Outcomes and implications

Data analysis is ongoing but so far we have found that, although the card sorting patterns suggested that students from the two groups had very similar understandings of the nature of science (indicating some uniformity in interpretation of the regional science education curriculum); differences in aesthetic and axiomatic appreciation of science were evident. We identified these differences as a distinction between *desires to know* and *desires to be known*, which shaped the ways in which students expressed scientific issues theatrically. During the conference presentation we will explore these themes further. We are currently developing a proposal to work with youth from the low-income community group, exploring in greater depth the pedagogical implications of linking creativity, dramatized narrative, and collaborative learning to understandings about science as young people work in an after-school club environment to develop a science-themed performance that will be viewed by their peers. By using the body kinaesthetically and in collaboration with others, students will engage socially, negotiating at every turn and in so doing, create a political and dialogical space of science and arts learning. This project seeks to explore the pedagogical implications of this space in order to create exchange between two seemingly remote

fields, science and the theatre, facilitating deeper understanding of the physical world and the sociocultural context of science learning.

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Stimulating Innovativeness by Simulating Innovation Processes: Empirical Exploration on Simulation Methods in Primary Education

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Abstract

In our dynamic world, individuals are challenged by complexity and contradictions [1]. This age of ever-increasing uncertainty is linked to several areas of human life, e.g. the influence of technological progress [2]. Individuals are exposed to so-called innovations, which promise improvement without reflecting on the ambiguity of the term [3]. In order to meet and shape these challenging environments, people need to develop critical mindsets enabling them to question and reflect on current circumstances and proposed innovations (ibid.). This presentation provides insights into a research project that deals with simulation methods as an instrument to foster innovativeness in education. It is based on theoretical impulses on innovation, and the outlined model of innovativeness [6] focusing on processes and abilities alike. Innovation processes lead to two possible process outcomes: (1) innovations, the implementation of inventions, and (2) the rejection of introduced inventions as well as the turndown of implemented innovations. Focusing on innovativeness, the ability needed to participate in innovation processes, the model contains three sub-abilities: reflexivity (questioning current circumstances and pointing out issues), creativity (generating solutions) and implementivity (convincing others of the need to overcome issues and/or developed solutions) [7], [5]. Following a humanistic perspective on education [4], this contribution argues that educational policy shall consider the need to enable individuals to cope with challenges outlined above and focus on the empowerment of pupils. Schooling should not be limited to foster defined skills, but moreover provide open teaching and learning arrangements [8], which allow pupils to shape their future by critical participation in societal decision-making processes [3]. Given that there is a strong connection between critical thinking, participation and innovativeness, we claim that by focusing on the latter, all three can be strengthened [7]. Yet, the need for innovativeness in education is hardly taken into consideration by educational policy as a closer look at German school curricula reveals (e.g. MSW 2008). Nevertheless, the case of the German subject Primary Social and Science Education (Sachunterricht) illustrates that innovativeness can be taught in primary education since the subject offers areas of interdisciplinary thinking and provides linkages to everyday scenarios [7]. Analysis of teaching and learning material currently used in Sachunterricht reveals space and obligation to gather and develop concepts that foster innovativeness in school [6]. Scharf (forthcoming) aims to analyze existing teaching/learning arrangements regarding their innovativeness-fostering potential and extracting fruitful concepts. The purpose of the presented intervention research (Weis forthcoming) is the development of practical simulations - aiming to foster innovativeness by initiating innovation processes—as valuable instruments which can be used particularly in Sachunterricht. Initial research [8] revealed simulations to be a promising approach towards an education for innovativeness. The first phase of the triangulative research project involves analysis of simulations (interviews with study participants, videography of initiated innovation processes, and content analysis of simulation results) in order to identify and categorize different degrees of innovativeness and its three sub-abilities. Based on this categorization, the second phase focuses on procedures to test these abilities. The final intervention phase includes several simulations and the measurement of their impact using the evolved test procedures. With this intervention study, we intend to gain a more profound

understanding of how highly interactive and collaborative innovation processes work among young learners. We furthermore aim to identify innovativeness-fostering environments and a variety of valuable topics to foster innovativeness in Sachunterricht.

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Session 2: Pedagogy

Title: Using the HPST Framework to Analyze Historical Narratives
(Authors: Jose M. Pombo, Yuleisy Mena)

Title: Developing and Implementing a Crowdsourcing based Mobile App for Experience-based Learning in Environmental Science
(Authors: Divya C. Senan, Udaysankar S. Nair)

Title: Teaching Graphs of Functions to Secondary Three High-Ability Learners in Singapore
(Author: Geok Hwa Khoo)

Title: Effects of Five-Step Conceptual Change Instructional Model on Students' Cognitive Achievement and Interest in Biology
(Author: Ekon Esther Etop, Nkoyo Bassey Edem)

Using the HPST Framework to Analyze Historical Narratives

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Abstract

Roland Gérard Barthes (Barthes, 1977: 79), French literary theorist, essayist, philosopher, and linguist eloquently described narrative to be: "As numberless and able to be carried by articulated language, spoken or written, fixed or moving images, and gestures. They are present in every age, place, or society. Nowhere are there a people without them. Moreover, these stories are international, trans-historical, and trans-cultural: it is simply like life itself." Barton and Levstik [14] define the term narrative to be any form of historical stories that follow marked patterns of causal events that are chronological and include: a setting or schema, characters, agent, a goal, and an instrument. Narratives predominately encompass aspects dealing with psychological reality and of historiography vis a vis people, places, and epochs of time. Additionally, narratives are cultural tools which individuals can utilize to make sense of history: distilling the information acquired by them into a catalyst of cause and effect.

1. Introduction

It is my belief that narratives offer a powerful mechanism for understanding Cuban American relations because they help the reader organize information and connect with experiences through common themes of humanity [2]. Moreover, narratives give voice to people, places, and events that perhaps historical textbooks silence or just do not address at all. Narratives have always colored my own reality. Being the first generation born to exiled Cuban parents in Miami, Florida, I came to understand that family narratives play a very big role in my own life.

In 1959, a plethora of tragically unfortunate political events transpired in Cuba, which ultimately changed the course of my life forever. The iron fist of Communism gripped the island and effectively began a Cuban Diaspora that catapulted hundreds, and or thousands of immigrants, away from their beloved island homeland to uncharted distant shores around the world. Cubans embarked on a transformative quest for liberty because the freedom they once knew was unfortunately interrupted. Among the many, were my parents and subsequently a troop of colorful relatives, which unequivocally shaded my human existence to what it is today.

For Cubans leaving the island, this departure was a very traumatic experience that left deep emotional scars. Lisandro Perez in his piece titled, "Growing up in Cuban Miami" [5] quantified the process of Cuban immigration via echelons of time. According to Perez, the first waves of Cubans which departed the island were those individuals pertaining socially to the upper and middle classes. He baptized this first generation of the Cuban exodus as Golden because of the aforementioned. Initially, Cubans believed that the fleeing of Fulgencio Batista and the subsequent coup implemented by Fidel Castro was a transient political condition: unfortunately, the sad reality was that it was not. This massive exodus was to be an absolutely permanent condition: there was definitely no turning back.

Unfortunately, my family left everything behind. And by everything I do not only mean material wealth or physical possessions, for it was truly much more than that. What was completely stripped from my family, and countless of other Cuban families, was part of their cultural identity by way of the emotional and spiritual connection Cubans have to actual Cuban soil. It was a metaphysical bond to the motherland that was severed and unfortunately lost to the annals of time. My father's Cuba does not exist anymore: it a fleeting, sepia colored menagerie etched into an old man's memory. O'Reilly [16] articulated that "personal accounts of one's own experience convey experiential and autobiographical understanding of a phenomenon...in some cases the self is the only data source...and the story can be used to illuminate sociological themes and illustrate discourses" (p.171). I was ten years old when my father shared with me, for the first time, the story of his departure from Cuba in the early 1960s.

On March 10th, 1960, my father recalled arriving to Rancho Boyeros Airport in the early afternoon under a torrential downpour. Unfortunately, he did not realize while waiting to exit the cab; that this day was the last day he would ever see Cuba again. Unceremoniously, he proceeded to pay the cab driver, collected his luggage, and made a run for the airport entrance. Once inside, my father tried to focus so as to locate his departure gate, but his eyes wondered and were distracted by the violent tapping this cyclonic rain and gusty winds made on the airport's plate glass windows. It was if Cuba mourned my father's

departure and cried uncontrollably. After much trepidation, he finally located his departure gate and took a seat in the waiting area. Prior to boarding the plane, the miliciano, or more specifically the Castro operative who served as the customs official, took his Cuban passport and stamped Nullo on it. Nullo in Spanish means annulled. At that point, my father said he stopped being Cuban. This departure, from the island, marked a seminal event in his life: because it ignited the catalyst of absolute change and opened the proverbial migratory doors for the remainder of my family. As he boarded the airplane his life completely changed. Unbeknown to him at that moment, a total metamorphoses occurred: the spoiled, rich kid playboy, who was educated, suave, always dressed to the nine's (commissioning at least 25 new Italian suits made a year) was to be replaced by a generic, struggling, cash poor immigrant trying simply to survive. Roughly four hours later, my father arrived at O'Hare Airport in Chicago, Illinois, alone.

Rudrum [6] describes narrative to be "texts or graphics such as these are normally used (consumed, read, acted upon, laughed at, etc.) by the members of our linguistic or cultural community" (p.199). Also, I can remember my mother and her sisters recounting a multitude of personal stories that not only made them relive their colorful past in Cuba, but also made sure that I understood the sense of continuity family narratives offer. Consciously or not, it was as if my mother was teaching me about the importance of our own family's history through these stories. Nonetheless, the women of my family gave me the basic tools to analyze the past, so as to make sense of my present reality, and in turn, hopefully create a better future for myself. Concretely, these narratives literary taught me how to be Cuban. Some stories discussed Cuban historiography and the philosophical underpinning that entailed; others dealt with societal issues, culture, traditional food, holidays, and religiosity. Most importantly, the remainder of these stories painted a family portrait which used my mind as its canvass. All and all, these personal narratives were very helpful to me because I technically was not born in Cuba. And because of that fact, my mother would say, that I needed these stories even more to help me understand the proper comportment of a true Cuban. Nonetheless, the narratives that evolved from my family's history helped me understand the purpose of my own existence in relation to that of my ancestry; and my overall place within Cuban-American society. Consequently, I was completely mesmerized and hooked on the unending barrage of family stories. They were inescapable. I was totally surrounded and immersed by narratives without actually consciously being aware of it. Years later, I used my personal experiences with narrative and coupled them with my professional experiences; first as a social studies teacher and then as a teacher educator to create a framework that is used in social studies classrooms to

help students analyze historical narratives. It is called the Historic, Philosophic, Societal and a Takeaway Framework or HPST.

2. HPST Framework Background

The HPST Framework is a pedagogical tool used and adapted for narratives. This framework works on the assumption that narratives possess historic, philosophic, and socio-cultural components that when harnessed properly can directly catalyze content within a social studies classroom. The purpose of the HPST is to serve as a guide for document analysis that when applied to a course's readings will help extract content knowledge, create higher-order connection making, be used as a platform for student dialogue, be utilized as a deliverable form of student assessment, and provide students with an authentic learning experience.

This Framework resonates with the Common Core State Standards Initiative [3]. The Common Core espouses literacy competencies (or standards in the strand) which must be met. These standards in the strand are based on reading material that is to be analyzed by students so that a greater understanding of content can be achieved. It is my belief that this framework will help with the aforementioned process. Additionally, the HPST aligns with the National Council for Social Studies Standards [3] by catalyzing: (a) meaningfulness via building curriculum networks of knowledge, skills, beliefs, and attitudes that are structured around enduring understandings, essential questions, and learning goals; (b) integration via drawing from history, political science, and sociology to increase the understanding of an event or concept and to provide opportunities for students to conduct inquiry, develop and display data, synthesize findings, and make judgments; and (c) activity via developing new understanding through a process of active knowledge construction through interaction in a cooperative group dynamic.

It has been my experience that social studies teachers have the option of circumventing the use of course textbook; choosing narratives as the primary source of content knowledge. This framework has been primarily offered to pre or in-service teachers. Then, in turn, these educators will pass on this tool to students in their own classes. The HPST mainly targets written text, but could extend to visual and or auditory narratives as well.

3. HPST Framework Description

The HPST Framework works on two levels. The first is the interactive level; which is composed of three interconnected parts or elements. These parts are the: author, text and student reader [refer to example 1] Friedrich Schleiermacher (1973) referred to the

dynamic between these forces as a Hermeneutic Circle. Moreover, Schleiermacher felt that the key to understanding a text was establishing a real relationship between reader, text, and context of the reading. The author's background, bias, and point of view, for Schleiermacher, did not factor into the overall understanding of the text. This is where my view diverges from the aforementioned theorist and aligns with Martin Heidegger. Heidegger [9] argued that an author of a text and the text itself cannot be understood separately. "The question of the origin of the artwork asks about the source of its nature...the work arises out of and through the activity of the artist...the artist is the origin of the work. The work is the origin of the artist. Neither is without the other." It has been my experience that researching an author's personal and professional background; to include a visual representation and some information of possible bias's and points of view will serve as a catalyzing force that will only bolster the bonds established by Hermeneutic Circle making the overall understanding and interpretation of the piece that much stronger.

The second level is the analytic level. This level is created by the use and application of four perspectives or frames, namely the: historic, philosophic, societal, and a takeaway [Refer to figure 2]. Within the historic sphere, it is imperative that the teacher embrace the idea (and transmit to students) that this frame is based on a critical examination of the who, what, where, and how. This paradigm has its origins with William Wilkinson's "Three Ws" theory. In other words, students will identify the historic event, occurrence and or issue itself. Additionally, dates, timelines or periods of time, and geographic locations should also be taken into consideration. Lastly, the context, causes, continuity, and change over time (if applicable) of the historic event will also factor into the final analysis. This above mentioned directly resonates with Wilhelm Dilthey's understanding of Hermeneutics. Dilthey [10] extrapolated that interpretative meaning of a text cannot be fully understood unless the reader takes into consideration the circumstances that create the historical event itself. Moreover, for Dilthey "meaningfulness fundamentally grows out of a relation of part to whole that is grounded in the nature of living experiences." (pp. 458).

Within the philosophic frame, teachers will have students explore the belief(s) of a time period, school(s) of thought, public opinion, economic issues, -isms, and the psychological paradigm of the historical event. This directly mirrors Michael Beane's understanding of philosophic analysis. Beane [15] espoused this to be the fundamental nature of knowledge, reality, and existence. Moreover, he theorized philosophic analysis to be an attitude held by a person or organization acting as a guiding principle for behavior. Another justification

for a philosophic analysis of a historic event comes from Richard Foley. Foley [12] considered this type of analysis to be a breaking down of concepts into their subsequent parts. This is done in order to gain knowledge and a better understanding of a particular philosophical issue in which the historical concept is involved.

Students will discuss, within the societal frame, the social-cultural underpinnings and nuances of the historic event. Examples of possible topics can include: food, religion, traditions, celebrations, enclaves, morals, and values. This is grounded in Lev Vygotsky's Sociocultural Theory. Kublin et al. [13] succinctly stated that "Vygotsky (1934/1986) described learning as being embedded within social events and occurring as a child interacts with people, objects, and events in the environment" (p. 287). Moreover, Vygotsky argued that the creation of cognitive knowledge is only achieved through an individual's social interactions.

4. HPST Framework Application

At this point a very important question emerges, namely: how will students use the HPST Framework to actually analyze a text? First, the teacher will assign the reading of text. Then, the students will be grouped per frame by the instructor. The students working in assigned groups will create a deliverable (i.e. knowledge showcase or presentation) using the selected excerpts from the narrative itself that exemplify, describe, answer, and or justify the pre-established guidelines of each frame. In essence, students will be creating a parallel narrative with the new information learned.

The capstone for this parallel narrative is each student's personal takeaway. This takeaway is the student's chance to use his or her professional voice not only to articulate what was learned by reading the text and applying the assigned frame, but also an opportunity to listen to other classmates form their own opinions and or perspectives. The aforementioned serves as a catalyzing platform for student dialogue and or practical assessment element. Gadamer [1] argued that understanding was only achieved by having real didactic conversations with others where reality is explored, and new understandings are reached.

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Appendix

Example 1.



Example 2.



Developing and Implementing a Crowdsourcing based Mobile App for Experience-based Learning in Environmental Science

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Abstract

The mindless utilization of natural resources has raised environmental degradation to dangerous heights across the globe. One of the very best methods to reverse this trend undoubtedly is creating public awareness in environmental issues. Committed environmental education will inculcate a proper and appropriate environmental culture in the students. Considering the due importance environmental education is added as a subject in almost all levels of education including teacher education. But it is often criticized for being reductionist and empirical. Experiential learning, or learning by doing and reflecting, is an excellent tool that can facilitate this process. It attempts to create a connection between the learner and the content being taught by involving the student in reflection on his or her experiences. Experiential learning is very appropriate in institutions of teacher education where student teachers carry their own unique experiences into the learning environment. Here we propose a Mobile Application (Android platform), based on the Open Data Kit (ODK), for populating a GEE based LULC ground truth database as an experiential learning tool for environmental education. Students use the Android mobile application to collect a sample of geo-locations for different land cover types. They use this data to classify satellite imagery and understand how their neighborhoods have changed over the years. They can visually see how urban regions grow, crop lands shrink, and forests disappear. Only when students both understand and experience the natural environment will they be able to adequately address environmental problems and find creative solutions for the future of humanity on the earth. The present study is trying to find evidence for the effectiveness of the developed Mobile Application as a tool for experiential learning of Environmental Education. In India, environmental education is still in its infancy and is evolving gradually. Systematic efforts with respect to all aspects of teaching and learning about environment need serious consideration. In several studies it is strongly recommended to teachers, teacher educators, and educational functionaries that for environmental education they should identify and address the challenges in the local context for its greater impact. Findings of the present study help understand the efficacy of Mobile App as a tool for experiential learning in disseminating environmental consciousness among students.

Teaching Graphs of Functions to Secondary Three High-Ability Learners in Singapore

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Abstract

The topic on Graphs of functions is a very interesting and practical topic. Graphs appear frequently in our daily lives and are often used in various subjects such as Physics, Geography, Economics etc. However, the topic is often taught in a didactic way with the teacher demonstrating graphs and students practising and re-producing the graphs. This paper aims to present the method used to teach Graphs of Functions to Secondary Three (Year 9) high-ability learners at Dunman High School in Singapore. A lesson package incorporating self-directed learning, technology, Mathematical Modelling, viva voce and 21st Century Competencies demonstration designed for this topic will be shared. It is hoped that this student-centred teaching and learning methodology would engage the high-ability learners in deep understanding of the mathematics concepts and its application in real life and develop skills necessary to thrive in future world.

1. Methodology

The methodology leverages on high-ability learners' interest and learning disposition in this IT-savvy age to make discovery and construct knowledge themselves. First, they embarked on self-directed learning of shapes of basic graphs using the lesson package, which provided them guidance to explore mathematical apps and tools to discover the beauty of different graphs and to make observations of the characteristics of the graphs on their own.

Next, students were shown an illustration and explanation of a real-world problem, modelled by a graph to heighten their knowledge of the usage of graphs in real world context. Instead of rushing into practising graph sketching typically, lesson time was used for students to analyse the appropriateness, accuracy and underlying assumptions of the graph used to model the real-world scenario. Further differentiation included challenging high-ability students to propose other functions that better model the context. Students then researched in groups on other real-world context to apply mathematical modelling and conducted oral presentation to explain their graphs, drawing relevance of the characteristics

of the graph to the context. This form of viva voce encouraged class participation and promoted critical thinking in the high-ability learners.

Lastly, teachers conducted a Level Test on the topic Graph of Functions and the test scores used to validate the effectiveness of the learning package. Qualitative feedback on this teaching and learning approach was also obtained from teachers and students involved.

2. Findings

Based on the presentation and class discussion, students showed that they have acquired understanding of mathematical modelling, providing an abstraction that reduces a problem to its essential characteristics. They were able to use Mathematical language to explain the factors affecting the trends and shapes of the graphs. Based on the facility indexes of the scores in the test, it was derived that majority of the students were competent in sketching the transformed basic graphs and interpret the graphs.

On the teaching method, the students gave feedback that the approach to the topic was refreshing. Students felt that the experiential approach involving the use of the graphing app in their phone was fun. In addition, having easy access to a self-checking software helped them to feel more confident in their learning and spurring their motivation to explore more. Students also felt that they were able to regulate their own learning pace using the lesson package through self-directed learning.

3. Summary

In summary, through this teaching method, students are helped to experience self-directed learning, to see the relevance of graphs through Mathematical Modelling and to harness 21st Century technology and study skills. In this manner, high-ability students in Singapore would find joy and meaning in the learning of Mathematics.

Teaching Graphs of Functions to Secondary Three High-Ability Learners in Singapore

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Abstract

The topic on Graphs of functions is a very interesting and practical topic. Graphs appear frequently in our daily lives and are often used in various subjects such as Physics, Geography, Economics etc. However, the topic is often taught in a didactic way with the teacher demonstrating graphs and students practising and re-producing the graphs. This paper aims to present the method used to teach Graphs of Functions to Secondary Three (Year 9) high-ability learners at Dunman High School in Singapore. A lesson package incorporating self-directed learning, technology, Mathematical Modelling, viva voce and 21st Century Competencies demonstration designed for this topic will be shared. It is hoped that this student-centred teaching and learning methodology would engage the high-ability learners in deep understanding of the mathematics concepts and its application in real life and develop skills necessary to thrive in future world.

1. Methodology

The methodology leverages on high-ability learners' interest and learning disposition in this IT-savvy age to make discovery and construct knowledge themselves. First, they embarked on self-directed learning of shapes of basic graphs using the lesson package, which provided them guidance to explore mathematical apps and tools to discover the beauty of different graphs and to make observations of the characteristics of the graphs on their own.

Next, students were shown an illustration and explanation of a real world problem, modelled by a graph to heighten their knowledge of the usage of graphs in real world context. Instead of rushing into practising graph sketching typically, lesson time was used for students to analyse the appropriateness, accuracy and underlying assumptions of the graph used to model the real world scenario. Further differentiation included challenging high-ability students to propose other functions that better model the context. Students then researched in groups on other real world context to apply mathematical modelling and conducted oral presentation to explain their graphs, drawing relevance of the characteristics

of the graph to the context. This form of viva voce encouraged class participation and promoted critical thinking in the high-ability learners.

Lastly, teachers conducted a Level Test on the topic Graph of Functions and the test scores used to validate the effectiveness of the learning package. Qualitative feedback on this teaching and learning approach was also obtained from teachers and students involved.

2. Findings

Based on the presentation and class discussion, students showed that they have acquired understanding of mathematical modelling, providing an abstraction that reduces a problem to its essential characteristics. They were able to use Mathematical language to explain the factors affecting the trends and shapes of the graphs. Based on the facility indexes of the scores in the test, it was derived that majority of the students were competent in sketching the transformed basic graphs and interpret the graphs.

On the teaching method, the students gave feedback that the approach to the topic was refreshing. Students felt that the experiential approach involving the use of the graphing app in their phone was fun. In addition, having easy access to a self-checking software helped them to feel more confident in their learning and spurring their motivation to explore more. Students also felt that they were able to regulate their own learning pace using the lesson package through self-directed learning.

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In summary, through this teaching method, students are helped to experience self-directed learning, to see the relevance of graphs through Mathematical Modelling and to harness 21st Century technology and study skills. In this manner, high-ability students in Singapore would find joy and meaning in the learning of Mathematics.

Effects of Five-Step Conceptual Change Instructional Model on Students' Cognitive Achievement and Interest in Biology

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Abstract

This study was designed to investigate the effects of Five-step conceptual change instructional model usually represented as (PEDDA) on students' cognitive achievement and interest in biology. Two research questions and two hypotheses guided the study. A non-equivalent, pretest-post-test quasi experimental design was employed. The population for the study comprised all the SS2 students in all the state-owned co-educational secondary schools in both Calabar Municipality and Calabar south Local Government Areas in Cross River State. Simple random sampling procedure was used to select four secondary schools from the twenty-two (22) state owned co-educational schools in the two Local Government Areas. Two schools were randomly assigned to either experimental or control group. The experimental group students were exposed to the use of the PEDDA while the control group students were exposed to the conventional instructional method. In each selected school, one intact arm of SSII class was randomly selected for participation as experimental or control group. In all, two hundred and seventy-two SSII biology students from the four secondary schools constituted the sample size. A sample note of lesson for effective teaching using PEDDA was developed by the researchers. Two instruments developed by the researchers namely Biology Achievement Test (BAT) and Biology Interest Inventory (BII) were used for data collection. These instruments were subjected to face and content validity and their reliability indices were established using Cronbach alpha. Mean scores and standard deviation were used to answer the research questions while analysis of Co-variance (ANCOVA) was used to test the null hypotheses. The result of the study revealed among others, a significant difference in the mean achievement score of students taught using PEDDA and those taught biology using conventional method. The students in the experimental group were more interested in the subject as compared to their counterparts in the control group. The findings of the study implied that, it is only through the application of the five senses that learners interact with their environment, can easily articulate and build up knowledge from the messages received from the senses. The researcher made some recommendations that the use of activity-based, child-centred instructional methods be used in

the teaching of science subjects especially biology. So, a new science curriculum and new Biology text books that are constructivist-oriented were recommended.

1. Introduction

The fast-growing accessibility and capability of today's educational development coupled with the global scientific scenario have given rise to the need for designing and implementing innovative teaching methods for effective teaching and learning of science subjects. At the moment, the West African Examination Council's Chief Examiners' yearly reports (2007-2012) [12] have shown a downward trend in the performance of students in science subjects especially biology. This poor performance has been attributed to many factors, one of which is the use of inappropriate teaching methods [3]. The method used presently to teach Biology in secondary schools otherwise known conventional or traditional method may not be so effective in the sense that it makes the learners to be passive listeners in the teaching/learning processes [10], [7].

The conventional method of instruction emphasizes the use of the cognitive domain of the learners in knowledge acquisition leaving out psychomotor and affective domains despite the fact that Biology is a science subject and so learners do not have sufficient opportunities to construct meaningful understanding and application of scientific concepts [5]. The conventional method of instruction presents science learning as a mental process where facts are to be memorized, rather than a set of principles for application in the outside world. Onwuka cited in Ekon [4] added that teachers using the conventional method spoon-feed learners and so do not challenge them to discover new truths, new rules, and new methods of tackling problems as well as new values for themselves. The tendency therefore is for the learners to forget much of what is told them by the teachers. The conventional method lacks the capacity of stimulating students' interest in Biology because students' participation is reduced to the barest minimum.

One of the aims of science education as stated in the National Policy on Education (NPE) is to inculcate in the learner, the spirit of inquiry and creativity

through the exploration of the child's environment, Federal Republic of Nigeria [6]. The ability of the Biology student to explore his environment using the conventional method is reduced to minimum as the biology teachers strive to cover the syllabus, mark hundreds of students' note books and assignments within a specific time frame. Conventional teachers seem to regard time to be the ultimate regardless of what a learner learns and so pay less attention to activities/practical aspects and as such the learners fall back to memorizing facts/concepts to pass examinations not necessarily to acquire science skills and knowledge. It neither helps majority of learners to be active participants in the teaching and learning processes nor allow the learners to develop appropriate science process skills [10] for better understanding, retention of concepts and application of scientific concepts in the outside world. The implication of this is that learning may be difficult and uninteresting, and students see science subjects, especially biology as a difficult subject.

In recent times, several efforts are being made by researchers and policy makers toward designing better methodologies for effective teaching of science subject especially, biology. Such, include, cooperative learning and problem solving [11]; constructivism ([5]; [7]; [10]) have been advocated. Constructivism is an approach of instruction and learning involving interactive processes in social settings. It is problem solving oriented, allowing students to explore and work in groups. Bain [1] added that constructivism does not only allow learners work primarily in groups but that learning and knowledge are interactive and dynamic. In addition, constructivism focuses and emphasizes on social and communicative skills, science process skills as well as collaboration and exchange of ideas and so has positive effects on the students' attitudes towards studying the science subjects like biology [4].

Constructivism is thus a strategy of learning based on the belief that knowledge is not a thing that can be simply given by the teacher in front of the classroom to learners seated at their desks. Rather, knowledge should be constructed by the learners through active mental developmental processes because learners are expected to be builders and creators of meaning of concepts and knowledge acquisition. Knowledge can only be created when learners are given the opportunity to be active in the class, exploring and manipulating learning materials and be able to make meaning of tasks. This means that learners must be responsible in creating knowledge. This is in line with Brunner's theory of learning which emphasizes that learning is an active process in which learners construct new ideas based on discovery or experience. This theory is relevant to this study in sense that, PEDDA used in this study helps learners to discover meaning of concepts personally through the

manipulation of the teaching materials provided by the teachers in the classroom.

Constructivist instructional models may be effective tools that could enable teachers provide learners with the opportunity to interact with them and even among themselves, in the classroom, in order to do away with prior conceptions before the learning of new concepts. There are many constructivists' models, but this study uses the five-step conceptual change instructional model (PEDDA) which involves five steps and where PEDDA is derived.

The model, 'PEDDA' used in this study stems from the five steps as illustrated in figure 1 below:

The steps involve in the above figure are explained below:

Step 1: Identification of Prior-conception (P) where the teacher interacts with the students by asking them questions pertaining to the scientific concept to be taught, in order to identify any preconceived beliefs that will not help students to understand the scientific concept to be taught.

Step 2: Exploration of phenomena (E) where the teacher divides the students into homogenous groups and gives them materials to explore and manipulate with guided instructions.

Step 3: Discussion of experiment (D) where the students come together and discuss their observations and findings based on activities or experiments performed.

Step 4: Dissatisfaction with prior conception (D) where the teacher discovers through their discussions, questioning and answering techniques whether learners are still holding unto pre-conceived beliefs. If the learners are still holding unto the prior-conceptions that were brought into the classroom, the decision is 'Yes' and the teacher goes back to step II but if the decision is 'No', it means, the learners believe and accept the new concepts and reject their prior-conceptions. The teacher then proceeds to step 5.

Step 5: Application (A) where learners can discuss concepts learnt confidently having facts and figures and are able to apply the knowledge outside the classroom setting. By that, knowledge is gained.

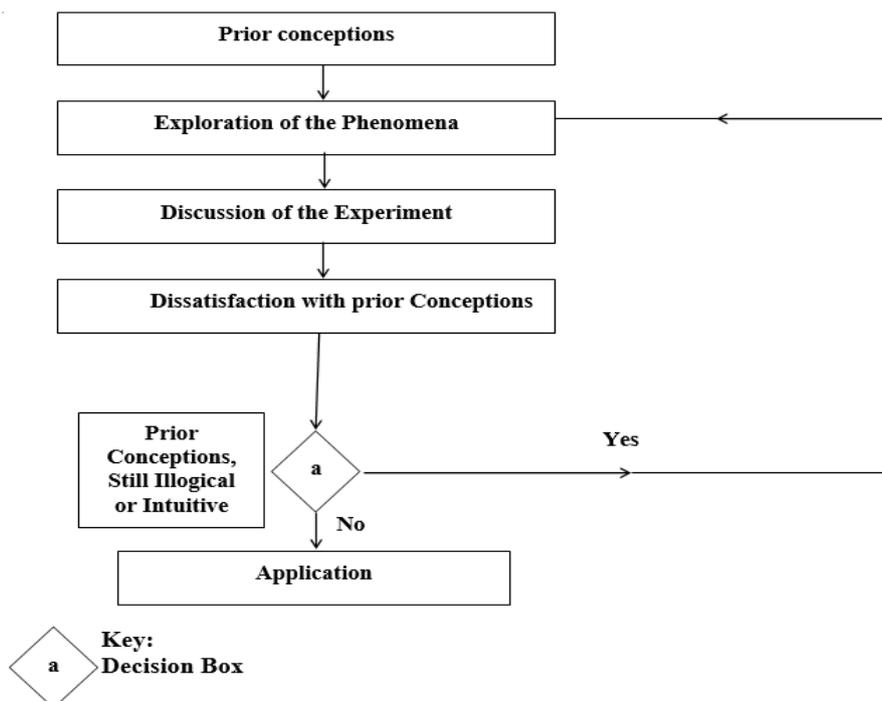


Figure 1. The Conceptual Change Instructional Model

2. A Sample note of lesson for teaching Osmosis using five-steps conceptual change instructional Model (PEDDA)

Date:
 Class: SS2
 Duration: 40 mins x 3
 Topic: Cell and its environment
 Subtopic: Osmosis
 Specific Objectives: At the end of the lesson, the students should be able to:

- (1) Define Osmosis correctly.
- (2) Describe at least one experiment illustrating the process.
- (3) List, at least two processes where the principle of osmosis can be applied.

Entry Behaviour: The students had known that molecules move faster in gases than in solids.

Entry Behaviour Test:

- (i) Define the term diffusion?
- (ii) What makes perfume or insecticide to spread very fast once its spread in a room?

Instructional Materials: Blackboard, Drawings, basins or troughs, live herbaceous plant, Eosin solution, knife, salt, cold water, hot water, lima beans.

Content Development

Step I: Identification of Prior Conception held by Students

The teacher interacts with the students by asking them questions like the following.

1. How does water enter into the leaves of pumpkin plant?
2. Why is salt or sugar solution given to dysentery or cholera patient or someone who is weak?
3. Is it because animals drink water that enables them to retain fluid in their cells?
4. Is it the retained fluid that comes out as sweat in human? How about plants?

Step II: Exploration of the Phenomenon

Activity 1: The teacher presents the materials for the experiments to the students. She or he groups the students homogeneously and presents a plant (Herbaceous stem) dipped in coloured or Eosin solution to each group (see diagram in fig 2) and allows them to react on how the coloured solution can travel from the root to the leaves via the stem.

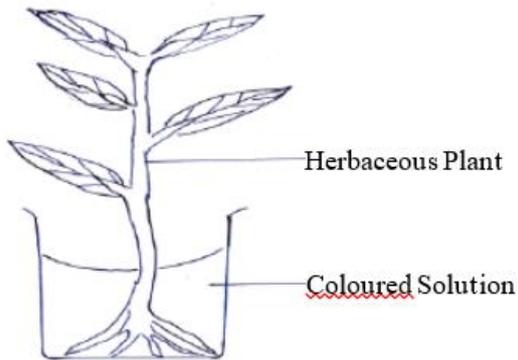


Figure 2. Coloured solution transported to every part of the plant

The teacher allows them to discuss and agree among themselves.

Instructions:

- 1) After 2hrs, take the plant out of the solution.
- 2) Cut parts of the plant using the razor blade provided
- 3) View cut surfaces under the microscope
- 4) Write down your observations for discussion
- 5) Is there any part of the cut surface stained?
- 6) What is the name of the stained part?

Demonstrating Osmosis in Living Tissues

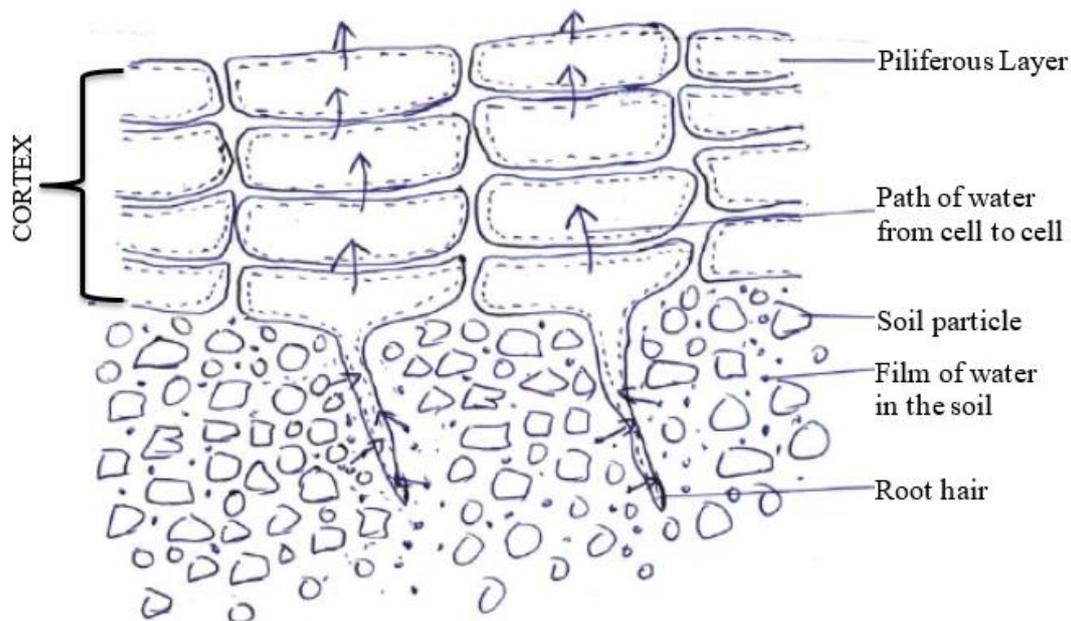


Figure 3. Diagram showing paths of water from the soil to the roots

Activity 2: The students are given another experiment to perform as directed by the teacher using the lima beans to illustrate osmosis in living tissues.

Instructions

- (1) Put some quantities of common salt into a beaker (40ml), half fill it with tap water and stir till salt dissolves completely. Label it beaker A
- (2) Fill another beaker with tap water and label beaker B
- (3) Drop 2 lima bean seeds in each of the beakers
- (4) Drop one lima bean seed on the table for comparison at the end of the experiment.

- (5) Set the two beakers aside for about 15 minutes.
- (6) Observe the three and
- (7) Write out your observations.

Step III: Discussion of the Experiment

The students come together for general discussion on their activities. The teachers may ask the whole class this question: How does the stained solution get to the leaves? She or he guides them to bring out an appropriate definition of osmosis. She or he guides them into finding out the different types of permeability of some membrane and mentions examples of some them.

Example of non-living semi-permeable membrane includes: cellophane, parchment and risking tube. Example of living semi-permeable membrane includes: pig or sheep bladders, unripe paw-paw, Irish potato, yam tuber, cell membrane and tonoplast.

3. Biological Significance of Osmosis

- (1) Processes in which osmosis is involved in plants
 - a. Absorption of water from the soil by root hairs
 - b. Movement of water/fluid from one living cell into another
 - c. Movement of water into and out of guard cells of stomata leading to opening and closing of the stomata.
 - d. Maintenance of turgor in plant cells
- (2) Processes in which osmosis is involved in Animals
 - a. Re-absorption of water from glomerular filtrate in the kidney tubules (Excretion)
 - b. Absorption of water by the colon (large intestine)
 - c. Movement of fluid/water from one living cell into another
 - d. Maintenance of turgor in animal cells
 - e. Loss of water through sweating

Step IV: Dissatisfaction with prior Conception

After discussing with the use of illustrations and series of experiments, the teacher asks the following questions to see whether the students are satisfied with the scientific explanations.

- a) How does mineral salt in the soil get to the leaves of plants?
- b) Why are foodstuffs (fish or meat) preserved with salt or sugar?
- c) Why are leguminous foodstuffs soaked in water before cooking?

Step V: Application

If the students are satisfied with the scientific explanations and reject the prior conceptions, then the teacher should allow them answer the following questions to show their level of understanding:

- a) Mention two processes both in plants and animals where the principles of osmosis can be applied.
- b) Why doesn't honey ever spoil?
- c) Why does a patient suffering from cholera given an infusion on reaching the hospital/clinic.

The purpose of the Study was to explain the effective use of PEDDA as a teaching strategy for better cognitive achievement and interest among biology students.

Research Questions:

- 1) What is the effect of PEDDA on students' cognitive achievement in biology?

- 2) What is the effect of PEDDA) on students' interest in biology?

Hypotheses:

- H₀₁** There is no significant difference in the mean scores of students' cognitive achievement when taught biology using PEDDA and those taught using the conventional method.
- H₀₂** There is no significant difference in the mean scores of students' interest when taught biology using PEDDA and those taught using the conventional method.

4. Methodology

The research design employed for the study was quasi-experimental approach as intact classes of not equivalent in terms of number in the class were used. The study areas were Calabar municipal council and

Calabar south Local Government Areas in Cross River State. The population of the study comprised all the Senior Secondary Two (SS II) biology students in the twenty-two state-owned secondary schools in the study areas. A total of two hundred and seventy-two (272) SS2 biology students drawn from four schools formed a sample of the study. Two instruments:- Biology Achievement Test (BAT) and Biology Interest Inventory (BII) were used for data collection.

The Biology Achievement Test (BAT) developed by the researchers was designed to measure students' achievement in biology. It was a 30 item multiple choice objective test and five theory questions focused on the Cell and its environment. The Biology Interest Inventory (BII) was designed to measure students' interest in biology. It consisted of 20 items where the students were required to put a tick (✓) in the appropriate box beside each statement. The two instruments were validated by experts and indices for reliability established as 0.785 for BAT and 0.787 for BII using Cronbach alpha.

5. Method of Data Analysis

Data collected were analyzed using mean scores and standard deviation to answer the research questions, while Analysis of CO-variance (ANCOVA) was used in testing the hypotheses at 0.5 level of probability.

5.1. Results

Research Question One

What is the effect of PEDDA on students' cognitive achievement in biology?

The effect of PEDDA on students' cognitive achievement in biology is shown on Table 1 above. It

shows that PEDDA had a more positive influence on the experimental group students in that they obtained a high mean achievement score of 63.67 compared to their counterparts in the control group who were taught using the conventional method with a mean achievement score of 30.67.

Table 1. Mean Scores and Standard Deviation of Students' Cognitive Achievement in Biology

Groups	N	Pre-test		Post-test		Mean Difference
		\bar{X}	SD	\bar{X}	SD	
Experimental	130	6.70	3.70	63.67	11.76	56.97
Control	138	7.31	4.06	30.67	9.19	23.36
Total	268	7.01	3.89	46.68	19.58	

Key: Where 'N' is the number of students involved in each case

The efficacy of the instructional method was confirmed by the standard deviation where the experimental group had a standard deviation of 11.76 and the control group, 9.19. the high mean score of 63.67 with a moderate standard deviation of 11.76 obtained by the experimental group indicated that the objective of the instructional method, PEDDA, was realized and a good mastery of the instructional unit (topic) was achieved and that enabled the students in the experimental group to perform better and had small difference in their inter-individual performance or scores.

On the other hand, the control group had a low mean score of 30.67 with a standard deviation of 9.19 (higher than 1/5 of the maximum possible mark). This indicated that mastery of the instructional topic was not achieved and their inter-individual performance or scores were different.

Research Question Two

What is the effect of PEDDA on students' interest in biology?

Table 2. Mean Scores and Standard Deviation on Students' Interest in Biology

Groups	N	Pre-test		Post-test		Mean Difference
		\bar{X}	SD	\bar{X}	SD	
Experimental	132	18.07	4.65	63.57	7.46	45.50
Control	131	12.06	1.96	15.98	5.08	3.92
Total	263	15.08	4.67	39.86	24.68	

Key: Where 'N' is the number of students involved in each case

The effect of PEDDA on students' interest in biology is shown in table 2 above. The experimental group students who were taught using PEDDA were more interested in biology. They obtained a mean interest score of 63.57 and a standard deviation of 7.46 which is more than that obtained by those in the control group who were taught using the conventional method and had a mean interest score of 15.98. This result indicated that the instructional method, PEDDA, has a positive impact in that it spurred the students' interest in the subject. The moderate standard deviation with a high mean interest scores of 63.57 indicated that the effect of the instructional method (PEDDA) was realized compared to those in the control group who had a low mean interest score of 15.98 with a standard deviation of 5.08 (higher than 1/5 of the maximum possible mark) which indicated a non-mastery of the instructional unit (topic). Since the standard deviation in the control group was higher than 1/5 of the maximum possible marks, it means that there was a marked difference in their inter-individual interest scores.

6. Discussion and Findings

6.1. The effect of PEDDA on Biology students' cognitive achievement in Biology

The finding revealed that those taught with the PEDDA in the experimental groups had a mean achievement score of 63.67 while those taught with the conventional method in the control groups had a mean achievement score of 30.67. This difference was further tested using a null hypothesis. The result from the hypothesis revealed that there is significant difference in the mean cognitive achievement scores of students taught biology using the five steps conceptual change instructional model as compared to those taught using the conventional method. This is a clear indication that the treatment, PEDDA, helped the students in the experimental groups to perform significantly better than their counterparts in the control group.

The significant enhancement of achievement of biology students' due to the constructivist instructional model, PEDDA, may be as a result of its nature which is activity-oriented, student-centered and interactive. The students were able to construct or gained knowledge through exploring and manipulating the different activities they were engaged in. The active involvement of the students in the experimental class gave rise to more effective learning as was propounded by Jerome Brunner who encouraged learning by activity-discovery method, Also the teachers' knowledge of students' prior conception enhanced better teaching and learning processes hence the higher achievement scores in the experimental group.

The efficacy of PEDDA in promoting learning and academic performance had long been demonstrated by many researchers like Iloputaife [7], Madu [9], and Ekon [4]. Iloputaife [7] who independently discovered that students taught with conceptual change instructional model, PEDDA, slightly out-performed those taught with conventional method also enhances better retention of learnt concepts.

Researches done outside Nigeria had confirmed these findings for instance, Duit [2] believed that constructivist-based instructional methods provided useful model for conceptual change and took into account the students' prior conception which yielded better results than conventional teaching approaches. Lord et al. [8] revealed a significant difference between the constructivist class and the traditional class in favour of the constructivist class while comparing student-centered and teacher-centered instruction in college biology laboratories in India.

The constructivist group generally had higher scores than those taught using conventional method. It therefore means that, the constructivist model of instruction is efficient in redressing students' prior conception and creates room for better understanding of scientific concepts, thus influencing students' high achievement in science subjects especially biology. The finding of this study strengthens the assumption that any teaching strategy which is activity-based, student-centered yields better result than the conventional teaching method. PEDDA facilitates conceptual change and enhances better biology achievement.

6.2. The effects of PEDDA on students' interest in Biology

The finding of the study in table 2 showed that the experimental group obtained a mean score of 63.57 while the control group obtained a mean score of 15.98. A null hypothesis was further used to explain this difference as it revealed that there is a significant difference in the mean interest score of students' taught biology using PEDDA as compared to those taught with conventional method. This study revealed that the students taught biology using PEDDA were more interested in the lesson than those taught biology using the conventional method.

7. Conclusion and Recommendations

From the results obtained in the study, the researchers concluded that PEDDA used in teaching biology is a better instructional strategy as the students taught with this model out-performed those taught with conventional method. PEDDA also facilitates conceptual change and enhances better biology achievement and interest.

Recommendations:

- 1) Teachers should adopt PEDDA as a better instructional strategy but can also use any of the constructivist models of instruction.
- 2) Teachers should make available instructional activities that will challenge the students to be actively involved in the classroom. The tasks should be the type that would develop their curiosity and interest in biology and not the complicated ones that would bring about frustration and boredom that may make them abandon the subject.
- 3) Teachers should give students opportunities to express themselves in variety of ways.

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Session 3: Business Education

Title: Destination Promotion: An Exploratory Study to Understand Destination Promotion of Bemidji
(Author: Kelly La Venture)

Title: Recruiting Teachers in California: Analysis of Current Trends
(Authors: James L. Gentilucci, James J. Brescia)

Title: The Role of Transformational Leadership in Institutions: The Case of Kuwaiti Educational Sector
(Authors: N.S. Almonawer, O.R.Ashaye)

Title: Practicing Education for sustainable development (ESD) in the disadvantaged area of Japan: The role of the NPOs, non NPOs and typical individuals in the recovery of Fukushima after the 2011's disaster (Case study: Minamisoma town, Fukushima prefecture)
(Author: Nguyen Thi Phuong Hao)

Destination Promotion: An Exploratory Study to Understand Destination Promotion of Bemidji

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Abstract

Destination promotion has become increasingly important to economic development in the United States. Key stakeholders of the “First City on the Mississippi” recognize the importance of the visitor economy and decided to invest in destination promotion of the city as “Bemidji True North.” The purpose of the study was to explore stakeholder perceptions of the visitor economy, economic impact, and destination promotion of the “First City on the Mississippi” as “Bemidji True North” Using a semi-structured guide consisting of 8 questions and additional probing questions, investigators engaged in 30-180-minute interviews with 34 key stakeholders. Data captured was then subjected to thematic analysis and interpretation. Through a review of literature and interview analysis, data indicate (1) there is increasing value in the visitor economy of the “First City on the Mississippi,” (2) the visitor economy warrants investment in destination promotion, (3) economic development can be more effective through coordination of destination promotion of “Bemidji True North,” and (4) destination promotion fuels development across the entire economic spectrum. As a result of the study, key stakeholders of the “First City on the Mississippi” are able make informed decisions regarding prioritization of marketing efforts of “Bemidji True North” and how to coordinate these efforts with economic development initiatives. The destination promotion of the First City on the Mississippi as “Bemidji True North” may raise the community’s profile and open doors to increased tourism, business relocation, business expansion, and entrepreneurs ready to start up a new organization.

Recruiting Teachers in California: Analysis of Current Trends

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Abstract

It should come as no surprise to those who follow trends in teacher recruitment in California that many areas of the state are experiencing difficulty hiring high-quality teachers, especially in the areas of special education, mathematics, science, and bilingual education. However, this is not a new challenge for California schools. Teacher surpluses and shortages have waxed and waned since the 1960s as a result of economic recessions, boom years, and changes in school-aged populations throughout the state. While the topic of teacher recruitment has been studied extensively, it has been primarily examined from the perspectives of researchers, policymakers, and government officials, and such inquiry infrequently considers the problem from the perspectives of those directly responsible for recruitment in school districts. In response, our study follows an alternative line of investigation based on what officials in school districts think, feel, and believe (i.e.: their perspectives) about effective and non-effective recruitment practices. The purpose of our study, therefore, is to investigate and analyze current teacher recruitment challenges and strategies from the perspectives of those responsible for recruitment practices. Instead of speaking for and about the perspectives of these individuals from a distant analytical point of view, our research is designed to allow recruitment personnel to speak for and about their perspectives of the problem and how it affects their particular districts.

The conceptual framework for our study has its roots in Grounded Theory as articulated by Glaser and Strauss [1] and refined by Strauss and Corbin [3]. This framework enables us to build our theory of action “bottom-up” rather than “top-down.” Instead of testing quantitative a priori hypotheses, we use a qualitative constant-comparative design to elicit participant perspectives on three open-ended research questions:

- 1. What are the characteristics of districts that successfully recruit teachers?*
- 2. What innovative district practices show promise of efficacy in recruiting teachers?*
- 3. How can districts replicate, adapt, and scale these effective practices in their unique geographic and economic settings?*

We use purposeful sampling to identify an N of 21 school districts from differing geographic, demographic, and economic settings in California, and we employ an ethnographic data-gathering approach known as “open-ended interviewing” [2]. After obtaining informed consent, we use a protocol to ask participants a series of “grand-tour” questions. Interviews are recorded and then transcribed for analysis. Open coding is used to “fracture” transcribed data into thematic segments, and axial coding is used to reassemble data in unique ways (i.e., transforming like-data segments into broader conceptual themes). Throughout the process, we compare analysis between ourselves to confirm the reliability of findings.

The study concludes by presenting to all 58 California county superintendents recommended strategies for improving teacher recruitment practices in their

respective regions. These strategies will also become the basis of policy recommendations made to state government officials with the intent of promoting changes in funding, credentialing procedures, and other employment policies that are perceived as barriers for effective recruiting.

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The Role of Transformational Leadership in Institutions: The Case of Kuwaiti Educational Sector

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Abstract

This paper provides an insight into the role of transformation leadership in educational institutions within the Kuwaiti context. Transformational leadership focuses on the relationship between leaders and followers and stimulates, motivates and inspires people to achieve extraordinary. Review of literature has shown that transformation leaders are competent in dealing with technical areas of the workplace in the modern world, compared to other leadership types. However, limited attempts are made to analyse leadership impact in educational transformation in Kuwait. Based on literature review, researchers have developed a conceptual model showing the transformation leaders' roles and practices in influencing innovation and competitive advantage in organisations. Qualitative analytical method is the proposed methodology for this research work whilst data would be collected through interviews, observation and document analysis. As this paper is a work-in-progress, recommendations are made from the initial findings, as part of the expected outcome.

1. Introduction

Although leadership is seen to be one of the most scientifically studied and difficult concept to understand in the last five decades, there is the probability that more has been written with a few knowledge about leadership compared to other related behavioural science topics. There is also the issue about the clarity and awareness of effective leadership when demonstrated; despite this various theories have been developed to explain the leadership styles. Countries are being motivated to evaluate their educational system because of globalisation and knowledge-based economies; hoping that this would improve the standards and 21st century obligations. Thus, there is a shift on emphasis on education from educating students to more refined level with knowledge and skills; and this transformation in the educational system is pivotal to preparation of students for their careers and recruitment of experts in

this field. This is the reason why there must be sequences of co-dependent practices relating to behaviour and actual variations for educational transformation to take place. This paper examines the role and practice of transformational leadership in the Kuwaiti educational sector. Transformational leadership role is important in changing the educational system and standards through innovation. [29], [23], [34], [4], [21], [16].

2. Literature Review

2.1. Leadership and Transformational Leadership

Transformational leadership originated from James McGregor Burns in 1978 when he had analysed some leaders' ability across organisations [9] and has been one of the prevalent approaches to leadership in the 1980s [37], [40]. This was attributed to its "emphasis on aspects of intrinsic member motivation, follower development, and emotional caring in the workplace" [40]. Transformational leadership arises when energy and commitment to a common vision transformed the organisation by developing its capacity to work collaboratively in order to circumvent the barriers and achieve the aspiring goals. In a nutshell, transformational leadership enables leaders to stimulate and inspire or transform the followers in order to achieve extraordinary outcomes [25], [38].

Transformational leadership theory connotes leadership that creates positive change in the followers who act in the whole group interest as well as catering for each other. From review of literature, other transformational leadership research areas include school culture, academic emphasis [25] and classroom conditions [32]. It has however been argued that transformational leadership is unethical when dealing with individual considerations [8], [4]. Whilst numerous studies have been explored in the implementation of change and leadership, the impact of these head of practices on the processes has not been fully clarified, and whether or not there exist

difference between theory and practice [33], [1], [26], [15], [11].

2.2. Leadership and Transformation theories

There are various leadership theories that have been developed over time, such like the Great Man", traits, situational, charismatic leadership, distributed leadership, and transactional leadership. However, this paper focuses on transformational leadership which is discussed below:

2.2.1. Transformational Theories. Transformational leadership often transpires when people engage with one another whereby both the leaders and follower uplift one another to higher levels in terms of their motivation and morality. Because of the connections between leaders and followers the transformational theory concentrates on stimulating, motivating and inspiring people by helping groups to achieve astonishing outcomes It also allows leadership to create positive change in the follower, with the interests of other people and measured by rewards and punishments. [9], [25], [4], [38], [6].

Transformational leadership is usually impacted factors such as external environment, leadership, culture, strategy and individual or organisational performance. It is fundamental model for achieving social change, with emphasis on shared vision. Leaders therefore exercise powers to inspire followers and motivate them to respond with high levels of commitment to organizational goals. Critiques have however argued that transformational leadership is unprincipled especially when relating to individual or charismatic issue. [25], [8].

2.3. Transformational Leadership Practices

Leithwood and Jantzi [25] developed the transformational leadership model in general studies of education and categorised it into 4 dimensions a) setting direction- building school vision, b) Developing people - intellectual stimulation, and modelling professional practices and values, c) Redesigning the organization - collaborative school culture and productive community relationships, and d) Managing the instructional programme includes structures and procedures to support change [6]. However, Al-Sharija [4] extended further by identifying five main components of leadership practice, based on review of relevant literature, as follows: a) Finance Management, b) Setting Direction, c) Developing Staff, d) Building Collaboration, and e) Principal Agency.

2.3.1. Finance Management. Leaders are expected to financial management as a key role for strategic

leadership and effecting change in the institution. Scholars have suggested that since leadership is a process of influencing people and utilising resources, transformational leaders would need to ensure good budget and resources management, having maintenance culture and obtaining ICT infrastructure to achieve the desired results. The educational leadership role needs expansion to manage financial matters for effective leadership practices; Heads of schools such as principals are classified as 'Support and Finance manager' which are correlated primary roles for organisational transformation [18], [4].

2.3.2. Setting Direction. This is when leadership role relates to the vision or mission of the educational institution necessary for improving the performance. Emphases are therefore placed on motivation, inspiration and high morale necessary for clarifying the transformational leadership roles and objectives. Leaders need to have long-term understanding of vision building in order to motivate change and influence followers to bring the vision into reality; they must also play active role in communicating directions and defining specific roles so that the followers would have clear understandings of the vision. [8], [24], [4].

2.3.3. Developing Staff. Transformational leaders need to generally build capacity and develop the community within the institution professionally. Staff development involves adopting leadership model adopted by Leithwood [26] consisting of four components, a) individualised consideration; b) individual professional development opportunities; c) principal involvement in supervising professional development activities; and d) modelling the way or providing appropriate model. Leaders have to develop policies for staff development and support the school community members to grow. [22], [3], [4].

2.3.4. Building Collaboration. Transformation leaders have crucial roles to play in ensuring culture is restructured to express the change objectives and re-settle the schools' parts and improve working conditions. Thus, cultural values, norms and beliefs are vital to promoting structural change in the educational culture. Thus, effective leadership practice requires establishment of collaboration throughout the educational institution critical for developing new teaching and learning practices. [26], [35].

2.3.5. Principal Agency. Principal agency role relates to the Head of School's responsibility as the 'Principal' to demonstrate leadership skills for better understanding of the strategy for using new technology. Review of literature has shown that interest in ICT integration and other technological advancement have increased over time due to

improvement in personal skills and competence. [18], [14]. According to Al-Sharija [4], transformational leaders have important roles to play as change agent to “develop and sustain the change strategy, particularly in the case of the rapidly developing and transforming technological change.”

2.4. Transformational Leadership and Education: State of Kuwait

Kuwait, which has a population of about 4 million, has its government expenditure on education affairs and services increasing steadily. Despite the negative school climate, the leaders are constantly introducing new technology such as e-learning and they have developed plans and strategies to integrate ICT into the country’s teaching and learning practices. Thus, for an educational system to be transformed there is need to have leadership with influence, values and vision, to be able to change government policy and advance alternative approaches [13], [42], [4], [12].

A review of the literature has revealed that the Kuwait educational system is improving in terms of technological advancement, which is impacting on the quality of education, both in public and private schools – with the use of interactive websites and database. The country’s educational system needs transformation by decentralising the process of planning and making decisions. As a result, there is the need for strategies and investment in resources [31], [19], [28], [5].

2.5. Type-style and fonts

Leadership is a highly complex concept [25]. It is sometimes interwoven with management. Whilst scholars have argued that leadership appears to be different from management [17], [10] some have simply explained the concepts as ‘doing things right’ – management focus and ‘doing the right things’ – leadership focus. Leadership has however been described simply as the leading and changing of behaviours or practices.

From review of literature, the researchers have therefore attempted to describe transformational leadership role based on the following dimensions:

2.5.1. Academic Leadership. It is worth mentioning that academic leadership is required in higher education. Thus, for any working condition to be active there is a need for effective leadership to implement changes in the educational learning cultures and teaching professions. The followers’ attitudes, achievements, actions and beliefs are often impacted by the leaders’ exposure to embedding change and leadership capabilities and styles. [4].

2.5.2. Innovation and Creativity. Empowerment, task-oriented commitment of team members,

collaborative team environment (mutual respect), self-determined, self-efficiency - these are key to innovative team process and ultimately, for organisational performance improvement. Technology has been a catalyst to how change, communication and information are managed in organisations, and as such, policy makers and implementer of changes have employed ICT for improving their organisations’ teaching and learning practices. [15], [20].

2.5.3. Behaviours. The leadership role is often influenced by organisational culture - pattern or attitude, belief system and organisational processes, which are shared by members of the organisation. Thus, the culture of any organisation is enabler that encourages the local community’s value to impact on any transformation and consolidated by the personality traits, members’ proficiency, organisational ethics, the rights of members of the system and the structure of the organisation. The ethics of organisational as well as moral, trust and guideline influence the value that normalises the organisational pathway [37], [40].

2.5.4. Professionalism. One of the traits of a transformational leader is the ability to be professionalism. The shift of the educational transformational school from “leadership” to “professionalism” is relevant as professionalism relates more to competence than skill requiring a high level of trust, and leadership commitment to caring, excellence, and to expertise. Transformational leadership also allows for professionalism in the academic staff by giving them the independence and ability to improve by using own discretion in meeting and overcoming challenges [36], [27].

2.5.5. Vision. Although Burns [9] introduced and described the concept of transformational leadership as a process where leaders and their followers raise one another to higher levels of morality and motivation; Bass [7] extend the concept further by asserting that a transformational leader must set clear goals among other qualities such as acting as a model of integrity and fairness, having high expectations, inspiring people, encouraging and motivating people, and providing support and recognition. Creating and communicating an inspiring vision of the future is important since people need a compelling reason to follow the lead. The leader sets out the organisation’s drive by first understanding the followers’ values, capabilities and resources of the organisation, and conducting an intelligent analysis of the environment – necessary to determine the best way forward. [39], [30].

2.5.6. Motivation. Motivating people to buy into the vision of the organisation and beginning with the

mission statement would inspire followers to shadow their leaders. The vision is often used to encourage people to contribute to the goals and tasks in order to deliver the best outcome. Transformation leadership is however linked to intrinsic motivation of the followers hypothetically and empirically, which brings about positive learning outcomes. It is appropriate to emphasise that intrinsic motivation tends to influence the students' behaviours necessary for promoting learning [8], [39], [1], [3].

3. Others

3.1.1. Sustainable Competitive Advantage. Sustainable competitive advantage is an aspect that transformational leaders should focus on, where they create an environment that has distinctive benefits over other competitors. Transformational leader would need to offer their services in such a manner that would create customer value and enable the customers to have positive influence on the organisational performance [4], [41].

3.1.2. Workplace Relationships. Transformation leaders are also expected to persuade their followers to display extra efforts and be creative when it comes to dealing with complex issues. Such leaders should be able to increase their followers' task performance and give them constructive feedback. Thus, behaviour and motivational strength of the workforce often impact on the well-being of employees and their performance [7], [44].

3.1.3. Staff Self-Confidence. As transformation leadership aims to influence people and enable them to follow the prescribed guidance, it is largely dependent on the confidence of the staff as reflected in their behavior, attitude and body language; thus the higher the self-esteem of the staff, the more realistic expectations are set and achieved. Scholars have argued that lack of confidence or low self-esteem on the part of the staff (teachers) would impact on the students' learning outcome, which could lead to shame, communication problems, social anxiety and lack of boldness.

4. Conceptual Framework for Effective Transformation Leadership in Educational Sector in Kuwait

The researchers have attempted to propose a conceptual framework for effective transformational leadership. This is a holistic framework that indicates the transformation leaders' role and responsibilities in influencing innovation and competitive advantage in organisations. This is due to the assumption that there is no standardised framework that guides scholars and practitioners into research into the relationship

between education and transformation leadership from the perspectives of leadership roles and practices within the Kuwaiti context. As a result, this model consists of two main parts – see Appendix 1; the first part explains the leadership roles and responsibilities by drawing insight from a review of literature and categorising them the following themes: academic leadership, innovation and creativity, behaviours and culture, professionalism and role model, vision and others such as sustainable competitive advantage, workplace relationships, staff self-confidence and student development.

The other part of the framework relates to the leadership practices, which was adapted from AlSharija five main components of leadership practice, are believed to be significant for an effective and transparent leadership change [4]. The researchers, however, describe the fifth component in general terms as 'Head', rather than being specific to 'Principals. Thus, the leadership practices are highlighted as follows: finance management, setting direction, developing staff, building collaboration and principal agency.

5. Research Methodology

The researchers have developed a conceptual model for effective transformational leadership based on literature in order to test and validate this specific area services. Qualitative analytical method is mostly preferred for this research since inductive, the research strategy is unstructured and open and it would be a case study focus. Further, there are limited empirical research materials on transformational leadership within the educational sector in Kuwait that combines the leadership role with the practice. The qualitative approach would therefore enable development of deeper understanding of the leadership role and practice and allows the building of theories and introducing the complexities of the implementation process.

By adopting case study research approach, the researchers intend to select multiple case studies within government ministries and/or parastatal, private and public educational institutions. The anticipated epistemological stance to be adopted is Interpretive since it enabled comprehension of phenomena through the meaning assigned to them. The researchers are hence conducting face-to-face empirical study using research techniques such as face-to-face interview, observation and document analysis to collect data. Data collection will involve the use of a conceptual framework to evaluate and analyse various transformational leadership roles and practices in the study area – Kuwaiti educational sector. Participants will be selected through named contacts from each of the case studies within the private and public educational institutions, ranging from junior to middle and senior managers/ directors,

which are mainly policy and decision makers, change agents and implementer of changes to these institutions.

6. Initial Findings and Analysis

6.1. Initial Findings

Initial findings suggest that the role of transformational leadership is very crucial in modern education, considering the technological advancement in the 21st century and the need for institutions to move with the pace. It was observed in the schools visited that ICT integration plays a crucial part in determining the roles and responsibilities of the leaders, the principals. Further, transformational leadership was linked to job satisfaction and staff capacity as well as students' achievement. The transformational leadership role was authenticated as illustrated in the conceptual framework, that is, academic leadership, innovation and creativity, behaviours and culture, professionalism and role model, vision.

In the same vein, the leadership practices befitting of a change agent are validated as: finance management, setting direction, developing staff, building collaboration and principal agent. Interestingly, the respondents agree that the change agent does not necessarily have to be the 'Principal' as it could just be one of the leaders in the schools delegated to oversee any transformation as such, it was appropriate to have 'Head Agent' or 'Leadership Agent'

7. Conclusions and Recommendations for Future Research

This paper emphasizes on the role and practice of transformational leadership within the Kuwait educational setting. The initial findings have suggested that transformational leadership has a positive influence on organizational performance through leadership roles and practices. Academic leadership in terms of qualifications and capabilities, as well as setting directions - vision, for instance, is necessary for effective transformational leadership.

In spite of the limitations, the researchers believe that the preliminary study has made an expressive contribution to the current literature, especially with the development of a conceptual framework which provides a holistic view of the roles and practices of transformational leadership within the Kuwaiti perspective. However, precaution must be taken in generalizing the initial findings of the study based on the sample size as future research might need to consider demographics such as different cultures and occupations.

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Practicing Education for sustainable development (ESD) in the disadvantaged area of Japan: The role of the NPOs, non NPOs and typical individuals in the recovery of Fukushima after the 2011's disaster (Case study: Minamisoma town, Fukushima prefecture)

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Abstract

1. Introduction

The project “Education for sustainable development” was launched by UNESCO in the year of 2002 and it was endorsed and implemented by many countries including Japan since 2005. Afterward, “2005 – 2014” period was accredited the decade of ESD (DESD). As one of the leading countries who adopted ESD, Japan has taken the big efforts to actualize the ESD's contents in the formal education and social education (informal, non-formal education) as well.

While in the big cities in Japan, formal education (the schools in all levels) tasks the important role in transferring the contents of ESD to the students, in the rural areas and the disadvantaged regions of Japan, social educational institutions or the social groups play the important roles in supporting for ESD's implementation.

In recent years, Fukushima became the special case of Japan. In 2011, a great intensity- earthquake, followed by the tsunami, destroyed the long strip of land along the coast of Fukushima prefecture. It also destructed the nuclear power plant which was located in one of the coastal areas, Minamisoma city, and caused one of the most rarely serious triple disasters in Japan history. More seriously, the disaster also caused a catastrophic “trust crisis” in Japan due to the inconsistent information around the radioactive leakage which was announced by the government and the stake holders.

In such extremely harsh context, many NPO – non NPO organizations were established in Fukushima after the disaster, especially in Minamisoma city. On one hand, they have tried to develop more activities to support for the evacuees and the returners. On the other hand, they became the mediators who connect the government and the local residents. In the term of ESD, these groups and their activities have worked effectively in contributing for the sustainable development of the region. At the same time, they can be helpful for Japan in achieving the ESD's goals by UNESCO.

2. The situation of Minamisoma after the disaster

Minamisoma includes three wards: Odaka, Kashima and Haramachi Ward, among those, Odaka and a part of Kashima ward locate within radius 20km of Fukushima No.1 Nuclear Plant. Therefore, almost of the residents (24,445 people in the time of March, 2011) in these wards had to evacuate after the disaster occurred.

Six years after the disaster, Minamisoma is still in the recovery progress. The data from Minamisoma city hall (August 2016) show that about 85% registered residents returned to Minamisoma, but not all of them could return to their original houses. Moreover, there is still 15% of total resident have not returned yet due to various reasons. In Odaka ward which locates close to the nuclear power plant, although government declare the safe situation from July 2016, however, until this time, there is less than 10% residents returned.

The recovery of Minamosoma has been challenged by many difficulties such as: In some regions, many basic facilities and amenities have not been restored (hospitals/ schools/convenient stores/ transportation, so on); Lack of the labor resources in many fields (engineers, workers, doctors, shopkeepers) due to the disaster evacuation; people still feel scared of the radiation and do not want to return. Furthermore, during and after the disaster, government and the stake holders (the leaders of the nuclear power plant) announced many intransparent information of radioactive leakage, and they launched some inconsistent policies in compensating for the victims of the disaster, these actions provoked the anger among the local residents and undermine their trust in the government. As the result, this threatens the sustainable development of the region.

3. The role of the NPOs, non NPOs and the typical individuals in practicing ESD in Minamisoma

In the hard situation of Minamisoma during and after the disaster, many individuals, NOPs and non NPOs

together organize their own activities to support for the evacuees for example offering providing the map to the evacuation centers, offer the exact information about the radioactive leaks, buying the radioactive testing machines and assigning the experts to help the local residents. After the disaster, those groups and individuals keep supporting people by opening the supporting centers for mothers, building the park for the kids, providing the mental consultants for the victims of the disaster, organizing the movable shops to supply the food and necessities for the returners, so on. Their activities are various based on the needs of the local people and the specific situation. Each organization has her own way to work but they have the same goal: To contribute to the region's recovery and revitalization. In the term of ESD practice, I consider their activities the important parts in actualizing the goals of ESD. However, in comparison with the other region in Japan, ESD practicing in Minamisoma city, due to its specific situation, has the remarkable character, it is the "bottom-up" process. The NPOs, non NPOs, typical individuals, throughout their activities, practiced ESD before they considered that those activities were the parts of the ESD project which should be achieved by Japanese Government.

4. Expected results and further discussion

In my paper, I would like to describe about the Practicing ESD of Minamisoma city, among that, I emphasize on the role of the small NPOs, non NPOs, and the typical individuals in practicing ESD by their own ways and their own activities.

The research based on the results from my field works in Minamisoma. I conducted the surveys, interviewed the local people, the staff members of NPO, non NPOs, and distributed the questionnaire as well. The preliminary result may not reflect sufficiently the practicing ESD in the whole city of Minamisoma, however, I hope it can figure out the motivation of the people who practice ESD in the hardship time and in what extent their valuable works can mobilize and encourage the local residents to contribute for the recovery of the Minamisoma city.

By sharing the result of my research in the case of Minamisoma, I would like to know more about ESD's practicing in the other regions in the world. Furthermore, I wish to receive more ideas, suggestions from the other researchers and experts who study on ESD's practicing improving my research in the future.

Session 4: Teacher Education

Title: Active Learning for Overseas Career Training: Collaboration with Tacit and Explicit Knowledge
(Author: Mayumi Hori)

Title: Quality Teaching Evaluation Instrument-A Student Learning-Centered Approach
(Authors: Thuy Thi Thanh Tran, Hamish Coates, Sophie Arkoudis)

Title: Navigating the Implementation of Professional Standards for Teachers within Initial Teacher Education
(Authors: Call, K., Christie, M., Simon, S.)

Title: Coaching Career Transition, Entrepreneur Tradespeople in Teacher Preparation Field Work: Transformation from Tradesperson to Teacher
(Authors: Kerry E. Black, Sharon L. Moore)

Active Learning for Overseas Career Training: Collaboration with Tacit and Explicit Knowledge

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Abstract

In this paper, I validate the effectiveness of overseas career training with the active learning approach as tacit knowledge. In Japan, classes are often offered in the didactic lecture style where many students are enrolled, and they began to promote a more “Active Learning” style in classes only recently. When considering career education, it is imperative to motivate students and maximize their willingness to work and study. Listening to professionals and experts firsthand accounts of their purpose of career at their working place is a precious lesson for students.

1. Introduction

At universities in Japan, classes are often offered in the didactic lecture style where many students are enrolled, and it is only recently that they began to promote a more “Active Learning” style in classes. Active Learning is a general term of teaching and learning methods in which learners proactively engage in activities, which is the opposite of the traditional lecture-style. Active learning promotes and cultivates general capabilities including cognitive, theoretical, social, and cultural skills as well as broad knowledge and experience. It doesn't only entail discovery learning, problem-solving learning, experience learning, and explorative learning but also group discussion, debates, group work inside the classroom as effective learning methods. Examples of an active learning style include students preparing and giving presentations, then taking part in discussions and debates, or colleges offering experience-based classes such as domestic and overseas fieldwork and volunteering. More universities have started offering internship programs where students visit companies, collect information, conduct research, and find agendas on their own, then seek clues to address these problems through hands-on experience.

Professional skills development in Japan has excessively relied on corporate education and training. In Japan, students study general academic subjects at universities that are less relevant to work, and they receive professional training at companies with their on-the-job training programs. Listening to

professionals and experts firsthand accounts of their purpose of career at their working place is a precious lesson for students. Moreover, it is universities' mission to provide students with professional skills training coupled with career development opportunities, and that effort requires an interdisciplinary approach beyond departmental boundaries. Many Japanese youth quit their job without building a career. If this condition continues, Japan will fall into a critical situation where companies are unable to find competent professionals who serve as central roles in organizations.

2. Overseas career training with the Active Learning approach

2.1 Outline of the training

The overseas career training which the author serve as a coordinator for the program, aims to cultivate general capabilities (cognitive, theoretical, social, and cultural skills as well as broad knowledge and experience) through students' own proactive quest with active learning. The program entails discovery learning, problem-solving learning, experience learning, and explorative learning. It offers two credits and entails completing pre- and post-training guidance in Japan, overseas training at local companies, and compiling a final report. The program started in 2008, and so far has conducted overseas training sessions in California, US (2008, 2009), Paris, France (2010), San Francisco/ Silicon Valley, California, US (2011), and New York City, US (2012-2016), with a total of 69 participating students.

Students who enrolled in the Business Communications II (credit course) can participate in this program. The Business Communications II aims to teach business communication skills that are the foundation and basic requirements for global business people and are imperative for smooth interaction and transaction with colleagues and clients from a variety of backgrounds. Furthermore, it aims to teach cross-cultural communication skills and presentation skills that are essential for global business persons to

exercise leadership, especially when major Japanese companies such as Toyota and Nissan rely on more than 70% of their sales from countries outside of Japan in a progressively globalized world economy. The program invites instructors with experience in international businesses to teach with a hands-on learning approach, as well as industry experts operating globally as guest speakers to give lectures. Moreover, in response to a pre-training guidance request from students, the program invites a master of international protocols to teach table manners and etiquette at a French restaurant with a full-course dinner.

2.2 Overseas career training in New York in 2016

The training took place in early February for 8 nights and 10 days. The purpose of the training was to visit and talk with employees at local companies and a law office in New York City, a creative city in an advanced media nation. The participating students were encouraged to learn about current businesses conditions and the purpose of working overseas, and to utilize the findings for their own career planning by understanding the importance and value of having expertise in a region as diverse as New York City. Below is the summary of the overseas training in New York.

Day 1

All day: Visit commercial facilities in New York City: The Museum of Modern Art (MoMA), The New York Public Library, Broadway musical theatres, luxury brand stores, etc.

Day 2

Morning: Orientation at Global Labo
Afternoon: The United Nations (UN) tour
Evening: The Ride NYC bus tour

Day 3

Morning: Visit and lecture at Moses & Singer LLP, a New York City law firm
Afternoon: Visit Columbia University and campus tour

Day 4

Morning: Courtesy visit to Consulate General of Japan in New York
Afternoon: Lecture at JETRO (Japan External Trade Organization) New York office
Evening: Lectures from Japanese guest speakers working in New York at Global Labo

Day 5

Morning: Visit and lecture at Bloomberg
Afternoon 1: Lecture at the Permanent Mission of Japan to the UN

Afternoon 2: Debate at PricewaterhouseCoopers LLC. (PwC)

Day 6

Morning: Alexander Technique lesson and lecture at Global Labo
Afternoon: Lecture at Kodansha USA Inc.
Evening: Cross industry networking at Global Labo

Day 7

All day: Visit of cultural facilities in New York

Day 8:

Departure to Japan

3. Discussion

According to the knowledge management theory advocated by Dr. Ikujiro Nonaka “there are two types of knowledge: tacit and explicit.” In this theory, the knowledge conversion model, SECI in which tacit knowledge is shared through collaboration with others (Socialization) and converted into a shareable form of explicit knowledge (Externalization), then explicit knowledge is combined with other explicit knowledge (Combination) to create new knowledge. As the new knowledge is acquired and mastered through experience and practice, it becomes one’s tacit knowledge (Internalization), assumes new knowledge is created through interaction between tacit knowledge and explicit knowledge, and is converted from individual knowledge into shared organizational knowledge.

Socialization is the process of acquiring and communicating tacit knowledge through collaboration. Externalization is the process of converting tacit knowledge into a shareable form of explicit knowledge. Combination is the process of combining explicit knowledge with other explicit knowledge to create new knowledge. Internalization is the process of acquiring and mastering newly created explicit knowledge through experience and practice. This interaction between tacit knowledge and explicit knowledge is essential for knowledge creation within organizations, and organizational knowledge creation is therefore a spiraling interactive process between these two types of knowledge. It is important for individual’s knowledge to interact with the organization at large since it provides the opportunity to nurture innovation and to create competitive advantages. Dr. Nonaka states that this is a key factor contributing to Japanese companies that succeeded in the global society in such a short period.

Tacit knowledge is the knowledge that individuals implicitly possess yet are unable or find difficult to externalize by writing or verbalizing. The concept of tacit knowledge was originally developed and introduced by a Hungarian physical chemist and

philosopher, Michael Polanyi (1891-1976) in *Personal Knowledge* (1958) and *The Tacit dimension* (1966) which he described “we can know more than we can tell.”

For example, when scientists, artists, or athletes exhibit exceptional breakthroughs or performance, it is difficult for them to explain how they “knew” what it required them to do in order to make the achievement. Likewise, just because one can recognize someone’s face, it doesn’t mean that it is easy to explain how he or she recognizes the face and describe the details of the face to someone else. It is also difficult to explain how one can ride a bicycle, even if one can ride it with ease. These skills related to recognition, physical accomplishment, and unique talents are composed of small specific elements such as the way you put your feet on the pedals of a bicycle, the way you shift your body weight, etc. But, laying out all these specific small details does not mean he or she explained how to ride a bicycle. Those mastered the skill of riding a bicycle “know” how to ride a bicycle which is not just composed of small details, and that knowledge which is “unable to externalize by writing or verbalizing” is tacit knowledge. On the other hand, objective and rational knowledge that can be verbalized and/or externalized into things like mathematical formulas, graphic charts, and manuals, etc., and is conveyable and sharable is called explicit knowledge.

Education in Japanese universities typically offer classes to disseminate explicit knowledge. However, they do not offer experience-based classes to nurture tacit knowledge, making it difficult for students to connect what they learned in the class into more subjective and personalized knowledge. Students build foundations by taking classes and achieving explicit knowledge, and then convert the explicit knowledge into tacit knowledge through hands-on experience like this overseas career training. Then, this new tacit knowledge is converted into new explicit knowledge by the spiraling interactive process. In career education, it becomes imperative for students to learn how to increase and advance their own tacit knowledge.

In the overseas career training, students gain explicit knowledge in the classroom prior to the trip, then while they are in New York, they achieve both tacit and explicit knowledge through hands-on experiences. Later they combine the newly learned knowledge with explicit knowledge they already have and internalize their New York experience to make it their own tacit knowledge. Therefore, students can combine explicit knowledge with tacit knowledge and tacit knowledge with explicit knowledge, which enables them to further progress and find new ways to apply knowledge. Such mechanism of interactions between tacit and explicit knowledge in the SECI model where you can experience both types of knowledge is extremely important. Thus, this

overseas career training establishes a new form of learning to instill the cyclical knowledge management model as seen in the SECI model.

The Council on Promotion of Human Resource for Globalization Development organized by Japan’s Cabinet Office (June 22nd, 2011, An Interim Report of The Council on Promotion of Human Resource for Globalization Development, retrieved from http://www.kantei.go.jp/jp/singi/global/1206011interim_report.pdf) listed the requirements for global human resources as the following: linguistic and communication skills, self-direction and positivity, a spirit for challenge, cooperativeness and flexibility, a sense of responsibility and mission, understanding of other cultures and a Japanese identity, a broad and well cultivated mind and profound expertise, willingness to find and solve problems, team-work and leadership skills (in bringing together persons of various backgrounds), public-mindedness, moral sensibilities, media-literacy, presentation skills, and creativity and originality. The activities of overseas career training were compared to the above-mentioned factors along with international protocol, another factor the author considers important. Taking particular note of the four elements; tacit knowledge, explicit knowledge, the requirements for global human resources, and the requirements for domestic human resources, each activity was evaluated and quantified by our own criteria to determine the degree it is associated with these four elements. The criteria were generated by taking the criteria of knowledge management and knowledge creation processes into consideration (seeTable1). Furthermore, when the activities were sorted into tacit knowledge, explicit knowledge, global requirements or domestic requirements, most of them were placed somewhere between tacit knowledge and global requirements (seeTable 2).

[The Activities of the Overseas Career Training]

- 1: The Museum, Public Library, Broadway musical theatres
- 2: The United Nations (UN) tour
- 3: The Ride NYC bus tour
- 4: Moses & Singer LLP
- 5: Columbia University campus tour
- 6: Courtesy visit to Consulate General of Japan
- 7: JETRO (Japan External Trade Organization) New Yorkoffice
- 8: Japanese guest speakers working in New York
- 9: Bloomberg
- 10: The Permanent Mission of Japan to the UN
- 11: PricewaterhouseCoopers LLC. (PwC)
- 12: Alexander Technique lesson
- 13: Kodansha USA Inc.
- 14: Cross industry networking (guest speaker: Mr. Yoroku Adachi, CEO of Canon USA)
- 15: Indoor complexes such as Chelsea Market, Macy’s.

Furthermore, upon their return from the overseas career training, they enrolled not only in English classes, but also international relations classes, deepening their ability to understand more specific and concrete global agendas. They became more open to overseas travel, and many students started traveling alone by themselves. They now actively select and find employment at companies operating worldwide. Along with the changes in environment surrounding companies and youth, teaching students not only basic academic skills and specialized knowledge but also communication skills to collaborate with others has become increasingly more important than ever.

The reports submitted by students who participated in the New York training illustrate how much they were inspired and learned, even more so than we the professors had expected. These students will start participating in recruiting activities later this year. It was a great opportunity and the right timing for the students to consider their future. It would be meaningful to conduct a survey after their graduation and find out which aspects of the training were beneficial and influential to their later career, and then reflect the findings onto the planning of future trainings.

The fact that roughly 80% of freshmen and sophomores in Japan have never considered their career choice suggests the important role career education and placement support can play in colleges. Career education and placement support should be offered from the freshmen year instead of the junior and senior years. Many colleges in Japan still don't recognize career education courses and placement support guidance for credits. As a result, it is only when students enter the junior and senior year that they become serious about the job search; however, colleges should offer career education classes as basic requisites with credits as soon as students enter the college, and offer detailed instructions and off-campus career related opportunities such as internship programs with active learning approaches during their freshmen and sophomore years.

In recent years, more colleges have started to engage in career education efforts. Nonetheless, students' utilization and participation in career education activities is limited, and it is not well integrated into a whole college education from entry to graduation in a four-year program. Our overseas career training with the active learning approach is highly valuable and influential for students not only as career education activities, but also for their lives at large. The program offers students the opportunity to engage in conversations with professionals and experts, to actually visit their offices, and to learn in a group work setting overseas. The active learning approach enables students to engage in independent and proactive learning, and to cultivate general

capabilities (cognitive, theoretical, social, cultural skills) as well as broad knowledge and experiences. It entails discovery, problem-solving, experiential, and explorative learning, all which make the whole learning experience more satisfying. It is highly recommended to incorporate an overseas internship program with the active learning approach into the curriculum, especially during early college years. It would motivate students to envision their career goals and plans earlier and serve as the catalyst for building a stronger foundation for becoming more proactive and independent individuals who can thrive in the recruitment activities following their junior year.

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Quality Teaching Evaluation Instrument-A Student Learning-Centered Approach

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Abstract

Evaluation instruments of teaching are abundant; however, these do not prompt any enhancement in the quality of teaching, not least because these instruments are framed only by teacher-centered conceptions of teaching. There is a need for more sophisticated teaching evaluation measures that focus on student learning and multi-stakeholder involvement. This study aims to develop such an evaluation instrument for Vietnamese higher education. The study uses several kinds of methods. The instrument was initially drafted through in-depth review of research, paying close attention to Vietnamese higher education. Draft evaluation instruments were produced, and reviewed by 34 experts. The outcomes of this qualitative and quantitative data reveal an instrument that highlights the value of a student-centered approach, and the rich integration of contextual and cultural traits where Confucian values are emphasized.

1. Introduction

When globalization of higher education has been speeding up, when education sector and student diversity has been expanding, when the digital era has been advancing rapidly and when a 21st century skilled workforce has becoming essential, quality teaching has increasingly become an issue of high significance [4]. There are myriad approaches to promote teaching, evaluation is one of such ways [25], [26]. However, the definition of quality teaching, the indicators used to measure it, the methods of getting teaching evaluated are still under controversial debate. This study seeks the answer to the question **“What is a conceptually rigorous instrument for quality teaching evaluation for Vietnamese higher education context?”** To answer this, the study firstly conceptually defines the notion quality teaching and its indicators, secondly analyses the existing teaching evaluation practices in Vietnamese higher education context, and finally develops the instrument basing on the extensive documentation review and rigid expert review.

2. Understandings of quality teaching

The ideas of quality teaching have changed over time because the society has accordingly “shifted its values and concerns” [14]. In the early 1900s, teachers should be the examples for students to follow. Moving to the middle of the 20th century, quality teaching stressed teacher pedagogical competence [14]. The focus of quality teaching in the 21st century was less concerned with teachers’ attributes or teachers’ teaching skills, it was more involved in teacher competence in engaging student in learning through which student learning can be improved [14], [15], [16], [17]. Quality is a complicated term and implies multiple meanings [2], [4]. asserts that effective or quality teaching leads to student success in learning and successful teaching facilitates the positive changes in students [18]. To make such thing happen, teachers need to endeavor to engage students in the learning activities that result in learning success [2]. Bain [19], Kember and McNaught [20] stress the student engagement in critical thinking and authentic learning tasks. Trigwell [21] and Kanuka [22] highlight the process of “knowing how students learn” and “knowing how students experience” through which the learning outcomes are enhanced. Angelo [23] confirms that quality teaching is “simple; it is to make student learning possible”, and it affords high quality student learning. To recapitulate, quality teaching is student learning centered which brings about student active engagement and student satisfaction in their learning experiences, which then leads to positive changes in student growth.

Some learning models advocate that student learning should be the center of quality teaching. Presage-Process-Product (3P) model is concerned about four areas of student learning including student characteristics, contextual features students’ approaches in learning [24]. These factors are closely related to each other, all aiming to improve student learning outcomes. Likewise, [1] sees activities that facilitate the achievement of learning outcomes as “deep” approach rather than “surface” learning. Emerged from mega data analysis, visible learning

[20] looks at both teachers and students, two active players in the student learning process. Hattie asserts that “when teachers become learners of their own teaching, and when students become their own teachers”, effective learning will happen. Thus, teaching and learning are transparent for them, and “it is visible teaching and learning by teachers and students that makes the difference” [20]. Twenty-first Century Skills (P21) framework [27] underlines the establishment and development of such high-level skills to meet the challenges of 21st century labour forces as critical thinking, communication, collaboration and creativity skills. Assessment for Learning in Higher Education focuses on important features in assessment and feedback to make students more engaged in learning and thus to bring about student learning growth [13].

3. The question of What and How

Two main concerns need to be raised in the development of quality teaching evaluation instrument, i.e., the questions of what and how. What refers to the facets of quality teaching to be considered in evaluation, and How denotes the approaches of evaluating and discusses who should involve in the evaluation process.

The aforementioned learning models underlie the domains and subdomains of the teaching evaluation instrument of this study. 3P model [24] suggests the inclusion of student experiences, course designing and planning, teaching methods, deep learning representation which involves some high level of thinking such as critical thinking, problem solving by reflecting, analyzing, applying, synthesizing, evaluating and creating. Visible learning [20] initiates the ideas of making the course design and all the learning activities transparent and engaging. P21 model [27] shed light on putting on more weight of critical thinking, communication, collaboration and creativity skills in the teaching evaluation instrument. Hence, there will be multiple items in the instruments that express these skills like pair work, group work, peer reflection, or group projects. Assessment for learning [13] helps to frame the items of assessment and feedback domain which describes the practices of summative and formative assessment in learning, assessment task design, diverse formal and informal feedback alternatives, and myriad self-reflection, peer and group activities.

The item development is also backed by some individual scholar perspectives. For example, Biggs, 1999 believed that motivating and facilitating student learning skills are significant. Hativa affirmed that only by “making the lesson organized; making the lesson clear; making the lesson interesting and engaging and creating a positive classroom environment”, can quality teaching happen [1]. Plessis, was more inclined to planning and designing

learning activities including learning materials, assessment tasks. Besides, Plessis stressed the importance of exercising continual reflection and effective assessment which will result in high levels of student engagement. Like Plessis, [5] was in favour of effective design of curriculum, course content and effective assessment of learning outcomes. Apart from these, Roseveare pondered the employment of diverse learning styles such as guided independent study, project-based learning, collaborative learning, experimentation, etc., well-adapted learning environments and student support services [5]. Prosser [45] took the issue of student engagement seriously. From his perspective, as long as teachers can make students engaged in their learning process, will the quality teaching occur. In order to achieve this, teachers need to get excellence in teaching, excellence in curriculum design, renewal and innovation, excellence in leadership and scholarship of learning and teaching [45]. Hunt and Chalmers synthesized that to get student engaged in the learning, teachers need to have a thorough understanding of how students learn, inclusive and supportive learning environment; curriculum development; assessment and feedback to students; scholarship and reflective practice, and continuous quality improvement [7].

To summarize, the instrument development of this study does not rely on a single model of student learning. It is the skillful combination of multiple models and individual views, paying close attention to the contextual features of the domestic higher education which will be discussed in the later part of the paper.

The question of “how” refers to who should involve on the evaluation process, and what kinds of evidence should be resorted in teaching evaluation. This paragraph will discuss the merits as well as the drawbacks of some common measures of teaching evaluation. Student evaluation of teaching or SET is mostly utilized by higher education institutions. Those who favor this measure point out that the method is relevant because it collects the opinion of the students, who have the most exposure to the teaching of the teacher and hence the most accurate idea of his/her teaching practices. Students are also those individuals who are the most directly concerned and influenced by the teaching. Students’ ratings of teaching may encourage students to reflect on their educational experiences that could contribute to their learning [28]. However, teaching staff has generally very little faith in student evaluation [29]. To respond to this practice, teachers might adopt some harmful short-term strategies such as teaching less difficult material, more generous marking, or “being nice” in class to get a high grade in students’ evaluation of teaching [9], [33]. Therefore, SET is not recommended for salary increase, tenure, and promotion. Instead, it should be used as a means to give feedback to teachers [33]. Another popular

method of teaching evaluation is peer evaluation. Pagani [40] describes peer review as a tool for change, allowing individuals to improve their performance, ensuring that standards being met, and helping to identify best practices. If SET measures the outcomes of teaching, peer evaluation measures the process of teaching [34]. Nevertheless, teachers getting evaluated tend to seek harmony and avoid conflict in the process; thus, adopting conservative teaching and not being innovative [35], [36], [37]. Utilizing teachers' portfolio for teaching evaluation is a possible measure. Teachers' portfolio comprises what teachers have prepared for the whole course including syllabus, designed and planned activities, assessment tasks, rubrics for marking, feedback forms, etc. Therefore, it is a valuable technique because it is based on multiple sources of evidence [31]. However, the problem is that it is difficult to agree on which evidence should be included in the portfolio and on how much each of these evidences should be weighted [31]. More recently, educators tend to collect qualitative feedbacks for quality teaching evaluation [32]. Jones notices that today quantitative feedback is often administered by the central administration through student questionnaires, but that at the same time there always exists an opportunity to collect rich qualitative feedback at the decentralized educational level that could complement the quantitative feedback [32]. Nonetheless, interpreting transcripts from the interviews could be both protracted and biased. Teachers' satisfaction is a good predictor of the quality of their teaching. "The measurement of staff experience and satisfaction has received extensive support from the literature as a highly useful indicator but to date has not been widely employed in higher education institutions". "Perhaps the most important assessment indicator as an institutional level outcome measure is the value of graduates" [38]. Graduates who are efficient on the working place are often those who benefited from teachers. However, employment rates do not distinguish between the different types of jobs that the recent graduates hold; hence, they are not a fully accurate measure of the graduates' employability [39]. In a nutshell, there is a high necessity to develop quality teaching evaluation that centres on student learning, that involves in all the stakeholders in the process and that employs both quantitative and qualitative data. Teachers and students, the two main agents, can play active and creative roles. They will also be the main beneficiaries as both of them can have their own reflection enhancing their learning.

4. Quality teaching evaluation in higher education institutions in Vietnam

In Vietnam higher education context, the only formal source to evaluate teaching staff is through students. Since 2010, the Ministry of Education and

Training has guided universities and colleges nationwide to get feedback on lecturer performance from students. The evaluation survey focuses on seven aspects: (1) teaching preparation, content and methods of teaching, (2) material development, (3) behaviors, responsibilities as well as the devotion of lecturers to learners, (4) the enthusiasm to motivate students in learning creativity, independent thinking, (5) the ability in testing and evaluation, (6) consultation capacity in organizing and managing learner's learning activities, (7) and the pedagogical manners in educational environment [47]. This instrument highly featured teachers' characteristics and their instructional behaviors whereas learning outcomes and student learning were neglected, which suggested a certain view of teaching- the view that centered in teachers and their teaching rather than students and their learning [11]. Actually, this instrument was not designed on the basis of an explicit contemporary theory of teaching and learning, nor on a research-based rationale. Instead, the Guideline was based on the Directives of the Prime Minister, the Minister in charge of MOET, and on the experiences of several leaders in HEIs. The lack of theories of teaching and learning may derail the Vietnamese government's attempts to improve the quality of teaching. As several studies have cautioned that confusion may be created rather than the improvement of teaching and learning, should SETs continue to be designed without explicit theories of teaching and learning [10], [11].

Tran [44] proves that there have existed three downsides of teaching evaluation practice in Vietnam: summative rather than formative evaluation; teacher-oriented evaluation rather than student learning focus; and a "one-way" discussion rather than "mutual exchange" between the evaluated and the evaluators [11], [44]. Therefore, quality teaching evaluation needs to be formative, student learning-based and the evaluation practice should be transparent, collaborative and constructive.

There is a need to develop SET underpinned by student-centred approach to teaching evaluation. This instrument will become the student evaluation of learning and learning outcomes, providing feedbacks for teachers, colleagues, supervisors and students themselves about what each stakeholder needs to do and change to achieve the intended learning outcomes, enhancing for both educators and students.

5. Methodology

To answer the research question, the study used several kinds of methods. First, it used extensive desktop review for a wide range of key topics that are closely related to quality teaching. From the thorough insights gained, a draft instrument including domains, concepts and items of quality teaching was conceptually developed. Next, expert review was used

to refine the draft instrument. The pool of the experts was selected via Australian university websites and the researcher networks. The experts are those whose expertise are tertiary teaching, teaching evaluation, student learning and instrument development. Besides, participants in this study also include experienced lecturers from Vietnamese universities. They are real practitioners, so they can provide with fresh ideas on quality teaching evaluation bearing the contextual and cultural factors in their mind. 34 experts accepted the invitation to participate in the study, and they were asked to rate the importance of each item and to provide comments to make necessary additions or revisions regarding the face and content validity for the instrument. The study used four-point Likert scale of importance (Not important at all (1); A little important (2); Important (3) and Very important (4)). Being aware of the weakness of using four-point Likert scale, the researcher did not want to receive neutral response from the experts, which is highly likely to happen.

6. Findings and Discussions

Expert review (n=34) provided the study both quantitative and qualitative data. Basically, consensus among experts can be decided if a certain percentage of the votes falls within a prescribed range [46]. One criterion recommends that consensus is achieved when at least 70 percent of participants rate three or higher on a four-point Likert-type scale [30]. Accordingly, 12 items will be removed, and 68 items will be retained. These retained items might be revised or even omitted basing on the qualitative data as well. The study gained rich resource from the experts, when almost all of them give specific but still insightful comments.

There are some overall findings, one of which is *“Teaching is not delivered like a parcel, but enacted in a relationship”*; therefore, experts advised to reword the name of the second domain from *“Instructional Delivery”* to *“Instructional Strategies”*. Second, the entire concept 9 which is about *“Targeting diverse learning needs, styles and interests”* is recommended to be omitted because *“Adjusting to individual characteristics in a heterogeneous class can be hard and infeasible in the context of Vietnam where on average, each class at universities can reach up to 50 students”*. One expert even criticized seriously that *“Matching learning styles is rubbish. No research establishes such things as learning styles. The point of education is to move learners on, to the Unknown, so don't lock them in to some imaginary "style". Delete.”* Similar suggestion is for concept 15 which is about *“Managing student behavior”*. *“Punishing and providing rewards is fraught with difficulties at university level”*, more critically *“This list is rubbish. It assumes learners are robots and can be programmed”*, and more

importantly *“this concept is vague and difficult to observe and evaluate, remove it”*. Experts also advise adding one more concept in the list *“Support student learning”*, which is increasingly important for a developing education like Vietnam. Concept 9 and 15 are supported by the literature review, but these concepts are not feasible with the context of Vietnam higher education, they should not be kept in the instrument.

Apart from the aforementioned overall findings, two significant themes were emerged from the 34 experts' comments. The first theme is building a teaching evaluation tool that focused on students and student learning. This core of quality teaching evaluation tool is an interesting coincidence with what the recent literature review supports and what the empirical studies represent. Building the items around the learner-centered approach implies that the items represent the learning activities. By doing so, students are put in the center of teaching evaluation and students can themselves reflect their learning, and thus, enhancing their learning. Some quotes below from the experts favor this happening throughout the instrument:

“set the learning goals that are specific and challenging to students”; *“some of the Ss might go far beyond expectation”* (Domain 1, concept 1).

“An assessment might not be 100% consistent with the lesson objectives. Some advanced Ss would want something more challenging which allow them to show their real ability”; *“Consistency is important but not enough, if all that is being assessed is what was 'delivered' we've become robots, no innovation no thrill of discovery no surprise, no "Eros" in the learning”*; *“Planned assessment tasks that gradually foster student capabilities”* (Domain 1, concept 2)

“We can try to do too much for the students. I think we should back off, and not program students as heavily as we do. They SHOULD have to go find additional materials themselves. That is something they have to learn to do. Out in the big world of work after graduation, there is mostly no one but themselves to go hunting for relevant material. This is a key part of learning what is relevant and what is not relevant” (Domain 1, concept 4)

“let students feel welcoming and socially comfortable”; *“welcomed to ask questions and have contributions”* (Domain 4, concept 12)

“The most important indicator of 'culture for learning' is whether the instructor encourages students to feel part of a community committed to learning” (Domain 4, concept 13)

In addition, the intended learning outcomes should be the cores of every teaching and learning activity including teaching evaluation practice; all parties need to be involved in the process. Given the items are established around learning process, and teachers can see their practices through the learning of the students, and thus, develop their profession continuously. Apart from the two active players, students and teachers, colleagues and supervisors of the teacher also play pivotal role in the process. They observe, share, play and create innovations with teachers. They are also beneficiaries of the teaching evaluation process because through such collaborative doings, every stakeholder feels comfortable and meaningful because evaluation is not for supervision, criticism, and promotion, evaluation drives learning and evaluation drives growth.

Another significant theme is the incorporation of cultural values into the evaluation tool. The experts asserted that *“cultural relevance of all of items is paramount”* and *“The provision of a context would be very helpful. What works in the so-called West may not be appropriate for another cultural context. A number of Western Universities have tried to just transfer their packages to Asia without given due consideration to cultural expectations”*. The experts also believed that *“A one size fits all is not an appropriate quality teaching evaluation tool to be investigating or developing”*, they gave specific comments *“Build in Confucian values; build out behavioural psychology. And we need lots of Pho. Pho sure.”* Pho, a popular beef noodle, is a symbolic culture of Vietnamese food. This expert advised to put more Pho, he meant to put more cultural values into the quality teaching evaluation instrument, where he thought Confucian values play essential role.

Vietnam, together with China, Japan, Korea and Singapore, was influenced by classical Confucianism [42], [43]. This long impact was represented in every corner of the country life where collectivism and collective strength are illuminated. Confucian philosophy resonates with the “Learning and Innovation Skills” in the P21 framework, namely critical thinking, communication, collaboration and creativity [42]. Actually, the instrument was drafted basing on twenty first century skills (P21) framework [27] in which communication, collaboration, critical and creativity thinking skills were highlighted (25 items contains pair/group/team work; and 21 items express critical and creativity thinking skills). Followings are some typical quotes from the experts who support the integration of collective activities, communication, collaboration, critical thinking and creative thinking skills:

“involve and or motivate students' engagement in class activities by individual, pair/ group work”; *“Add an item about challenging the students, pushing them into new thinking”* (Domain 2, concept 5)

“let students have time to read/explore and reflect”; *“teacher's presenting materials is not as important as inspiring them and showing them the way to discover the knowledge. I think telling is less important than doing/ letting them do”* (Domain 2, concept 6)

“Small group discussions for students who are reluctant to talk” and *“Surely, group discussion is preferable to Q & A”* (Domain 2, concept 7)

“Encourage Ss to ask their own questions is most important as it shows both Ss's interest in the lesson and his ability to think critically...” (Domain 2, concept 8)

“interaction between instructor-student, student-student is encouraged and arranged during the lesson”; *“Establish a learning platform, excursions, incursions, small groups”*; *“Most of life is experienced in small groups, such as families; classrooms are not normally small groups, so why not build this in from Domain One onwards?”* (Domain 4, concept 14)

Communication and collaboration were illustrated throughout the instrument, with many items containing pair work, group work, team projects. Through such collective activities, learners ought to be able to “communicate clearly” and “collaborate with others” [27]. Through teamwork, learners are also able to “articulate thoughts and ideas effectively in diverse environments” and “use communication for a range of purposes” [27]. Through peer assessment and reflection, learners might develop the ability to “listen effectively” to each other, to understand “knowledge, values, attitudes and intentions” (p.55). Trilling and Fadel also asserted that through team projects, learners not only “work effectively and respectfully with diverse teams” but also “exercise flexibility and willingness to be helpful in making necessary compromises to accomplish a common goal” (p.55). “The importance of communication and collaboration in the Confucian tradition is emphasized to an even deeper degree than the P21 framework” [42]. “Confucian philosophy buttresses the P21 framework in its emphasis on the need for learners to articulate their thoughts and ideas, being adaptable to diverse environment, listening effectively, and exercising flexibility when working in teams” [42].

In addition, it is important that students are able to “synthesize and make connections between information and arguments” [27]. Confucius does not merely memorise, but analyses, interprets, evaluates, summarises and synthesises what he learns, all of which are important aspects of critical thinking [42]. This higher-order thinking skills were also embedded throughout the instrument.

Creativity is the core of the instrument as well. Trilling and Fadel believed that a learning environment that nurtures creativity is one that fosters “questioning, patience, openness to fresh ideas” and “high level of trust” (pp.57-58). All these four aspects can also be seen in the Confucian tradition [42], and these aspects are established in the instrument.

In brief, Confucian values are integrated in the instrument in the way that collaboration, communication, critical thinking and creativity skills are emphasized throughout the items. These skills are also buttressed by the twenty first century skills (P21) framework, and it means that the developed instrument of this study is supported by the literature.

7. Conclusion

This study has filled in gaps that the instrument for quality teaching evaluation needs to be established around student learning and the process of teaching evaluation needs the involvement of major stakeholders. They are students, lecturers, colleagues, supervisors and they are active players in the teaching and learning process. With the instrument stressing student learning, the evaluation is turned out the evaluation of student learning, through which students see their learning and through which teachers reflect their teaching. By doing so formatively, students can enhance their learning and teachers can enrich their continuous professional learning agenda.

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Navigating the Implementation of Professional Standards for Teachers within Initial Teacher Education

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Abstract

The Australian Federal Government's response to perceived poor results in international tests was to mandate the development of a set of national standards for teachers. Implemented at all levels of teaching, the Australian Professional Standards for Teachers (APST) now play a significant role in the training and assessment of pre-service teachers. This paper identifies how pre-service teachers in their final semester of study feel about the APST and what they identify as their needs in relation to them. The paper also offers a Targeted Intervention model (TI) as a way of mitigating pre-service teachers' perceived feelings about the APST by explicitly supporting their needs in relation to them.

1. Introduction

In response to continued poor results in the Programme for International Student Assessment (PISA), the Australian Federal Government set about to reform the preparation of new teachers and the practice of current teachers in an effort to improve student outcomes. Consequently, they established the Australian Institute for Teaching and School Leadership (AITSL) and mandated the institute to develop and implement a national set of professional standards for teachers. After consultation with stakeholders Australia wide, AITSL established the Australian Professional Standards for Teachers (APST) in 2011. Developed for all levels of teaching, from pre-service teachers through to qualified teachers, the APST are grouped into four sequential Career Stages; Graduate, Proficient, Highly Accomplished and Lead Teacher. The APST were implemented with the aim of promoting excellence in Australian Schools, professionalizing teaching and providing a quality assurance mechanism that promotes high quality teaching and ensures improved student outcomes [1].

It is understood that the key to the success of the APST will be in ensuring that the profession use them as part of their practice, and it is believed that one way to achieve this is to ensure engagement with them during Initial Teacher Education (ITE) [2]. Therefore,

it is no coincidence that the APST were designed to begin with pre-service teachers undertaking ITE programs of study.

2. Background

In 2014, due to the increased appetite for improvement in teaching standards, a review of ITE programs was carried out by the newly created Teacher Education Ministerial Advisory Group (TEMAG). The role of TEMAG is to advise the Federal Minister for Education on how ITE programs could better prepare pre-service teachers. Later that year TEMAG released their report, Action Now: Classroom Ready Teachers which recommended, in part, that there should be a strong quality assurance of ITE programs and robust assessment of pre-service teachers [3]. In response to these recommendations, the federal government mandated AITSL to drive improvement within ITE programs Australia wide. Consequently, on AITSL's directive, and facilitated by state ITE regulators, ITE providers are now required to pass a revised accreditation process for each ITE program of study. This strengthened accreditation process requires ITE providers to demonstrate that their programs of study prepare pre-service teachers to be taught, have opportunities to practice and be 'robustly' assessed against the APST at the Graduate Career Stage [4].

The implementation of the APST and subsequent TEMAG recommendations, alongside the new ITE accreditation requirements, all serve to demonstrate the shifting landscape within ITE programs. However, implementation – 'the process of putting a decision or plan into effect' [5] - can bring with it unique issues for stakeholders which are often more complex than the innovation that is being implemented [6]. During this five-year period of implementation pre-service teachers have been required to not only learn to be professional educators, but also to now prove that they have succeeded in terms of the APST. They are required to be assessed against the APST, at the Graduate Career Stage, within their university-based assessment items (coursework) and their school-based Supervised Professional Experience (SPE) reports.

Crucially, in their final semester, they are also required to prove that they have met the APST at the Graduate Career Stage to enable them to graduate and find employment in the profession.

Whilst the federal government directed AITSL to set clear expectations that pre-service teacher assessment items must align with the APST at the Graduate Career Stage, they have and continue to face a significant challenge in ensuring all assessors mark and moderate with the same expectations and level of rigor. Furthermore, the federal government also requested that AITSL support ITE providers and schools to help pre-service teachers better understand how they can prove that they are 'classroom ready' [4]. Ensuring that all ITE providers and assessors of pre-service teachers provide a consistent response to the preparation and assessment of pre-service teachers is a significant challenge. Whilst AITSL has developed a range of support mechanisms to assist in this process, these factors make the APST a high stakes component of the undergraduate degree for pre-service teachers in Australia. Whilst few stakeholders would argue against improving the standards of teaching demonstrated by pre-service teachers, the impacts of the implementation of the APST on this important stakeholder group is unknown.

3. Research Aim

This research aims to better understand pre-service teachers' experiences of the APST during the five-year period since implementation. The research took place at a regional university in South East Queensland, Australia. Pre-service teachers within the undergraduate four-year (full time) Bachelor of Education (Primary) program participated in the research. At this university, pre-service teachers in their final year of the Bachelor of Education (Primary) must demonstrate meeting the APST during their final SPE related course. They must also submit an e-portfolio that provides evidence of how they have achieved all the APST. Evidence from their SPE might take several forms, including but not limited to; lesson plans or lesson sequences, observations and reflections, assessment and feedback to students. Evidencing their practice against the APST provides pre-service teachers with a significant opportunity to interact with each of the 37 descriptors within this set of national standards. This process affords pre-service teachers with the opportunity to connect the APST to their own practices and experiences [7]. Applying the APST in this way positions this core group of stakeholders as valuable contributors to new knowledge about pre-service teachers' feelings towards the APST and their needs in relation to them.

4. Methodology

This piece of exploratory research used qualitative

approaches within a Case Study methodology to explore the contemporary phenomenon of the implementation of a national set of professional standards for teachers through the experiences of one stakeholder group. As a piece of empirical research, this case study specifically set out to better understand pre-service teachers' feelings and needs in relation to the APST.

Pre-service teachers in their final semester of study at the end of the academic year in 2016 were the focus of this research. This group began their undergraduate degree after the implementation of the APST and have had the benefit of four years insight into the APST and its application to their teaching. This cohort consisted of 85 pre-service teachers, with 67 being female and 18 being male.

To ensure the validity of the phenomenon being explored a range of data collection methods were used [8]. The multiple methods applied here were; survey, focus groups and document analysis. These methods provided structured and semi-structured forms of data collection to occur. The number of participants in this research would not offer a high chance of statistical significance or provide generalizability. However, it is believed that by applying the methods selected, it will provide the scope to offer transferability to relative cohorts of pre-service teachers. This offers practical significance to this population type, regardless of group size [9]. Furthermore, the insights provided by these participants would make a valuable contribution to on-going and future implementation of professional standards for teachers at the undergraduate level.

4.1. Surveys

Pre-service teachers from the designated group were invited to participate in a short online survey relating to a broader research project on the APST. The survey utilised Likert Scale questions and provided the opportunity for additional comment responses to these questions. The comment responses were the focus of this research, giving a rich insight into their feelings and needs in relation to the APST. In total, 29 (34.11%) of pre-service teachers studying in their fourth year of the Bachelor of Primary Education participated in the survey.

4.2. Focus Groups

Pre-service teachers from the designated cohort were invited to participate in two focus groups. The focus groups were conducted by two of the researchers using a semi-structured format. To ensure objectivity, questions were developed from the results of survey data. Participants were given the opportunity to expand on their answers and discuss their thoughts within the group. In total, 9 (10.58%) of this cohort of pre-service teachers participated in

the focus groups. Three attended the first and six attended the second. The focus groups were audio recorded and then transcribed. Participants were de-identified at this juncture and given numbered pseudonyms, such as *Student One*.

4.3. Document Analysis

Document analysis provided this research with a means of triangulating the same phenomenon using different data [10], offering ‘a confluence of evidence that breeds credibility’ [11] and supports the researcher in addressing bias [12]. Within tutorials and workshops pre-service teachers were invited to anonymously document questions, comments or feedback before, during and/or after the sessions. Of the 85 pre-service teachers 22 (25.88%) provided a piece of written documentation. Pre-service teachers were also invited to provide a piece of written advice for their first-year counterparts. Ten (11.76%) pre-service teachers provided advice.

This method of data collection enabled the researchers to identify convergence of themes, providing verification of the findings from both the survey and focus groups, ensuring a greater level of credibility [13].

5. Results

In the first instance, the data from each individual dataset was viewed to ensure familiarity with the data. This was then trawled to identify text that was pertinent to the research and that which was not. Pertinent text related either directly or indirectly to the APST and was documented verbatim. An example of pertinent text included, “Nobody told me how important the APST are”. Text that made no direct or indirect reference to the APST was identified as unrelated to the research and set aside. An unrelated item might contain a question about the practical aspects of their upcoming SPE. Ten further examples of pertinent text from each dataset have been provided in Table 1.

Table 1. Pertinent text examples

Pertinent Text from the Survey	
1.	Everyone has a different explanation of the APST.
2.	I didn't realize I had to know the APST now, I thought they were for teachers!
3.	I don't understand how to use the APST.
4.	Lecturers don't connect the content to the APST.
5.	Nobody told me how important the APST are.
6.	We should be encouraged to use the APST in tutorials.
7.	We need more support in getting to know the APST.
8.	Lecturers need to connect the learning and assessment to the APST so we understand it.

9.	We should connect everything to the APST from the start.
10.	I would like to choose my own e-portfolio platform.
Pertinent text from the Focus Group	
1.	Supervising teachers don't even know about the APST.
2.	We weren't informed early enough about them and about collecting evidence.
3.	Nobody has prepared us to use the APST.
4.	They need to tell us how what we are doing on prac [SPE] is related to the APST.
5.	I wish we had learnt to connect assignments to the APST.
6.	We should have been told about this in first year.
7.	The assessment should link to the APST explicitly.
8.	We need help to identify evidence.
9.	It helped me when we talked about what evidence was.
10.	I wish I had started evidencing in first year.
Pertinent Text from the Document Analysis	
1.	Why do I have to use this...I'll never have to prove this again as a teacher.
2.	We should have started this earlier...like first year!
3.	What if my supervisor has a different interpretation to me?
4.	What if I don't have evidence to meet one of the standards?
5.	Who checks my evidence?
6.	Find a group of friends and support each other with things like evidencing.
7.	I like sharing my evidence and getting ideas from others.
8.	I want to set my own goals.
9.	Can I choose my own e-portfolio platform?
10.	Gather evidence along the way.

At this stage it was observed that the term *Evidence* was referred to directly in 35.21% of the pertinent texts, examples being; misunderstanding in relation to what evidence is, a lack of knowledge about how it is used and inexperience in *Evidencing*. Due to a large number of references to these terms, and their significance to the research aim of identifying pre-service teachers' feelings and needs in relation to the APST, the term was highlighted within each data set. This process provided the means to map how the requirement of gathering evidence of their practice against the APST is being received by pre-service teachers.

All pertinent text was collated within a Data Analysis Matrix (DAM), a structured repository for documenting text according to pre-determined criteria. Adopting a matrix within the data analysis phase provided a practical and systematic means of organizing the data for ease of viewing and to support further detailed analysis [14]. In this case data from each method was set against data from two predetermined text types; direct and indirect

references to the APST. A direct reference to the APST might be, "I do not understand the APST". An indirect reference to the APST might be, "I need help to evidence my practice". The APST was directly referred to in 37.58% of the data across all contexts. The majority, 22.5% was attributed to survey data. The remainder was attributed to the focus group data. No direct references were made to the APST within the documents analysed, however, indirect references were made.

After the data had been organised into the DAM, all pertinent data were systematically analysed using two sequential forms of coding; open and then axial. Open coding enabled the data to be explored for distinct concepts which were then grouped into Subordinate Themes. A range of responses was recorded that traversed all three data sets, including but not limited to; being overwhelmed by the APST, lacking understanding about the APST and providing advice relating to how they would like to have been taught in relation to the APST. These responses were grouped into 27 subordinate themes as shown in Table 2.

Table 2. Subordinate themes

Subordinate Themes
1. Misunderstandings
2. Lack knowledge
3. Inexperienced
4. Different interpretations
5. Not explained
6. Connections to course content not explicit
7. Overwhelming
8. Lack of understanding
9. Not enacted by Supervisors
10. Not explained by lecturers
11. Not encouraged
12. Lack of support
13. Subjective assessment
14. Differing expectations
15. Differing views
16. Encourage online support tools
17. Provide support sessions
18. Lecturer, tutor and supervisor reinforcement
19. Lack of support
20. Early engagement with the APST
21. Connect the APST to goal setting
22. Embed APST into course content and delivery
23. Connect APST to SPE
24. Personal choice
25. Independent
26. Capable
27. Professional pride

The application of the DAM, and subsequent open coding, ensured that the 27 subordinate themes could be reviewed and connected back to their original context (survey, focus group or document). Whilst all 27 subordinate themes traversed the three datasets this

process of review highlighted themes that were more prevalent within specific data sets. The document datasets contained the most references to the theme *Misunderstandings* about the APST. An example of this being, 'Why do I have to use this...I'll never have to prove this again as a teacher'. The focus groups contained the most references to the theme *Early engagement with the APST*. An example of this being, "We should have been told about this in first year". The survey contained the most references to *Lack of support*. An example of this being, 'We need more support in getting to know the APST'.

Following this, axial coding was applied to the subordinate themes and superordinate themes were generated. Six distinct themes emerged; confused, frustrated, judged, support, experience and autonomy. The superordinate themes fell into the two categories feelings and needs; feel confused, feel frustrated, feel judged, need support, need experience and need autonomy (see Table 3).

Table 3. Superordinate themes

Subordinate Themes	Superordinate Themes
1. Misunderstandings 2. Lack knowledge 3. Inexperienced 4. Different interpretations 5. Not explained 6. Connections to course content not made explicit	Feel Confused
7. Overwhelming 8. Lack of understanding 9. Not enacted by Supervisors 10. Not explained by lecturers 11. Not encouraged 12. Lack of support	Feel Frustrated
13. Subjective assessment 14. Differing expectations 15. Differing views	Feel Judged
16. Encourage online support tools 17. Provide support sessions 18. Lecturer, tutor and supervisor reinforcement 19. Lack of support	Need Support
20. Early engagement with the APST 21. Connect the APST to goal setting 22. Embed APST into course content and delivery 23. Connect APST to SPE	Need Experience
24. Personal choice 25. Independent 26. Capable 27. Professional pride	Need Autonomy

This systematic method of analyzing qualitative data provided the opportunity for concepts to emerge from within the data. During these stages a reflexive

approach was used as an additional precautionary measure to ensure the validity of the results [15]. At this juncture a systematic examination and re-examination of the data occurred, to ensure participant responses were documented accurately and without researcher bias. Subsequently, themes that were generated were not reliant on or hindered by preconceived ideas, but emerged from the participants' own words.

6. Discussion and Implications

In this paper, we provided the background as to why pre-service teachers must use the APST during their undergraduate study. Through surveys, focus groups and document analysis we identified the feelings and needs of pre-service teachers in relation to the overarching subject of the APST. During the research, the issue of Evidence and Evidencing emerged from within each dataset. This indicates that pre-service teachers have specific feelings and needs in relation to evidencing their knowledge, understanding and professional practice. If they feel confused, frustrated and/or judged on their ability to evidence their professional practice, then this may hinder their ability to demonstrate meeting the APST in their final year. The action of evidencing their practice replicates the processes that teachers are expected to follow as they move through the different APST career stages. Consequently, it is imperative that pre-service teachers' needs, in relation to evidencing, are better understood and further research in this area is required.

During the data analysis stage, 27 subordinate themes and 6 superordinate themes emerged and traversed each dataset. Three distinct feelings of confused, frustrated and judged were evident whilst three distinct needs of support, experience and autonomy emerged. The identification of the specific feelings and needs of pre-service teachers towards the APST in their final year of study perhaps serves to demonstrate the complexities of implementation itself. In any implementation phase the success of the innovation 'hinges on a shared commitment and...a clear, common understanding of the outcomes sought' [16]. The results suggest that the participating pre-service teachers do not have a clear and/or common understanding of the outcomes sought by AITSL and how this connects with them. In particular, their lack of knowledge and understanding of the APST, in terms of knowing what it is, why it is used, how it applies to them and when and where they might use it are key issues that were identified within each dataset.

Addressing the previously outlined issues through interventions that are targeted and explicit might support pre-service teachers in developing greater levels of knowledge and understanding of the APST, and experience with it, to ensure AITSL's intentions are met.

If pre-service teachers, as key stakeholders, are to become a part of the shared understanding of the APST and its intentions, their feelings need to be acknowledged and addressed by what pre-service teachers themselves identified as their needs; Support, Experience and Autonomy. Based on the findings of this research, a Targeted Intervention (TI) is proposed which will address the feelings and needs of pre-service teachers during and beyond implementation. A TI might begin by providing opportunities for pre-service teachers to state their feelings in relation to the APST. For example, the statement, "I don't know how to use the APST", indicates confusion and potential frustration. These feelings can be addressed and mitigated through the TI of providing explicit *Support* in helping pre-service teachers to understand how the APST applies to their own practice. The TI would provide opportunities for *Experience* to be gained in using the APST in context. Subsequently, *Autonomy* is achieved through the pre-service teacher applying and preparing to be assessed against the APST. The TI Model (See Figure 1) demonstrates how pre-service teachers' needs of *Support*, *Experience* and *Autonomy* can be addressed.

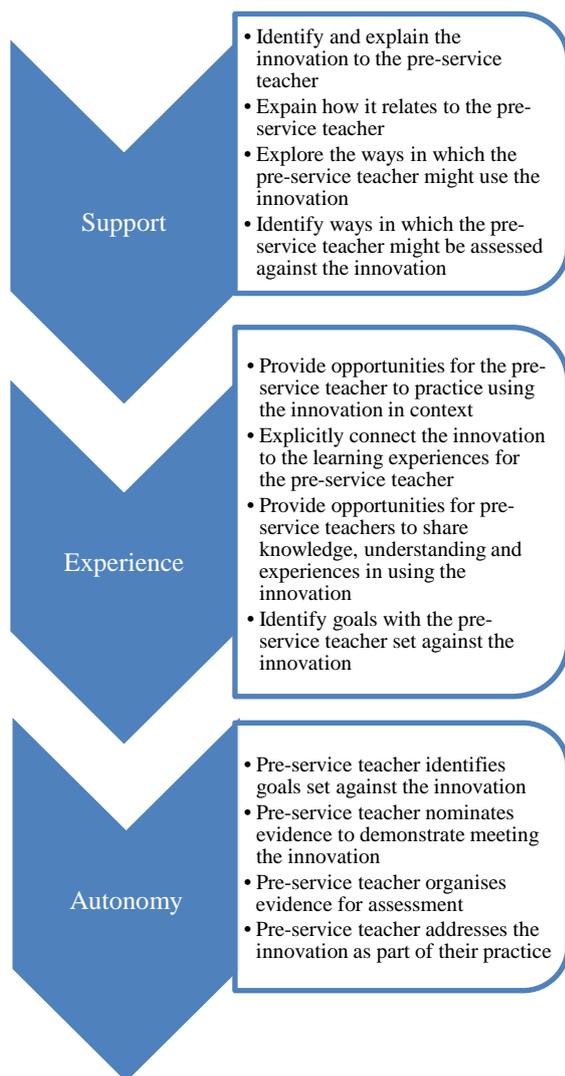


Figure 1. Targeted Intervention Model

7. Conclusion

In closing, with the APST embedded in the accreditation of ITE programs of study, pre-service teachers will need to be able to demonstrate their teaching capacities against them for the foreseeable future. This research has demonstrated that there appears to be evidence for the use of additional mechanisms that support pre-service teachers in their endeavor to meet the APST, and the TI model is one way in which this may be achieved. Whilst the TI model offers ways in which to provide support, experience and autonomy with the APST, further exploration of how the model may be applied in practice is required. Specifically, consideration of managing the timing of information about the APST set against a pre-service teacher's *readiness to know*. This raises the questions;

- What levels of support do pre-service teachers require to enable them to interact with the APST at each year level of study?

- When and how might pre-service teachers be provided with opportunities to experience the APST in practice?
- In what ways might pre-service teachers gain levels of autonomy with the APST at appropriate points in their program of study?

If we are going to ensure that the APST promote AITSL's intentions of high-quality teaching and improved student outcomes [17], then we need to gain a better understanding of how pre-service teachers in general perceive and use the APST at different points in their undergraduate program of study.

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Coaching Career Transition, Entrepreneur Tradespeople in Teacher Preparation Field Work: Transformation from Tradesperson to Teacher

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Abstract

What is the impact of coaching when used in teacher preparation field experiences? Traditional teacher preparation and mentor feedback centers on supporting teachers to develop the skills, knowledge and attributes required to become teachers in Alberta, Canada. Generally, a clinical supervision model is used to provide feedback and evaluate. However informative, a clinical supervision model is limited. This paper will describe the benefits of adding coaching to complement traditional supervisory approaches during student teacher's field experiences to engage them in reflection, clarify their purpose for teaching and align beliefs between theory and practice. Coaching provides an engaging, high impact experience that encourages the development of resilient and reflective teachers.

1. Introduction

Traditional supervision and assessment practice for teachers in the school system uses a clinical supervision model to observe the knowledge, skills and attributes needed of teachers, judged against the Teaching Quality Standard in the Province of Alberta. While this model is essential to observe the knowledge, skills and attitudes required for licensing, and is "tried and true", there are times when "something more" might address needs of a changing workforce and increase teacher retention. In Alberta, there is a current need for skilled teachers in trade areas such as auto mechanic, autobody, bakers, carpentry, culinary, cosmetology, electrical, welding/fabrication, heavy equipment operation and plumbing and refrigeration. Trades people working in these areas have much to offer in preparing High School students for careers in the trades. However, mature tradespeople may experience different challenges as they move into the teaching role, such as: the tension of moving from entrepreneur to teacher, their own experiences of being a "student", the expectations of the curriculum, and managing students.

In this paper, we describe the innovative Career and Technology Bridging Program [1] specific to the student teaching experience with a group of 8 mature, career change tradespeople engaged in preservice student teaching. The unique approach described in this paper involved the expertise of the pre-service field supervisor, (the "University Facilitator") who was also a University trained Certified Coach. We will illustrate through the pre-service student teacher's feedback the impact of coaching as a supportive practice for growth and development as reported during the 16 weeks of the student teaching experience. Finally, we will offer suggestions about the impact of coaching in response to the pre-service students' experience.

2. Historical Context

The Bridge to Teacher Certification program was initiated in 2010, to address complex forces within the Province of Alberta. These included: the increasing challenge of securing tradespeople to teach High School Students (Grades 9-12, approximate ages 14-18) in the Career and Technology Studies curriculum and meet school division's collective agreements; the decreasing rate of High School graduation in a Province with a booming economy offering good paying jobs in the trades available to individuals over the age of 16 (High School minimum leaving age), and the increasing complexity of students challenged by traditional academic learning and preparation, or the core curriculum. To add to the pressure being placed on schools by students, workforce planning indicated anticipated teaching shortages due to retirement, attrition of new teachers, and few qualified teachers to work in the Career and Technology Studies areas of the curriculum. In response to these challenges, Alberta Education created a program grant allowing School Divisions to sponsor tradespeople to attend University and train to become teachers, in need areas. The University of Alberta was selected as best equipped to provide the program. In

the remainder of this paper we will discuss the experience of these tradespeople as they participated in their student teaching, “pre-service” experience. They will be referred to as pre-service teachers, in reference to their student teacher status.

3. Adding Value

A clinical supervision model for teacher evaluation and supervision is commonly adopted as practice during pre-service teaching, and beyond. During the field experience, the mentor teacher is the primary evaluator, mentor, and day to day support for the pre-service teacher. When assessing pre-service teaching practice, clinical supervision is commonly used.

This cyclical process is initiated by a discussion between preservice teacher and mentor to identify the purpose, context, and focus for the lesson observation. Outcomes for success are identified. The mentor teacher then observes the lesson and collects data. Following the lesson, the mentor teacher and preservice teacher discuss and reflect on the findings. The emphasis of clinical supervision is to identify, with data, practices that result in positive student learning outcomes, and make implementation recommendations to the pre-service teacher. Most commonly, strategies are suggested or provided by the mentor for implementation. Lacking in clinical supervision is ownership by the teacher to implement the changes, or uncover beliefs and values about teaching actions, and consideration of next steps. Coaching as a discipline is increasingly supported in business literature and supported by the International Coach Federation (ICF). The role of the coach is to “partner with clients in a thought-provoking and creative process that inspires them to maximize their personal and professional potential.” Certified coaches work with clients from many business and not for profit sectors. Coaching is particularly well aligned to the complex work of the “helping professions” such as Education [2]. The ICF is recognized worldwide, and has identified core competencies, a Code of Conduct, credentialing and professional development. Coaching has been described as a “principle-shaped ontological stance and not a series of techniques.” During this practicum, the University Facilitator was also a certified Coach. The “value added” to the pre-service teacher was realized as the University Facilitator/Coach used a “coach approach” during their work with the pre-service teacher. In this approach, the University Facilitator/Coach uncovered and bridged theory and practice of teaching in context in a sustainable and meaningful way, created reflection, uncovered beliefs and values, and created commitment to teaching for the pre-service teachers while in the classroom context. This work continued and extended the reflective pedagogy taught to the pre-service teachers

when they attended classes at the University of Alberta. During the work with this group of pre-service teachers, both approaches (clinical supervision and coaching) were used flexibly with a focus on the development of the knowledge, skills and attributes required for teachers in Alberta.

4. Uncovering Beliefs

The intent of coaching was to assist the pre-service students to uncover the beliefs they held about teaching as a profession, their own personal understanding of the role of the teacher, beliefs about the culture of the school and their contribution to the school culture with colleagues and students in the classroom context. Coaching builds from reflection, is always situated in context, and is action oriented. Coaching provided a vehicle for the pre-service teachers to situate their beliefs in the real world of teaching. Following coaching, the pre-service teachers set a next step goal to follow and act upon. A safe and confidential partnership was deliberately fostered between the University Facilitator/Coach and pre-service teacher. The aim of coaching was to examine the life-changing experience of the field experience to improve and understand the pre-service teacher’s outlook, build commitment to teaching, tap into their potential, and unlock creativity and productivity.

The intent of coaching is to bring forth sustainable change in reflective practice. (It is important to note that coaching should not be used in a situation where there is a performance concern.) There are a number of reasons why coaching should be used with career changing teachers, including: support for change, uncovering fundamental questions that lead to ongoing professional reflective practice, examining the alignment of theory and practice, examination of action, building competence in a new activity based on need, and willingness to change and implement innovative practice in increasingly complex educational settings. In practice, all educators would benefit from receiving coaching. Table 1 summarizes the comparison between clinical supervision and coaching.

Table 1. Comparison between Clinical Supervision and Coaching

Comparison	Clinical Supervision (Evaluator, Mentor)	Coaching (Facilitator/Coach)
Initiated	Evaluator, for specific purpose	By both facilitator and pre-service student
Process	Meet, determine objectives, observe, report	Determine focus, seek solutions, commit to action
Outcome	Data, checklists, may lead to change in practice	Commitment to change and action, recursive process
Foundation	Assessment	Confidential
Change	Response to deficit	Self-generated, strength based

Three coaching outcomes that are relevant to successful teaching practice are as follows: Longterm excellent performance, self-correction, and self-generation [3]. These were evident in the pre-service teacher's experience and are noted below.

I. Long-term excellent performance Encouraging a commitment to the profession in both teaching practice and in the trade is fundamental to career changing tradespeople. Reflection is an essential practice for all teachers, and particularly important for teachers who are the sole practitioner in their trade area. The University of Alberta prepares teachers to be reflective practitioners and life-long learners. Coaching uncovered this finding for the majority of the preservice teachers. Initially, many of the pre-service teachers noted that they did not truly understand the dedication of experienced teachers to continually develop their skills. As the practicum continued, this new understanding about teaching was captured in a weekly reflection:

"I want to be that teacher that is continually assessing and working at always improving no matter how long I am in this profession, and be able to reflect on it all in an open and honest way."

II. Self-correction Self-correction is essential in assessing each day's learning. Observations of the lesson and classroom student performance inform subsequent lessons. Self-correction is essential in the complex environment of the lab/shop. Walking into the shop, an observer sees a multitude of activities taking place: use of a variety of power tools, welding torches, metals, ovens, hair solutions, etc. It was observed that the High School shop environment is more like a busy kindergarten classroom than a "traditional" High School classroom. The preservice teacher must constantly reflect about their lessons, relative to the performance and outcomes demonstrated by the classroom students. Well coached pre-service teachers can observe when they are performing well and when they are not, and will make any necessary adjustments independently of the coach.

III. Self-generating teachers Self-generating teachers are team players who continually seek ways to improve their practice with their trade and in the craft of teaching. The CTS teacher is part of the school's teaching culture, but often isolated in their teaching assignment as the sole teacher for their trade in a school. They must both learn and refine the craft of teaching, discipline, management, student development and relationship, while continually reconnecting, remaining current and developing teaching skills in their trade craft. The pre-service teachers often became the link to current trade

practice, as they linked the teaching experience with the world of work.

5. Coaching Reflections

Numerous themes emerged during the practicum experiences for these pre-service teachers. We will highlight three prominent themes: Commitment to the work of teaching, the interplay and relationships between colleagues and finally, the relationship between the classroom students and pre-service teacher.

I. Commitment It was evident that each pre-service teacher had a unique and individual reason for their career change. Coaching questions that centered on purpose were essential for each student to surface their personal "Why" at their particular age and stage of life [4]. Questions such as the following were used to explore this purpose:

*What led you to teaching?
What is your vision for your future work?
What will fulfill you in the teaching role?*

Initially several conveyed the need for improved transmission of knowledge, having received apprentices unprepared for the world of work. Others indicated that they believed that the work of a teacher seemed to be much easier than the trade world, and therefore a good choice for their work evolution. A number cited work/life balance. Several felt that their previous work life did not provide the meaning and gratification they sought, and felt that teaching would provide a more meaningful profession. Once uncovered, the "why" became an important philosophical signpost for action.

II. Colleagues As the pre-service teachers became involved more and more in the role of "teacher" in their various schools, many questions surfaced about themselves relative to their mentors. A number of the mentor teachers were inspiring as master teachers to the preservice teachers. The pre-service teachers were inspired to watch these mentors, aspiring to try techniques they observed being used effectively. As noted by one student,

"I was confident in my trade skill level before coming into my AFX (Advanced Field Experience); it has been a learning experience working with teachers from different backgrounds and experiences."

Several of the pre-service teachers questioned practices used by their mentor teachers. Discipline, communication with students, and outdated trade practices and materials being used in aging shops were most often cited as surprises and frustrating

challenges. Questions that were used to uncover beliefs and help the pre-service teachers to move forward included:

What are your next steps?

What is your action plan?

What do you need to do to set clear boundaries on this situation?

In some cases, the pre-service teachers attempted to introduce and improve practices, with mixed acceptance and results. Situations such as this provided a great deal of opportunity for coaching and reflection. Uncovering these challenges became an excellent opportunity for the pre-service students to clarify their beliefs and vision for themselves when they “became the teacher”.

III. Classroom Students The final observation was that the pre-service teachers found particular joy and gratification when working with the classroom students. They found their classroom students appreciative of their expertise. The pre-service teachers felt a deep commitment to support the classroom students in learning the skills of the trade. Each one of the pre-service teachers encountered many questions about student discipline, and school policies relative to classroom students. Each preservice teacher was intent on creating a positive working relationship with each student in their classes. Beyond the value of the positive personal relationships, the pre-service teachers noted that their trade was a key for student success in school and life. Questions that were used in this area included:

What strategy do you think will work best?

Where did you feel success?

How can you bring that forward to the future?

What do you need to consider as you plan your next steps?

One pre-service teacher summarized the interplay between the curriculum, classroom student and them self as a pre-service teacher relative to the above themes as follows:

“I do know that I will leave this school having been very successful at achieving what I set out to do, and that I made real life, honest connections with these kids.”

6. Engagement

The following are some of the many comments found in the pre-service teacher’s writing during their experiences in the schools. They indicate the depth of thought and reflection that resulted from their experience as they stepped into the teaching role.

“I think that the most important thing that I learned from this experience is that teaching is without a doubt what I want to do for the rest of my life.”

“I feel that personal reflection is important as a teacher. I keep a daily journal of events that happened at home and at work, and I feel this helps me stay fresher than I normally would if I did not think of ways to be better than I was the day before. As a teacher, I feel that by reflecting after a unit gives you an opportunity to adjust lesson and unit plans to ensure top quality instruction is used in the classroom.”

“I feel that I have made a real difference to a majority of the students that I have worked with on a day to day basis by demonstrating and teaching real world skills that these students will take with them when they leave high school.”

7. Conclusion

Many influential voices contribute to the education and impact for all pre-service teachers. From the University Instructional Team, Mentor Teacher, Sponsoring Schools, University Facilitator/Coach, to friends and family, each person contributes to the success of the pre-service teacher. When tradespeople transfer to the teaching role, coaching was shown to have a positive impact with the pre-service teachers in the Bridge to Teacher Certification program. Coaching added a focused process to create teaching habits that will continue throughout their teaching career. Questions that remain to be investigated include: What is the long-term impact on teaching practice of these coached pre-service students? How will their framework for their personal reason for becoming a teacher evolve as they work as teachers in the school system? What actions will they take to continue to grow in their dual crafts: teaching and their respective trade?

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Session 5: Global Issues in Education and Research

Title: Increasing Competitiveness through Education
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Title: Southern Theory in and for Education
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Title: Educational practice according to the context unique to Japan at International Baccalaureate schools: Case study of Japanese private/public IB schools compared with International schools
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Title: Emerging Issues over International Student Recruitment Using Education Agents: A Literature Review
(Author: Thai V. Vu)

Increasing Competitiveness through Education

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1. Scope

The United States has experienced a significant loss in its manufacturing base over the past several decades. Since 1979, the number of manufacturing jobs in America has declined from nearly 20 million to just 12 million workers. That job loss, coupled with increasing imports and decline in the middle class, led to high levels of political angst and contributed to the surprise presidential-election outcome in the U.S.

Then-candidate Trump's calls for raising tariffs and limiting imports from countries such as China resonated with America's shrinking middle class. However, imposing trade sanctions on those exporting nations would address only a modest portion of the manufacturing-job malaise faced by the United States. Lost in the vigorous 2016 presidential campaign discussion is the fact that technical education is far more likely to enhance U.S. manufacturing output than higher tariffs and other governmentally-imposed trade restrictions. Little noticed in the rhetoric of the campaign was the fact that manufacturing output in America has been increasing in juxtaposition with manufacturing job losses. From the first quarter of 1997 through the same period of 2016, the value of U.S. manufacturing output increased 41%. The reason for the disconnect between manufacturing employment loss and the rising value of its output is clear; the U.S., similar to many other Western nations, cannot compete in low value goods creation and must focus on robotic output that requires higher technical skills and fewer workers.

While some pundits urge policy makers to limit the spread of robotics as a method of saving jobs, China and other rising nations are vigorously developing new robotic capabilities that will enhance their competitiveness. Rather than punishing companies that embrace robotics, the West should focus on stimulating technical institutions to address the skills needed in an evolving global economy.

2. Objective and Motivation

With the rapid advances in robotics capabilities and their workplace applications, policy makers and Silicon Valley icons are newly-joined in a debate

about the societal value of technology that replaces the human worker. The outcome of this debate will have significant implications. It is easy to understand the clamor against technologies that erase low skilled jobs, but will the long-term consequences be greater for nations that fail to embrace those capabilities? Is it "compassionate" to tax those companies that deploy the technologies in an effort to protect those low-skilled jobs, or will it debase the nation's economy and injure more citizens? This important debate will surely continue in the policy arena.

3. Methodology

The research will be conducted through a review of the literature and secondary sources, as well as qualitatively through primary interviews at relevant institutions and organizations.

4. Expected Outcomes

It is anticipated that the contemporaneous broad disagreement regarding the topic will be found in the research as well. The ethical challenges of creating technologies that lead to greater advantage for a minority of highly-trained individuals, concomitant with a further decline in job expectations for the lower skilled, will produce a robust political dialogue that will likely lead to a mixed outcome in Western states. While they will not prohibit the implementation of these productivity-enhancing technologies, they will attempt to balance their expansion against the political outcry of those who will be disadvantaged by jobs lost through robotic technology. The further challenge will be from developing nations that will seek to outclass Western manufacturing that is engaged in self-imposed limits to robotic adoption. Despite these expected limits, learning institutions at all levels will take on an enhanced role in preparing students to participate in the design and implementation of leading-edge manufacturing technologies.

Southern Theory in and for Education

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Abstract

*Debates have been under way for some time over the very nature of 'foundational knowledge' in many social science disciplines. At the core of the debates lies the collapse of the universalist premises of disciplinary knowledge. Many scholars have exposed the highly provincial nature of what has been considered 'theory' and its exclusive process of knowledge production which centres largely on the institutions in the global North (Alatas, 2006a, 2013, Chen 2010; Connell, 2007, 2014, 2015; Mignolo, 2011; de Sousa Santos, 2014). For instance, modernity, the central concept in sociological theorizing, has long been conceptualized as a peculiarly Western social phenomenon, disconnected from its underside, coloniality (Bhambra, 2007; Go, 2013). These critiques have shown how the uneven flows of intellectual influence and the intellectual division of labour, which designates the West as the source of 'theories' and the rest as 'data mine,' underpins the contemporary geopolitics of academic knowledge. Raewyn Connell's (2007) *Southern Theory: The global dynamics of knowledge in social science* from which this paper has taken its cues, has both initiated and emerged out of these ongoing critiques of the state of academic knowledge and its processes of production on a global scale. Building on Connell's *Southern Theory* and others' decolonizing knowledge projects, this paper aims to explore the implications of these alternative knowledge projects for education scholarship.*

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Educational Practice According to the Context Unique to Japan at International Baccalaureate Schools: Case Study of Japanese Private/Public IB Schools Compared with International Schools

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Abstract

International Baccalaureate (called IB) has expanded its number in various parts of the world. This paper shows how IB programmes spanning the world change educational practices in the particular region and country, with a focus on Japan. There are a number of educational elements peculiar to Japan (the homeroom system, the comprehensive role of teachers, club activities, etc.) that present barriers to the introduction of Western-oriented IB programmes. At the same time, the government intends to improve its quality by incorporating IB into existing education curriculum in Japan. Though comparing Japan's private/public IB (and non IB) schools with International schools that offer IB programmes, this paper has significance in the aspect of investigating how the problems peculiar to that country are occurring in the practice of IB in Japan, non-Western country, and of leading to an understanding of how changing educational practices can create merits and difficulties when attempting to merge national educational practices with overseas educational elements.

1. Outline of International Baccalaureate

International Baccalaureate (IB) is a non-profit educational institution founded in Geneva, Switzerland in 1968. It represents a unique educational philosophy focused on students. There are four basic IB programmes [5]: the Primary Years Programme (PYP) for ages 3-12, the Middle Years Programme (MYP) for ages 11-16, the Diploma Programme (IBDP) for ages 16-19, and the Career-related Programme (IBCP) also for ages 16-19. IB programmes actively encourage students studying in many parts of the world to understand/respect differences among people and recognize that ideas different from theirs can be equally valid. In this way, IB programmes regard 'international mindedness' as a central mission, attempting to define it in clearer terms and making efforts to cultivate in students a strong international awareness. All this requires critical thinking, collaboration skills, and respect for different cultures. For this reason, IB programmes seek to nurture young people with inquiring minds;

they promote knowledge and compassion that will contribute to building a better, more peaceful world [5]. To achieve its goals, IB works with schools, governments and international organisations to develop a challenging international education programme and a strict evaluation system.

2. Status of the introduction of IB in Japan

The first IB school in Japan appeared in 1979, yet there were no significant increases in the number of IB schools until recently. The turning point came in June 2012 with the announcement of the Global Human Resource Development Strategy under the Democratic administration [7]. The announcement called for 'up to 200 schools within five years that introduce IB programmes or conduct educational practice according to its guidelines'. At the time of this recommendation, only 14 schools in Japan were certified by the International Baccalaureate Organisation, which provides the International Baccalaureate Diploma Programmes. Most of these 14 schools were international or ethnic schools. However, by July 2017, there were 46 IB schools (22 offering PYP, 13 offering MYP, and 32 offering IBDP), and the number of private/public schools offering IB programmes has increased to 20-five times the number in 2011. In addition, there are currently many more candidate schools in the process of becoming IB schools [4]. All intend to increase their students' ability to think critically and subjectively, trading off their concentration on English ability development.

3. Dual language programmes

The International Baccalaureate Organisation has developed its expansion strategy. At the same time, searching for ways to adapt IB locally has changed the contents of education [3]. The interaction between local and global elements inevitably changes both local education and global education. One example is the establishment of 'dual language

programmes' that combine the official language (English, French, Spanish) and native language (here, Japanese), which can be seen as a unique way of introducing IB into the Japanese educational system. In May 2013, the International Baccalaureate Organisation and the Japanese Ministry of Education announced that they would begin a joint project on the development of IBDP in dual languages to promote the spread of IB programmes in Japan. At that time, the subjects covered under this project were economics, history, biology, chemistry, theory of knowledge, extended essay, and creativity/action/service (called CAS). (Theory of knowledge, extended essay and CAS are core subjects of IBDP programme) [7]. Beginning in May 2014, students could also take IBDP classes and exams in Japanese for mathematics and physics. Students pursuing diploma programmes in bilingual languages are able to study two of six subjects in English and four in Japanese. In this way, the language barrier for introducing IB programmes was reduced considerably by offering two-thirds of the full programme in Japanese [7].

The skill capabilities promoted in IB programmes are very close to the capabilities that Japanese education seeks to develop in students, and it is expected that much of existing Japanese educational content will be transformed by the introduction of IB [8]. In fact, 'The meeting of expert thinking about global human resources development centred on the international baccalaureate', which began in March 2007, referred to such an intention. In the 'High School-University Connection Reform', which is being advanced by the Ministry of Education, changing from traditional knowledge-weighted academic examinations to a mechanism for comprehensively measuring knowledge skill, acquisition skill, thinking, judgment, expressive ability, and individuality and cooperativeness is being actively considered. In discussions of the next guidelines at the Ministry of Education for Curriculum, the topic of IB programmes is frequently taken up, and the content of the IB curriculum is generally regarded as an important reference. The curriculum of education in Japan has been gradually changing, but education as mere knowledge transmission and reliance on teacher-centred classes persists. This runs counter to IB education, which focuses on student-centred classes and encourages students to improve their insight knowledge and critical thinking, and requires a test that can objectively measure such skills [7].

4. Background of Japan's inability to smoothly introduce the IB programme

The number of schools offering IB programmes in Japan has greatly increased in recent years. However, the current number is still far from the target of 200

schools. Despite the country's initiatives promoting IB programmes, these efforts have not gone far enough [4]. According to previous research, the cost of the process for obtaining IB school certification and the maintenance cost after certification are not small. The cost of IB teacher training is also quite high. These high costs are one of the reasons that IB introduction in Japan has fallen short. There are other reasons as well. There are criticisms that IB programmes are biased to the West, because the original birth of the IB is Western, etc. [9].

In this study, the focus is on two aspects. The first is how Japan's educational practices are being transformed by the introduction of IB. The second is how the difficulties of introducing IB into the traditional Japanese system continue to be barriers to widespread acceptance. This study investigates how the problems peculiar to that country are occurring in the practice of IB in Japan, non-Western country. To examine these aspects, interviews and participant observations were conducted at international schools, public/private IB schools (a total of six schools, 15 teachers), and private/public non-IB schools (two schools) that offer some elements of IB. (This included participant observation over four months at international schools and private IB schools). Semi-structured interviews were conducted.

5. Transformation of Japanese educational practices accompanying the introduction of IB

It is apparent that Japan's educational practices are being transformed through the introduction of IB programmes. As an illustration, the Yamagata Prefectural Board of Education is conducting a prefecture-led initiative to establish an Inquiry course in six prefectural high schools in 2018. The course will focus on 'Inquiry-based learning' that tackles subjective and collaborative efforts toward solving self-discovered problems utilizing the basic knowledge and skills learned in each of the various subjects [10].

In addition, in 2012, in 'Survey research on the promotion of education based on the purpose of the International Baccalaureate', five schools were selected as research-designated schools for a period of three years. The study was intended to be a source of suggestions for incorporating elements of IB (in particular, the theory of knowledge) into non-IB schools [8].

At Aichi Prefecture's Asahigaoka High School, which is a non-IB school, students are practicing 'slow reading' in their Japanese language class, while reading comprehension is emphasized in the current course of study guidelines [8]. The goal is for students to find the connection between the text of the teaching material and the knowledge acquired so

far and to have students formulate their own questions and find appropriate answers.

In responding to an interview question regarding this effort, one teacher answered, 'I realized a remarkable effect on the students' learning, which also led to an improvement in self-efficacy by connecting knowledge'. Further efforts are underway at the school to raise awareness of IB elements such as ethics and society in other subjects.

Non-IB courses at IB schools can include IB elements. Ritsumeikan Uji High School has introduced 'Theory of Knowledge' into non-IB courses in the 10th grade, encouraging students to improve their critical thinking. 'Inquiry Basis' is offered one hour each week in the 11th grade of non-IB courses. Efforts have been made to conduct activities more conscientiously using CAS evaluation methods and evaluation sheets for special activities such as cleaning. An interviewed student said that he was able to execute these activities considering things more deeply.

6. The regional context in Japan and the difficulties arising from it

According to Beverley's (2016) survey [1], IB students in Japan are required to attend classes (classical studies, citizenship, health, physical education, etc.) that do not have an equivalent in the international baccalaureate programme but are included in the Japanese high school curriculum to satisfy school qualification requirements. Even though there is research indicating that IB classes themselves require many tasks and the psychological stress level on students is high [2], the burden of taking additional classes is heavy. IB students in Japan who participate in club activities, which are held nearly every day after school, find it extremely difficult to complete their IB tasks. Traditionally, most students in Japan participate in club activities, but IB students face the dilemma of choosing between club activities and studying in their IB courses. Such a situation interferes with student learning and the practice of teaching. Focusing on the final exam, schools and students tend not to spend time on the DP core subjects (CAS, TOK, Extended Essay), as CAS is not covered on the exam, and Extended Essay and Theory of Knowledge count for only three points of 45 overall points in the IBDP programme.

In addition, many parents and students have common problems in progressing to the IB programme. Since the contents of IB education and the contents of the Japanese university examination are very different, both students and parents find it difficult to change direction from the IB programme to the conventional curriculum. In Japan, unlike the United States, the option of taking part of the IB programme and making it part of the certificate for

attending university does not exist at present, and once students enter the IB programme, they must earn the full diploma to enter university. In an IB programme where classes are conducted only in English, except for the Japanese language class, students who do not have strong English ability are often advised not to take IB courses so as not to have to drop them when they become overly difficult.

Other elements peculiar to Japan are also cause for difficulty when introducing IB. In Japan, the homeroom system exists in most, if not all, schools. Under this system, teachers take charge of virtually all tasks, from office work to counselling their students (As evidence backed by concrete statistics, the proportion of professional staffs except teachers: 18% Japan, 44% USA, 49% UK). The many foreign teachers participating in IB programmes are quite likely to be unfamiliar or uncomfortable with this part of the educational culture.

In addition, most parents do not have a high level of English proficiency, which means detailed communication with foreign IB teachers must be supported by a Japanese IB teacher, making the burden on the Japanese IB teacher quite large.

If foreign teachers must face the challenge of working in an unfamiliar environment, the reverse is also true. In promoting IB programmes, Osako (2016) asserts that Japanese teachers involved in IB must internalize the spirit of IB programmes born in the West [6]. This means that Japanese IB teachers need to transform their own teaching methods. They cannot merely borrow ideas on a superficial level but must truly understand and embrace the essence of IB. In the past few years, there have been multiple teacher transfers in which teachers who taught in the standard Japanese curriculum suddenly found themselves teaching IB classes in the next fiscal year. As previously mentioned, the content of education greatly differs between the traditional Japanese system and IB. In interviews conducted for this study, many Japanese IB teachers say that they are not used to teaching classes in which they serve as facilitators to draw out ideas from their students. They report not knowing how to handle evaluation criteria for descriptive answers or how to cultivate the descriptive skills of their students.

Beyond classroom teaching, there are other aspects of the IB programme that are unfamiliar to Japanese teachers. These include elements such as academic honesty and working with full-time counsellors who are assigned to various parts of the programme. One interviewed teacher commented, 'While there are experts such as a TOK and CAS coordinators, and a counsellor for guidance on overseas universities, Japanese teachers, who are used to doing everything from office work to course guidance, frequently oppose the process of introducing these specialists'.

At international schools that have adopted IB

programmes, the above challenges do not appear to be quite so difficult. In order not to be influenced by the Japanese system, elements of the Japanese educational culture such as the homeroom system and high-loading department activities are not typically present. Thus, the problems described above can be regarded as problems peculiar to public schools/private IB schools.

7. Conclusion and Future prospects

As we have seen, IB programmes are having an influence on Japanese education. However, they also face quite a few barriers, including differences in the role of the teacher in IB courses, excessive club activities and a homeroom system that is unique to Japanese schools. One way to overcome such barriers is to prepare for a stronger mutual understanding between Japanese teachers and overseas teachers and to develop cooperating mechanisms. In this regard, the role of the IB coordinator and his/her ability to assemble a proper group of teachers are very important (particularly with respect to the teacher interviews). It is also necessary to have teachers and administrators internalize the spirit of IB. To accomplish this will require intensive training. While the number of IB is increasing in the world including Japan, not simply cloning and incorporating the IB program, but promoting introduction of IB with harmonizing the elements of IB and the nature of the education of the nation is important.

The focus of this study is on IB programmes in public/private schools. Future work will seek to clarify how educational practice differs between dual language IB programmes and conventional IB programmes. Moreover, it is assumed that differences in educational practices related to the cultivation of international mindedness, which is the mission of IB programmes, will appear; these differences will need to be examined multi- directionally in subsequent studies.

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Emerging Issues over International Student Recruitment Using Education Agents: A Literature Review

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Abstract

In the context of increasingly competition in international student recruitment, both nationally and globally, higher education institutions tend to use education agents abroad to inform, communicate, attract and recruit prospective international students from the country where those agents are based. Since those agents are driven by commercial imperatives, there have been on-going concerns about the appropriateness of their operations. The purpose of this paper is to review the related literature to identify emergent issues associated with the utility of overseas education agents for international student recruitment. The review is guided by these research questions: What are the influences of education agents on prospective international students' choice of host country and institution, and course of study? To what extent can higher education institutions oversee and control their education agents abroad? What are international students' and parents' perceptions on the trustworthiness of educational agents? In what manners can higher education institutions ensure that their prospective international students can make a well-informed choice via education agents? Findings from the review can be of interest to institutional administrators and practitioners engaging with international student recruitment. Results of the review can also provide background for further research into international students' choice making regarding study abroad.

Session 6: Global Issues in Education

Title: Do Women Need Special Attention in Financial Education?
(Authors: Bettina Greimel-Fuhrmann, Maria Silgoner)

Title: Developing Self-Regulated Learning in a Lecture-Based Accounting Course: A Gradual Release of Responsibility Model
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Title: One Classroom, Two Cultures: The Experiences of Chinese Students in an American College
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Do Women Need Special Attention in Financial Education?

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Abstract

Studies have repeatedly shown that women answer less financial knowledge questions correctly than men. Hence, they are often identified to be a financially 'vulnerable' group who needs more attention in financial education. This paper explores if this holds true for the Austrian population. A survey among 2,000 respondents reveals that Austrian men outperform women in terms of knowledge, even if we control for different socio-demographic characteristics and response behaviour. However, women seem to be less prone to spending money, are more risk averse and watch their financial status more closely. In a multiple regression analysis, knowledge, attitudes and behavior are relevant for explaining financial well-being, but gender is not. Thus, it seems that women are not necessarily a financially vulnerable group but might benefit from acquiring more financial knowledge and gain more self-confidence in making financial decisions.

1. Introduction

Recent empirical studies – some of them large-scale and international – reveal that in most countries, a considerable number of people lack even basic financial knowledge and understanding. These studies also show that men tend to outperform women in standard financial literacy surveys [1, 2]. Several reasons have been put forward for this gender gap, ranging from different answer behavior, to gender differences in financial interest and involvement or in other personal characteristics. Other studies show that there are also gender differences in behavior and attitudes, which are at least partly the result of differences in knowledge. All three factors – knowledge, attitudes and behavior – are supposed to be interrelated and to affect financial well-being [2, 3, 4, 5]. Nowadays, the lack of financial literacy matters more than ever, given the increasing complexity of financial products and economic relationships. The observed gender gap, indicating larger knowledge gaps of women, is especially problematic because of long life expectancies of women and a wide variety of biographies.

The objective of this paper is to examine if a gender gap in financial literacy can also be confirmed for Austria, using survey data on financial literacy of the Austrian population. The analysis focuses not only on potential differences in knowledge, but also on financial behaviour and money attitudes. We will finally examine whether there is a gender gap in explaining financial well-being which is the overall objective of being financially literate [1].

2. Research Design

The Austrian dataset is based on 2,000 face-to-face interviews, conducted in late autumn 2014. The survey comprised 1,994 computer-assisted personal interviews (CAPIs) from October to November 2014. The non-response rate was about 30%. If not indicated differently, we use survey weights to produce descriptive population statistics throughout the paper. The weights consist of a combination of sampling/design weights and poststratification weights based on external population statistics on age and gender at the province level.

The survey is integrated into the 'Measuring Financial Literacy' initiative of the OECD's International Network on Financial Education (INFE) that intends to run a unified and extended survey on financial literacy in a wide range of countries [6]. It consists of questions on financial knowledge, financial behavior and attitudes that are part of the OECD's Toolkit for Measuring Financial Literacy [7] and is supplemented by a set of demographic and socioeconomic variables. A pilot study was carried out in 14 countries in 2010 and 2011 [1].

The full Austrian questionnaire is available from the authors upon request. Along with items covering experience with financial products and financial decisions, it covers a total of 11 knowledge questions, 8 questions on financial behavior and 15 questions on money attitudes.

3. The Gender Gap in Financial Knowledge Is Confirmed

The knowledge questions range from simple division tasks or the understanding of concepts such as inflation or the link between risk and returns, to more sophisticated questions on compound interest rates, the consequences of exchange rate developments on foreign currency loans or the link between interest rates and bond prices. None of these questions requires expert knowledge [7]. The full list of questions can be found in [7].

As to the Austrian dataset, there are important knowledge gaps throughout the population. On average, only 4% of the respondents managed to answer all 11 questions correctly. There are considerable differences across gender: While 7% of male give correct answers to all 11 questions, this share is as low as 3% for women, as shown in Figure 1. The distribution of the knowledge scores of men is also more skewed to the right than those of the female respondents.

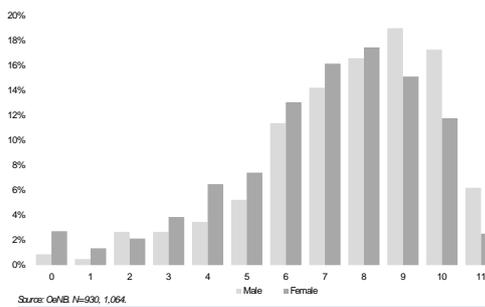


Figure 1. Percentage of Respondents Answering x Financial Knowledge Questions Correctly

Figure 2 shows that most men and women manage to answer simple questions correctly (simple division, understanding that lending EUR 25 today and getting EUR 25 back the next day implies an interest of zero, understanding that higher return usually comes at higher risk, understanding that high inflation implies rapidly increasing cost of living).

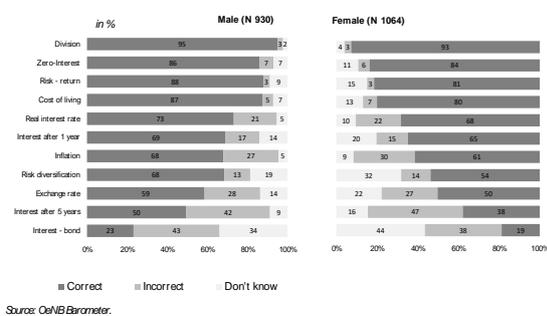


Figure 2. Financial Knowledge of Male and Female Respondents

With an increasing degree of sophistication of the questions the share of correct answers declines rapidly. The link between interest rates and bond prices actually produces more incorrect than correct answers.

Throughout all 11 questions the fraction of respondents giving the correct answer is higher for male than for female respondents. On average over all knowledge questions, men answered 70% of questions correctly, women only 63%. We can thus confirm the finding in the literature that knowledge gaps of women are larger than those of men. This will be further corroborated by the regression analyses on the financial knowledge scores (FKS) of the respondents in this paper.

The results shown in Figure 2 give support to the hypothesis in the literature that gender gaps in FKS may at least partly be related to differences in response behavior: Women indicate more often than men that they don't know the correct answer: For all individual 11 questions, the share of respondents answering with 'Don't know' is higher among female respondents than among men. This difference gets more pronounced when it comes to the most sophisticated questions. On average of all questions, the fraction of 'Don't know' answers is 18% for women and 11% for men.

We may hypothesize that women have a tendency to admit that they do not know the answer instead of just trying the best guess – as their male counterparts often do. While on average the share of incorrect answers among men and women is about equal, women more often declare that they don't know the correct answer. This may at least partly explain the lower share of correct answers. The apparent reluctance of women to make a guess may be related to a higher degree of risk aversion of women, as suggested by several studies [8]. We confirm this finding by analyzing the results of a specific item in our questionnaire that asks about the willingness of respondents to take a risk when investing money.

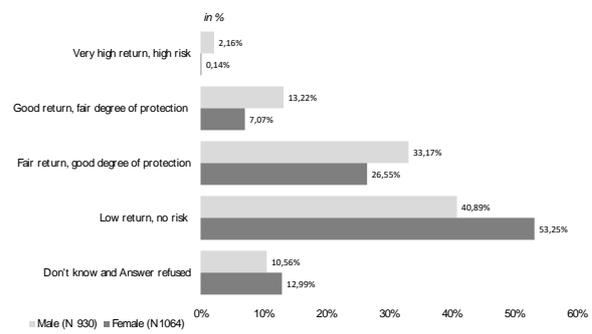


Figure 3. Risk Preferences of Male and Female Respondents

As Figure 3 shows, women are more risk averse than men. A Chi-Square-test confirms a statistically

significant gender difference. Most women prefer a low return on their investment as long as there is no risk to lose the invested money. Most men are willing to accept some risk to get a higher return. If this higher risk aversion of women also applies to response behaviour we should not be surprised to observe the higher tendency to answer, 'Don't know'. Alternatively, women's higher tendency to admit that they do not know the answer may also be the result of a lack of confidence in the own financial capabilities. Men tend to rate their financial knowledge higher than women do [9]. This can only partly be explained by the actually lower knowledge, which will certainly shape the self-assessment. Higher knowledge supports self-confidence in one's own financial capabilities, which in turn gives respondents the courage to answer difficult questions instead of refusing. Additionally, women appear to be more realistic about their financial knowledge. While respondents with low FKS have a tendency to overestimate their own literacy, this effect is less pronounced in the case of women.

The Box-and-Whisker-plots of the number of correct answers given by men and women in Figure 4 impressively shows that the distribution of the second and third quartiles as well as the extensions of the whiskers are almost identical. Therefore, knowing whether a person is a man or a woman would not allow drawing conclusions on this person's financial knowledge. It thus seems desirable to consider more variables to explain a person's level of financial knowledge and it seems wise to consider not only knowledge but also other factors of financial literacy such as financial attitudes or behavior in order to gain a more complete picture. Such an analysis concludes this paper.

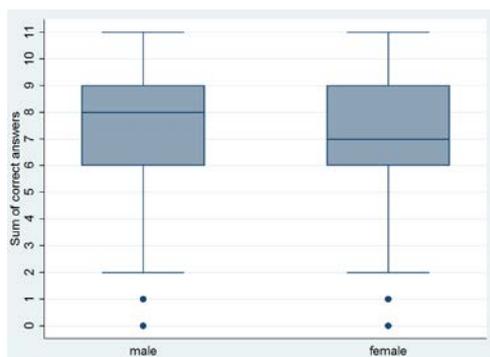


Figure 4. Distribution of Number of Correct Answers Among Male and Female Respondents

Another explanation for the gender gap in financial knowledge may be that the average male respondent in the sample systematically differs from the average female respondent. Men may, for example, have a different educational background than women.

Table 1 shows the major findings of a multivariate regression analysis of the financial knowledge score FKS on a set of socio-demographic characteristics such as age, education, income, employment status and town size (omitting for brevity the coefficients for employment status and town size since they are mostly insignificant). The coefficients are in line with the international literature, as summarized in Lusardi and Mitchell [2]. Financial knowledge increases with education and income and shows a nonlinear relationship with the age of the respondents. The Austrian data indicate that knowledge is maximized at the age of 51. Financial knowledge is thus lower for the youngest who have only scant experience of work life and financial markets as well as for the eldest who may not be familiar with new financial products and concepts.

Table 1. OLS Regression on Financial Knowledge Score (FKS)

	FKS	FKS
Male	0.63***	0.49***
<i>Female</i>		
Age		0.06***
Age squared		-0.00***
Education – low¹		-0.99***
<i>Education – vocational training²</i>		
Education – high³		0.68***
Income below EUR 2,000		-0.32**
<i>Income EUR 2,000–3,400</i>		
Income over EUR 3,400		0.19
Constant	7.06***	5.65***
N	1994	1994
R2	0.02	0.11

Note: Variables in italics are benchmarks for dummy variables. The regression is based on unweighted survey data. Coefficients for the additional controls employment status and town size are omitted given their statistical insignificance.

1 At most completed compulsory education.

2 Apprenticeship; technical, commercial or vocational education

3 Secondary academic or vocational education qualifying for university education; other education qualifying for university education; university of applied sciences; technical or vocational college; university: bachelor's, master's and doctoral degrees.

* p < 0.05, ** p < 0.01, *** p < 0.001

Source: OeNB.

The low level of R² is a common feature of microdata studies on financial knowledge [10, 11]. As we can only explain about 10% of the variation in the FKS by socio-demographic variables, important explanatory variables might be missing in the regression model (like the quality and quantity of financial education at home as well as in schools). Most importantly, Table 1 shows that after controlling for socio-demographic characteristics the gender coefficient in the regression

analysis shrinks from 0.63 to 0.49. Comparing financial literacy between men and women of similar socio-demographic characteristics thus reduces the gender gap considerably. However, the coefficient remains positive and statistically significant. Gender differences in financial knowledge are thus not exclusively the result of differences in socio-demographic characteristics.

4. Differences in Behaviour and Attitudes

According to the OECD definition [1], financial literacy does not only consist of knowledge, but also of awareness, skills, behavior and attitudes. Accordingly, it is interesting to see if there is a gap between women and men not only when it comes to financial knowledge, but also concerning behavior in financial situations and money attitudes.

The OECD toolkit for Measuring Financial Literacy [7] comprises eight items that measure various aspects of financial behavior on a five-step-Likert scale (1 representing the strongest agreement to the statement and 5 representing the strongest disagreement). Table 2 compares the means and the percentages of agreement to the statements of women and men within our sample.

Table 2. Financial Behavior – Comparisons of Means and Percentages of Agreement

Statements reflecting financial behaviors	Male	Female	Mean (cumulative percentage of respondents who strongly agree or agree)
Pondering whether I can afford a purchase**	2.03 (76.9)	1.83 (83.1)	
I live for today and let tomorrow take care of itself**	3.76 (20.2)	3.87 (15.5)	
I find it more satisfying to spend money than to save it**	3.38 (24.5)	3.55 (20.4)	
I pay my bills on time**	1.67 (87.7)	1.52 (90.8)	
Being prepared to risk some money when making an investment**	3.63 (24.6)	4.01 (13.5)	

I keep a close personal watch on my financial affairs**	1.74 (86.9)	1.64 (90.1)
I set long term financial goals and strive to achieve them	2.32 (63.7)	2.32 (65.8)
Money is there to be spent**	2.56 (52.3)	2.81 (41.9)

** $p < 0.01$ (t-test for independent samples)

The comparison of means shows that female financial behavior can be characterized as more prudent and cautious as compared to male financial behavior. Again there is a gender gap, but this time it is in favor of women. According to their self-evaluations, women have a stronger tendency to reflect their financial situations than men when making purchases. Women also seem to have a closer personal watch on financial affairs than men. Their answers also show a lower agreement to the items reflecting the tendency to spend money rather than saving it. All differences are statistically highly significant except for one item: 'I set long term financial goals and strive to achieve them'. In this case, the means of male and female respondents are statistically equal. But still, the percentage of (strong) agreement to this item is slightly higher for women.

Factor analyses show that the behaviours described above can be summarized by three factors (see table 5). The first factor comprises items like 'pondering whether I can afford the purchase', 'paying bills on time' and 'keeping close personal watch on financial affairs'. Factor loadings of these three items are only high with this first factor and far below 0.3 with the two other factors. We may label the first factor 'cautious planning and saving of money'. Three other items have high loadings on the second factor: 'living for today', 'spending money instead of saving' and 'money is there to be spent'. So, the second factor reflects a behavior pattern that could be labeled 'big spending'. The two remaining items 'setting long term financial goals and strive to achieve them' and 'being prepared to risk some money when making an investment' constitute the third factor and may be summarized as 'risk aware investing'. There is a highly significant difference between men and women concerning the first two factors, showing that women have the tendency to plan and save cautiously. There are comparatively more men who are 'big spenders'.

Our survey questionnaire furthermore comprised a number of questions that reflect financial attitudes and that were added to the OECD/INFE-toolkit for the Austrian survey, namely 15 items from Barry's [12] instrument that intends to measure five attitudes towards money:

- **Power:** the extent to which respondents think that money means power,
- **Importance:** money is important,
- **Quality:** money is needed to gain quality,
- **Planning:** money needs financial planning and
- **Saving:** money is something that needs to be saved.

A factor analysis of the Austrian data confirms the five-factor-structure. Items can thus be combined to sum scores. The differences in money attitudes between men and women are less considerable, but still some statistically significant differences can be found. Again, women have more ‘favorable’ attitudes than men: they have a higher tendency to think that money needs planning and they are less prone to buying expensive things because they suppose that a higher price stands for higher quality. Women also have a lower tendency to think that money enhances power over other people or situations.

5. Explaining Financial Well-being

The OECD definition of financial literacy [1] establishes a link between the three main aspects of financial literacy – knowledge, behavior and attitudes – and financial well-being. Most interestingly, this link has not been empirically investigated yet. We ran a regression analysis to identify the variables that contribute to the explanation of financial well-being. As proxy for financial well-being we suggest using the estimated period of time that people would get along after losing their main source of income, an item that is included in the survey questionnaire.

Table 3 shows a multivariate regression of this proxy of well-being on the financial knowledge score, several measures of behavior and attitudes and a couple of additional control variables: It seems plausible that the higher a persons’ income is, the longer he or she will be able to get along without income, because such a person can save money for rainy days. Also, it seems very likely that a person who lives with a partner will probably be able to get along for longer. We furthermore include age and gender as controls.

As expected, the variables ‘net income’, ‘living with a partner’ and ‘age’ all contribute significantly to the variance of the dependent variable and have the expected positive effects. But the analysis also shows that financial knowledge, attitudes and behavior make a considerable and significant additional contribution to explaining financial well-being. The model explains more than 34% of the variance of the dependent variable, the estimated period of time that people would be able to cover their living expenses after losing their main source of income as an indicator for financial well-being.

Table 3: Regression Model Explaining Financial Well-being

Dependent variable: estimated period of time that people would be able to cover their living expenses after losing their main source of income		
Independent variables	Beta	t
Number of knowledge questions answered correctly	0.125***	4.788
Financial behaviors		
„cautious planning and saving“	-0.168***	-6.023
„big spending“	0.122***	4.636
„risk aware investing“	-0.080**	-2.957
Attitudes		
Power	0.039	1.294
Importance	0.042	1.627
Quality	-0.247***	-8.561
Parsimony	0.143***	5.297
Monthly net income	0.175***	6.205
Living with a partner	0.137***	5.185
<i>Without partner (Ref.)</i>		
Female	0.013	0.494
<i>Male (Ref.)</i>		
Age	0.246***	8.766
Const.		5.573
R² 0.349	**p<0.01	
Adj. R² 0.342	***p<0.001	

Most interestingly, the respondents’ gender has no impact on financial well-being in our study. This implies that when it comes to explaining how long a person thinks (s)he can cover his or her living expenses, gender does not make a difference. However financial knowledge, attitudes and behavior do play an important role, and obviously a lack of financial knowledge can (at least partially) be compensated by favorable money attitudes and prudent financial behavior.

6. Conclusions

Overall, we confirm the existence of a gender gap in financial knowledge: Men tend to outperform women in answering knowledge questions. This gender gap remains significant even if we take different answer behaviour and differences in socio-demographic characteristics into account.

Lower financial knowledge of women can be problematic as it may translate into insufficient financial provisions for the future, especially pensions. This is worrisome given high divorce rates and longer life expectancy of women which may lead to a situation in which women at some point in their lives suddenly will have to deal alone with financial matters.

But the conclusions of prior research that women are less financially literate or a financially vulnerable group cannot be fully supported. Most interestingly, the respondents' gender is irrelevant for explaining financial well-being in our study. Though women answer significantly less knowledge questions correctly than men, they outperform men when it comes to prudent financial behavior and they also show more favorable money attitudes. They are also more risk averse and have a higher tendency to carefully plan their financial affairs. More prudent attitudes might – to some extent – compensate for the lack in financial knowledge. These factors are important explanations for financial well-being, along with income, age and living with a partner.

However, we would need more variables measuring financial well-being to confirm this hypothesis. Even more, it would be desirable to learn more about important financial decisions, how they are made and how people – no matter if male or female – can be effectively supported to make sound decisions and achieve financial well-being. These insights could be used to improve financial education programs and interventions for fostering financial literacy, both for men and women. Anyway, supporting women to acquire more financial knowledge might support them to gain more confidence in financial situations and lead more independent financial lives.

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Developing Self-Regulated Learning in a Lecture-Based Accounting Course: A Gradual Release of Responsibility Model

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Abstract

Undergraduate accounting classes are usually taught in a lecture format in a topical manner. The knowledge transmission instructional method is likely to result in fragmented understanding of accounting principles and inadequate to inculcate self-regulated learning (SRL) skills, an essential 21st century competency. This paper investigates the effects of the gradual release of responsibility (GRR) model on SRL in an introductory accounting class. GRR facilitates instructional scaffolds according to a four-step approach: focus lessons, guided instruction, collaborative learning, and independent work. During the focus lessons, the accounting lecturer explicitly modelled the thinking process in problem-solving, this was followed by guided instructions in the form of class discussion and step-wise practices to solve partial problem sets. In the last two stages, students work with peers before attempting the full task independently. Fidelity check confirmed that GRR phases were successfully implemented with significant mean differences in student perception of gradual release in instructions in the experimental group. One-way ANOVA yielded statistically significant SRL levels in the Vermont's Inventory of Learning Styles subscale for the experimental group, $F(4,437) = 3.909, p < .005$. However, insignificant differences were observed in SRL paired t-tests for pre- and post-intervention. While higher means in perception of GRR and SRL were reported, causal relationship between GRR method and SRL was inconclusive. Because of wide SRL variants and the multitude attribution factors, it is recommended that further analysis may be carried out to examine the intervention effects represented as proportions above or below the mean value.

Evaluating the Experiences of International Students in the Canadian Context: A Proposal for Future Research

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Abstract

Canadian Universities such as Cape Breton are making headlines for growing pains related to accommodating an increasing international student population [2]. The number of international students in Canada has surpassed 350,000 [1]. Following this trend, McGill University's increasing international student population is roughly one third of the study body - as such, identifying how to adequately support an expanding population who may be vulnerable in the wake of globalization is critical [5]. The augmentation of international student numbers is affiliated with the phenomenon of neoliberalism, which is an economic model that prioritizes profits, commodities, and expansion [6]. Under neoliberalism, social issues are overlooked in favor of economic prosperity [6]. Neoliberalism's implication for international students manifests as higher tuition rates when compared to their domestic peers, a culture of aggressive recruitment, and monoculturalism in education [3]. These factors, along with acculturative stress, or "the psychological impact of adaption to a new culture" interact and impact the international student experience [7]. Research on acculturative stress demonstrates that new international students often struggle with factors such as language proficiency, perceived discrimination (including sexual harassment and exoticizing), vulnerability, exploitation, social isolation, administrative and legal barriers, and financial burden [4], [8], [10]. Following the vein of research that seeks to support positive social and emotional experiences of this population, this research initiative seeks to understand the experiences of international students and their perception of campus supports against the backdrop of neoliberalism. Most importantly, ways in which their campus experiences can be improved will be identified.

The research will address the following questions: (1) What are international students' experiences with acculturation and acculturative stress (e.g. academics, exploitation, complex legal and administrative procedures, discrimination (including sexual harassment and exoticizing), social support, language, financial burden), and how are these experienced shaped by neoliberalism? (2) How do international students perceive arrival services and international student supports in the context of their own experiences with acculturation (counseling services, buddy system, orientation, language and writing labs)? The most critical aspect of this research is that it is action oriented and intended to ameliorate how universities accommodate international students. More specifically, feedback received from this research will be mobilized to improve the campus experiences of this population. The findings generated have potential to benefit and further inform stakeholders in Canadian international education.

In proposed collaboration with international student service providers at McGill, a diverse and representative sample of first-time international students at the undergraduate and graduate level will be asked to participate in semi-structured interviews, focus groups, and journal entries. Questions will center on the previously outlined themes. Using a Critical Methodology approach that lends itself to the careful analysis of the status quo and employs participatory and healing methods to facilitate dialogue, this qualitative research will have three distinct phases: (1) Interview-25 participants, (2) Journal entries-5 journal entries per participant with prompts, (3) Focus Groups-25 participants/5 students per session. These phases encourage

triangulation and will provide a more comprehensive analysis. Finally, focus groups are intended to use feedback to improve services, which aligns closely to the goals of this research. The research is anticipated to provide insight into how McGill University is serving it is international student population and identify areas for improvement. These areas may include recommendations for improving social initiatives, reducing barriers to counseling services, and increasing academic support.

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One Classroom, Two Cultures: The Experiences of Chinese Students in an American College

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Abstract

The purpose of this study was to explore undergraduate Chinese international students' perceptions about their classroom experiences in a United States institution of higher education. Banking education, a term used by Paulo Freire to describe and critique the traditional education system, was used as the theoretical framework for this study. After analyzing the ten interviews of Chinese international students, the following areas were discussed: comparison of classroom experiences in the United States and China; assessment practices in the United States versus China; and the differences in the relationship between students and faculty in both countries. While most of the participants preferred the American classroom practices to practices in China, all faced challenges as they navigated cultural differences in the classroom. The concept of banking education helped to illustrate the difficulties Chinese students face when they enter Americanized classrooms and a different pedagogy.

1. Introduction

The globalization of the higher education landscape has increased the number of students who decide to go to foreign countries to pursue undergraduate degrees. Some students depart cognizant of the likely barriers they may face and need to overcome. For other students, the foreign classroom is a shock.

The largest national groups of foreign students studying outside of their home country come from China, India, and Korea (Organization for Economic Co-operation and Development [OECD], [4]). Since 2004, China has been the country sending the largest numbers of students to English speaking countries such as the United States, Australia, the U.K. and Canada. In terms of Chinese enrollment in U.S. universities, this translated to 235,598 international students during the 2012-2013 academic year [1]. The economic implications of large numbers of Chinese students (especially in the fields of business and engineering) caught the eye of educational administrators and enrollment managers. This has not translated into researchers and administrators

examining the classroom experiences of Chinese students.

The purpose of this study is to explore undergraduate Chinese international students' perceptions about their classroom experiences in a two-year technical college located in Manhattan New York. Although this research is focused on Chinese students, what is discovered could apply to a range of national groups and global universities.

2. Methods

Over a one-month period, data was collected through open-ended interviews with ten undergraduate Chinese students enrolled for the summer 2017 semester at a two-year technical college in Midtown Manhattan. Prior to being interviewed, the participating students were told about the study and asked to give the subject matter some thought. The interviewer met with each student one time. Each interview lasted between sixty and seventy minutes. Initial questions were developed and follow-up questions were used to clarify or expound on initial responses. Follow-up questions were asked within the context of the relationship established with each participant. The interviews were recorded and transcribed verbatim.

The following research questions guided the study:

- What are some similarities and differences between classroom experiences in the U.S. and China?
- What U.S. classroom practices are perceived as positive? What U.S. classroom practices are perceived as negative?
- What are the participants' perceptions about the way American faculty and students interact?

3. Analysis of Data

The interviewer took limited notes to capture body language and non-verbal communication displayed by the participants. The transcribed interview data was analyzed and interpreted using qualitative methods applicable to open-ended interview data. The aim of the questions was to gain access and explore Chinese

students' perceptions about their classroom experiences.

4. Theoretical Framework

The concept of banking education was used as the theoretical framework for this study. Paulo Freire first introduced the concept of banking education in his highly influential book *Pedagogy of the Oppressed* published in Portuguese in 1968 and translated into English by Myra Ramos in 1970. Freire describes this form of education, as the student acting in a passive role while the teacher is active. The student enters the classroom with no knowledge and the teacher imports learning into the student much like money is deposited into a bank.

In the banking concept of education, knowledge is a gift bestowed by those who consider themselves knowledgeable upon those whom they consider knowing nothing...The teacher presents himself to his students as their necessary opposite; by considering their ignorance absolute, he justifies his own existence [2].

For the purposes of this article, I argue that prior to entering the American classroom, Chinese international students have mostly been exposed to banking education. One of the greatest hurdles students must overcome in order to achieve success in the American classroom is gaining their own emancipation through participation in their learning. The American classroom, which emphasizes participation in classroom discussion, assertion of one's own opinion, and active learning, creates a different classroom atmosphere. Adjusting to a new pedagogy may create obstacles for Chinese international students. It is important to clarify that the intention of the use of the banking concept of education is not to critique the Chinese education system, but rather to explore specifically the classroom experiences of Chinese international students through a critical lens that offers a better understanding of this growing population in institutions of higher education in the United States.

5. Literature Review

There are a limited number of published studies regarding international students' perceptions of classroom experiences. Even fewer studies focus solely on international Chinese students in America. A few researches, whose articles can be accessed using major search engines like ERIC and Google Scholar, have explored this topic. According to Hofstede, the main challenges for foreign students in American classrooms stem from the different cultures between teacher and student [3]. Hofstede concluded

that education in China can be characterized by a large power dynamic where the "esteemed professor" disseminates information to the student. The learning atmosphere in a Chinese classroom is formal and structured allowing for little student-teacher interaction. This is a teacher-centered learning model [6]. Most recently Valdez examined the "double consciousness" Chinese students experience in American classrooms as they identify with other Chinese students, but also disassociate themselves from their Chinese colleagues when certain stereotypical behaviors, such as cheating, are perceived as negative by faculty [5].

6. Results and Discussion

In this study, higher education classroom practices are defined as activities that take place in a classroom including classroom discussion, teamwork, group projects, lectures, and presentations. Assessment is defined as the way students are evaluated in order to earn a final grade. This includes but is not limited to exams, classroom participation, group work, and presentations. After analyzing the interviews, the following themes emerged: the differences between the American and Chinese classroom, differences in assessment techniques, and the student teacher relationship.

7. Comparison of Classroom Experiences in the United States and China

All of the participants compared their experiences in an American undergraduate classroom with their experiences in Chinese high schools because none of the participants had attended college in China. When asked to describe a Chinese classroom, respondents frequently used words such as "discipline, respect, and time consuming." Many participants commented on the amount of time they spent preparing for classes in China verses the United States.

...for example in China, they just give you a lot of question[s] and the text and you have to remember the... like... the wide area. Like, you have to remember everything and then – so you have to spend more time to do that. You have to spend a lot of time. You have to know everything and in a very strict way – [in a] word for word way. But here [in the U.S. classroom] they just focus which one you have to learn, so I don't have to... I don't have to remember everything. It takes less time. The study [in the U.S.A.] takes a lot less time.

Students tended to have a positive outlook towards having more free time to pursue outside interest in the United States. They saw the decreased hours they

spent studying as positive. Several students commented that for the first time in their lives they had free time. When asked follow up questions regarding how they spent this time many developed hobbies, relaxed, traveled, and explored new friendships. Some respondents described this new experience as becoming “free.” One student commented that they felt like a totally different person, “a free person.”

Several participants focused on the Chinese classroom space as a place to listen and take notes in order to memorize information. In contrast, participants described the American classroom in terms of “creativity, self-expression and freedom.”

I think – I think in a Chinese classroom, I think students are – shows more discipline in terms like, you know showing respect for the teachers and listen to and follow instructions a little bit more. I feel like [in China] it’s a bit more defined and clearer than American school. And I think [in] American schools, it’s a lot about self-expression, so it’s not necessarily a bad thing, it’s just a different way of, I guess, learning in general.

This sense of “freedom and self-expression” created consternation for a few participants especially as it related to graded assignments. Several respondents commented that reflection papers were particularly challenging because they had never been asked to share emotional experiences in a classroom setting. They did not know how to “please the professor” as one student put it. The idea that a student’s response to a text actually mattered seemed ludicrous to one participant. The participants saw classroom discussion as mostly positive, but some felt uncomfortable in classes where a large part of their grade was based on this. For most participants, discussion was a new way to learn. Assessment practices in the United States came up frequently in all interviews.

8. Assessment

All participants mentioned the vast difference in assessment methods. Participants described the Chinese classroom in terms of students having to raise their hands to answer or ask a question, and commented on how usually they cannot speak unless chosen by the instructor. When picked by the instructor to answer or ask a question, students must stand up to show their respect to the professor. Several participants commented that in China students do not always participate in the classroom. They believed this is because the purpose of students is to sit in the classroom and to copy and memorize all the information that the instructor teaches and then the

student must regurgitate it on the exam paper to get a good grade.

Some Chinese students commented on how they would “mute their voice through the whole semester, because they have been trained not to speak their minds and not to raise any conversation that has an opposite or different opinion to the instructor’s teaching.” In contrast, respondents commented on the emphasis of speaking in American classrooms. Many respondents had been in seminar style classroom where much of their grade was based on classroom participation.

Yeah, whenever there is a seminar class, there is a lot of discussion. If it’s a long period – like if it’s a class of more than two or three hours, usually the teacher wants us to speak a lot. And, I think in American schools, the teachers encourage questions and interactions a lot more than Asian schools... and [Chinese] teachers.

Some respondents felt at a disadvantage because they were not used to the format of a seminar class; moreover, some felt being non-native English speakers put them at a disadvantage. One student commented that his grade was negatively impacted because he received a low score for participation. He felt his final grade would have been significantly higher had class participation not paid such a large part in his overall assessment. Most participants found classroom discussion challenging but not without benefits to their overall learning.

I agree with classroom discussion because it seems like – that seems like discussion is good for you – especially where you don’t know a lot about the subject and you could learn in a different way. Maybe a different way than the teacher. Maybe the teacher is not always right, you never know. And you realize that questions could be a lot of way [a different way] to figure out [information] from other people. I think it’s important to talk to each other... listen to each other or whatever...

When students discussed exams in China they saw them as very different from American exams. One student described Chinese exams as “equal to memory tests. They test how well you can memorize the textbook contents and key words.” Many participants commented on the differences between writing an essay exam in China and America. Respondents felt that in China even the essay part of an exam has an instruction to limit the way you can show your creativity. In contrast, when taking an essay exam in America, students were graded on their creativity. One student was exasperated by this approach because she felt her writing ability was strong in terms of grammar, punctuation, and spelling. She resented

this “tricky element of creativity.” Many participants commented that the experience of learning to write creatively was harder than perfecting the English language. Some participants commented that the American classroom was the first place they had vocalized their opinions and found a voice.

8. Relationships

All participants, in some way, addressed the difference in the roles of teacher and student. One student commented she was shocked by the “friendly American teacher” who started class by greeting the students and asking them how they were or what they had done over the weekend. Another participant described the classroom dynamic as “friends chatting.” Participants tended to think of American teachers as guides or facilitators and although some participants felt it was unusual for students to call teachers by their first names, most appreciated this less formal approach. The relationship between teachers and students was described as “casual.” For some, this was a difficult adjustment and took weeks or even a semester to get used to. Participants struggled with being encouraged to question the instructor, ideas, and each other. One student commented that she couldn’t believe the professor “actually cared what I thought and that my opinion mattered.”

9. Banking Education

A pattern of what Freire referred to as banking education was suggested throughout the interviews as participants pondered previous experiences in the Chinese classroom. The students interviewed for this study reflected on how the American classroom made them participate in their own learning through classroom discussions, articulating their own opinions, viewing faculty as facilitators that could and should be questioned, and coming into a space where students’ opinions mattered. This is consistent with Freire’s idea that:

Education must begin with the solution of the teacher-student contradiction, by reconciling the poles of the contradiction so that both are simultaneously teachers *and* student [2].

10. Conclusion

The experience of studying overseas may be one of the most rewarding and challenging adventures of a lifetime. Global universities need to go beyond recruitment and enrollment and examine the challenges Chinese international students face in the classroom. The perceptions of the students in this study were very revealing. While most of the students preferred the American classroom practices to practices in China, all the students faced initial barriers adjusting to the pedagogical differences between the two cultures.

This research has potential impact on helping to support Chinese international students to actualize their goals. In many conversations around Chinese international students there has been a missing voice, that of the student. This voice could add to new ways of seeing barriers and possible remedies. Although the sample size of this study is too small to offer definitive findings, it is a starting point for further inquiry and could reveal new perspectives.

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Session 7: Inclusive Education

Title: Factors Responsible for Academic Procrastination Among Pupils with Learning Disabilities in Secondary Schools in Ilorin, Kwara State, Nigeria
(Author: Olaniyi Bojuwoye)

Title: Improving Special Education Students' Outcomes through Assistive Technology: A Review of Literature
(Author: Elaine Wilson)

Title: Inclusive Education for Syrian Refugee Children in Scotland
(Author: Annette Francis Parakkal)

Title: Teaching Self-Determination to Middle School Students with Learning Disabilities in a 3D Virtual Learning Environment
(Authors: Kara Rosenblatt, Pena Bedesem)

Title: Thriving, Not Just Surviving as a Female STEM Major with ADHD: A Quantitative Analysis of Cumulative G.P.A.
(Author: Nicole Nicholson)

Factors Responsible for Academic Procrastination among Pupils with Learning Disabilities in Secondary Schools in Ilorin, Kwara State, Nigeria

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Abstract

With time pressure and increased use of technology people nowadays tend to put off things or delay intended courses of action. The behaviour tendency to voluntarily postpone, delay or put off a task or decision is described as procrastination which has serious negative outcomes. The purpose of the study was to ascertain the factors responsible for academic procrastination as considered by pupils with learning disabilities in the secondary schools of Ilorin metropolis, Kwara State, Nigeria. Structured questionnaire consisting of statements about different factors responsible for procrastination was used with respondents requested to indicate their degrees of agreement in a four-point Likert-type format. Results of data analysis revealed that indecision, time management, lack of motivation, fear of failure, poor organizational skills, high stress, poor coping strategies and peer influence, in that descending order of importance or priority, are factors participants endorsed as being responsible for their academic procrastination. Results also revealed gender differences in the factors respondents indicated as being responsible for their academic procrastination. The results have implications for the creation of knowledge and awareness of factors responsible for academic procrastination among secondary school pupils in order to intervene in the negative consequences to the well-being of the pupils,

1. Introduction

Procrastination, simply defined, is the putting off or deferment of actions or tasks to a later time or even infinity [1]. It is also seen as the voluntary delay or postponement of some important tasks or the frequent failure to do what needs to be done in order to reach goals [2]. A procrastinator, then, is someone who knows what to do, how to do it, tries to do it, but still does not do it [3].

Procrastination is a very common phenomenon and takes place in almost every-day behaviours [1]. It has cognitive, affective and behavioural components and manifests in different forms including as in academic, decisional, neurotic or compulsive procrastination [4], but the most common form is academic procrastination [5]. Academic procrastination is a common behaviour problem among school and

university students [4]. Gafni and Geri [1] observe that, within academic environment full of events and activities competing for students' time and attention, academic procrastination is widespread as students are required to meet deadlines. Academic procrastination is often described as "student syndrome" as many students often begin to engage themselves in a task just before deadline [6]. According to Ozer, Demir and Ferrari [7], procrastination affects 46 to 95% of students. Gargari, Sabouri and Norzad [7] also assert that an estimated rate of problematic academic procrastination among undergraduate students is 70 to 95%.

In terms of definition, academic procrastination is considered to be the pervasive and permanent desire on the part of a student to postpone academic activities [7]. It is the delaying of academic work that must be completed or the failure to complete an academic task within the expected time frame [10]. Deferring study to the night just before examination and the accompanied anxiety and haste are the most obvious and familiar instance of academic procrastination [8].

Procrastination has received many empirical attentions especially within the field of psychology. Procrastination has been linked to personal behavioural factors including lack of motivation, deficiencies in self-regulation, external locus of control, perfectionism, disorganization and poor time management [9]. Lack of motivation is a commonly given reason for procrastination especially when the task is unpleasant and less exciting [7]. A person may also not be motivated to perform a task when such task's goals are unclear or underestimated. If a student is confronted with a boring academic assignment or an assignment high in difficulty level, the student may not be motivated to start or complete the assignment.

Another factor high on the list of causes of procrastination is what is self-regulation failure, or the inability or failure to control one's moods and emotions [11]. Ferrari and Tice [12] also consider procrastination as a behaviour tendency of not being able to accomplish self-regulation or not being able to manage one's emotions and reactions. According to You [10], procrastinators delay or participate less in learning activities due to a failure in self-regulation. Gargari et al. [4] also state further that procrastinators fail to accomplish self-regulation because they have

lower ability to resist social temptations especially when they undervalue distant academic prizes. Wang [11] contends that procrastination occurs when an unpleasant task meets a person who is high in impulsivity and low in self-discipline.

Deficient time management and study skills have also come under the radar of factors responsible for procrastination [8]. You [10] sees a link between procrastination and poor time management as study found students to have problems with everyday academic tasks such as studying for tests and examinations or completing assignments. It is further contented that among behaviour variables of procrastination linked to poor time management are a lack of proper planning, inability to concentrate on work, fear and anxiety related to failure and negative beliefs about one's capabilities.

However, Ferrari and Tice [12] assert that chronic procrastination is not only a time management issue but also indecision as difficulty with making decisions is a behaviour that correlates positively with procrastination. Ferrari and Tice [12] explain further that procrastination is not just delaying or waiting to gather resources and information before making decisions but rather it is a decision not to act. It is that gap between intention and action, that is, between knowing what you ought to do and not being able to bring your-self to doing it.

Rebellion against external control or evaluation is another facet of or reason for academic procrastination [11]. Rebellion or resistance here is with regard to reaction to control of one's behaviour by someone being rebelled against. For instance, a student may be rebelling against his or her parents for being forced to choose a course or an academic programme leading to a specific career which the student may not want. The student may, therefore, be involved in procrastination behaviour by not completing assignments or tasks in that course of study for the career because it has been imposed on the student.

Other inter-related factors associated with academic procrastination often clustered as external factors include difficulty level of task, distractions or noisy place of study and attributions of results and consequences of tasks to luck or fate [4].

2. The Study

Academic procrastination is a common phenomenon among all students in school. Students with learning disabilities are, therefore, no exception. They may even be more affected especially when the peculiar problems associated with their disabilities are not being properly addressed or not addressed at all. Academic procrastination is associated with numerous negative academic outcomes - missing deadlines for submitting assignments, delaying studying for tests and examinations and obtaining low

grades [4]. Academic procrastination is also associated with negative psychological and physiological outcomes - depression, low self-esteem, anxiety, guilt and stress [7]. Also, to be poorly prepared for tests and examinations, to have increased test anxiety and lower grades are but a few of the negative consequences of academic procrastination [12].

Academic procrastination is a common phenomenon among all categories of students in school. Students with learning disabilities are, therefore, no exception. They may even be more affected especially when the peculiar problems associated with their disabilities are not being properly addressed or not addressed at all. Since procrastination is found to seriously impact academic performance of students, there is, therefore, the need to provide appropriate interventions to students to combat the damaging consequences of procrastination. There is need to recognize procrastination reasons and or causes in their different forms, and to promptly take them under control, before this bad habit damages students' career and pride, or destroys their interpersonal relationships and overall well-being. Finding out what causes or are responsible for procrastination, therefore, becomes more apparent. The present study, therefore, had this as its main problem focus and asked the following questions to guide the study:

1. What do secondary school students with learning disabilities consider as factors responsible for procrastination influencing their academic performance?

2. Are there gender differences in the factors students with learning disabilities considered responsible for procrastination influencing their academic performance?

By carrying out this study the researchers also intended to contribute to literature on procrastination in the academic context in Nigeria.

3. Methodology

3.1. Subjects

The population for the study included all students with learning disabilities in the high schools in Ilorin metropolis, Kwara State, Nigeria. The study sample comprised one hundred and fifty students with learning disabilities (80 males and 70 females). The study used multi-stage sampling technique. The first stage was employing random sampling to select the schools where learners with learning disabilities were enrolled. The second stage involved purposively selecting students with learning disabilities, identified by their teachers, to participate in the study. The process also involved providing information about the study, explaining the conditions for participation and

obtaining the informed consents of those finally selected to participate in the study.

3.2 Instrument

Most procrastination studies used self-report questionnaires to assess behavioural tendencies related to procrastination either in academic tasks or in daily tasks [10]. In line with this practice a self-report questionnaire titled “Factors Responsible for Academic Procrastination Questionnaire” was developed for this study. It is a structured questionnaire consisting of two sections. The first section gathered demographic information including gender and other relevant data about the participants. The second section contained statements on different factors or reasons that may be responsible for academic procrastination. The factors were generated from the literature and include Lack of Motivation, Lack of Skills to Complete Academic Task, Fear of Failure, Fear of Success, Indecision or Difficulty to Make decision, Rebellion and resistance to external Control and Poor Self-Regulation

Due to the limited education attainments and understanding of the students, adequate explanations were included in the statement of each factor or reason for procrastination. Furthermore, the questionnaire statements were structured to elicit responses by the respondents who were requested to indicate on a 4-point Likert-type scale the degrees of their agreement with the questionnaire statements (Strongly Disagree= 1, Disagree= 2, Agree= 3, Strongly Agree= 4).

3.3. Method of Data Analysis

Each participant’s response score on each factor or reason for procrastination presented on the questionnaire was found. Total response score on each item of the questionnaire, for all respondents or each subgroup of respondents, was also found. The mean response score for all respondents or each subgroup of respondents was calculated to indicate the degrees of agreement to the statements on the questionnaire regarding the factors or reasons responsible for procrastination by all respondents or a subgroup of respondents of this study.

4. Results

Table 1 below displays information regarding the suggested factors responsible for procrastination as presented on the questionnaire and the mean response scores indicating the degrees of agreement with the suggested factors or reasons for procrastination, by all and subgroups of respondents.

According to the information presented on the table, all the mean response scores by the respondents are above average (2) and clustered around mean

score of 3 to indicate that the respondents’ degrees of agreements with the factors responsible for procrastination were above average. This is an indication that the respondents of this study agreed, fairly strongly, that the factors presented to them on the questionnaire, could be responsible for procrastination and these factors could have been perceived to be related by the respondents as the response scores are very close.

In terms of degrees of agreement to the factors presented on the questionnaire the respondents indicated Indecision (3.34), Poor Time Management (3.29), Lack of Interest (3.28), Lack of Motivation (3.18), Lack of Skills(3.16), Fear of Failure(3.14), Peer Pressure Influence(3.07), Poor Self-Regulation (3.03), Rebellion and Resistance (2.90) and Fear of Success (2.86) in that descending order of agreement. The results indicate that Indecision, as a causal factor responsible for academic procrastination, was rated most highly above other factors by the respondents of this study. Fear of Success was rated as the least likely factor responsible for procrastination.

Results of data analysis revealed gender differences. Male respondents’ degrees of agreement, in terms of their mean response scores to the questionnaire statements, indicate Lack of Interest (3.56), Indecision (3.40), Lack of Motivation (3.23), Poor Time Management (3.20), Peer Pressure Influence (3.13), Poor Self-Regulation (3.03), Lack of Skills (2.94), Rebellion and Resistance (2.93), Fear of Failure (2.91) and Fear of Success (2.84) in that descending order. The results indicate that the male respondents of this study placed high priority to Lack of Interest as a causal factor responsible for procrastination than other factors presented to them on the questionnaire. Male respondents also rated Fear of Success as the least likely factor responsible for procrastination.

On the other hand, the female respondents, in terms of their mean response scores (and hence their degrees of agreement), rated Lack of Skills (3.38), Poor Time Management (3.37), Fear of Failure (3.36), Indecision (3.28), Lack of Motivation (3.13), Poor Self-Regulation (3.03), Lack of Interest (3.00), Peer Pressure Influence (3.00), Fear of Success (2.88) and Rebellion and Resistance (2.87) in the descending order as factors responsible for procrastination. The female respondents placed the highest priority on Lack of Skills to accomplish task as factor responsible for procrastination unlike their male counterparts who gave the highest priority to Lack of Interest.

5. Discussion

Many people struggle with procrastination on a daily basis. This may not be unconnected to the fact that many times people seem not to be encouraged or motivated to undertake a task or an activity because of myriad of excuses, habits, thoughts, and fears.

Table 1. Suggested reasons for procrastination by the respondents' mean response scores to indicate their degrees of agreement to the reasons for procrastination

S/N	Reasons for or Causes of Procrastination	Response Mean Scores		
		All Participants	Male Participants	Female Participants
1	Lack of Motivation (due to unpleasant, boring or less exciting task, unclear or underestimating task goals)	3.18	3.23	3.13
2	Lack of Skills to Complete Academic Tasks/Assignments (poor self-efficacy, self-handicapping or underestimating one's capacity to complete task)	3.16	2.94	3.38
3	Poor Time Management	3.29	3.20	3.37
4	Fear of failure (I don't want to end up failing even after giving my best or because of limited time and really have not tried)	3.14	2.91	3.36
5	Or fear of success (fear that if task is done well next time even more might be expected of you or that succeeding may place one in spot light when you prefer the background)	2.86	2.84	2.88
6	Lack of interest (or too ambiguous tasks)	3.28	3.56	3.00
7	Indecision (Difficulty or finding it so hard to make decisions)	3.34	3.40	3.28
8	Rebellion or Resistance (feeling as if tasks are being imposed from outside)	2.90	2.93	2.87
9	Poor Self-regulation (waiting for the right mood, impulsivity, distractions)	3.03	3.03	3,03
10	Peer Pressure Influences	3.07	3.13	3.00

These behaviour tendencies involve processes which are inter-connected or intertwined.

This could be an explanation for the closeness in the mean response scores or the degrees of agreement to the questionnaire statements by the participants of this study. The participants could have perceived the behaviour tendencies or factors responsible for procrastination as inter-related or overlapped with one another. This finding is consistent with Jaffe's [2] contention that many behaviour processes that fall under the domain of executive functioning and are associated with procrastination overlap. Although the participants of the study endorsed all the factors presented to them on the questionnaire as factors responsible for academic procrastination they, however, assigned different priorities or importance to the factors. Thus, the participants rated Indecision, Poor Time Management, Lack of Interest, Lack of Motivation, Lack of Skills, Fear of Failure, Peer Pressure Influence, Poor Self-Regulation, Rebellion and Resistance and Fear of Success in that descending order of degrees of agreement, priority or importance.

Assigning the highest priority to indecision as a factor responsible for procrastination by the participants of this study may not be unconnected with Ozer, Demir and Ferrari's [7] explanation that some people find it so hard to make decision because they wait for others to make the decisions for them. This

may be true in a society, like in Nigeria, where the young defer decisions to authority figure like parents or teachers. Moreover Gargari, Sabouri and Norzad [4] also note that some people intentionally and unreasonably postpone making decisions because of the uncertainty of the consequences. According to Ferrari and Tice [12], although it is very helpful and useful to gather information to make an informed decision, but often the anxiety around information needed for decision and uncertainty about the outcome of the decision often result in indecision, Not knowing what will eventuate from daily decisions and actions has a tendency to hold people back from taking decision [10].

Literature also suggests that indecision, avoidance and postponing of decision are also related to other behaviour tendencies associated with procrastination which have also been endorsed by the participants of this study. These behaviour tendencies include feeling inadequate or poor academic self-efficacy, lack of confidence, lack of interest or low self-esteem as well as lack of skills or resources. In terms of academic self-efficacy beliefs the research results revealed that the tendency for people to postpone decreases when students believe that they are capable of completing or accomplishing the task increases [13].

The participants' choice of Poor Time Management as the second most important factor

responsible for procrastination is consistent with Gargari, Sabouri and Norzad's [4] study findings that poor time management may be blamed for procrastination when students are experiencing workload challenges. Van Eerde [13] earlier identified three different types of behaviours associated with poor time management that often facilitate procrastination. The first type of behaviour is associated with task performance. That is, the procrastinator may not be able to meet deadlines or if deadlines are met the work may not be of best quality due to time constraints or inadequate time to complete the task. When a certain task is avoided, the distraction created to do so may not cause the avoided task to disappear completely from the procrastinator's mind, and it may resurface frequently causing internal negative consequences [11]. Uncontrolled thinking about the avoided task is continuously produced, causing anxiety and in turn causing the task not to be performed or performed poorly.

The second type of behaviour associated with poor time management resulting in procrastination is related to extra-role behaviour. Here the task goals may be avoided while personal goals are used as distractors. According priority to personal goals instead of the goal of the task is also implicated in the fear of failure as behaviour tendency causing procrastination [14]. The third type of behaviour is related to social interaction whereby procrastination may affect other people as well, like having to wait or having to constantly remind the procrastinator of deadlines.

According to Ferrari and Tice [9] a huge part of procrastination is not poor time management but rather it is poor self-regulation. Steel [15] also contends that procrastinators delay or participate less in learning activities because of a failure in self-regulation. It is further contended that the characteristics or level of regulation skills of procrastinators and non-procrastinators are different. Self-regulated learners have a wide range of cognitive strategies and are able to choose effective ones for their learning [16]. Self-regulated learners utilize metacognitive skills and possessed adaptive motivation and attitudes responding to a variety of academic context [10].

Other factors responsible for procrastination endorsed by the participants of this study which are also consistent with findings in the literature include personality traits such as lack of motivation, self-handicapping behaviours [9], fear of failure, lack of interests and rebellion or resistance [12].

This study also found gender differences in procrastination which is also consistent with the findings in the literature. As observed by Van Eerde [13], male students are slightly more likely to procrastinate than female students. Steel [15] also found procrastination more common in males than females. The study found that male students rated

their procrastination higher than female students across more factors, and this is consistent with the study finding by Steel [15]. Similar relationships have been found across genders for procrastination and test anxiety and other behavioural variables in other studies [3].

6. Conclusion

A number of problems in students' school life prevent them from accomplishing their educational responsibilities satisfactorily. One of these problems is academic procrastination, a behaviour tendency involving avoiding, delaying or postponing academic duties such as preparing for exams and delaying homework assignments sometimes or constantly. Academic procrastination in whatever forms causes students failure, academic unhappiness, stress and low life satisfaction. In order for the students to succeed in school and later in life it is necessary to find solution to the problem of academic procrastination. In order to intervene and proffer solution that would enable students to break their academic procrastination behaviours there is need for significant and objective information related to awareness and understanding of the makeups of academic procrastination. In this connection, this study was designed to find out the different causes of and or factors responsible for academic procrastination especially among young adolescent school pupils with disabilities in Ilorin, Kwara State. The study found different descriptive variables of behaviour tendencies that are related to academic procrastination including indecision, poor time management, lack of interest, lack of motivation, poor self-efficacy, poor self-regulation skills and fear of failure among others. The one remaining element that is now missing in the process of intervening in the problems of academic procrastination behaviours of students is the act of making use of the information that is now known to implement interventions to reduce the negative consequences of academic procrastination.

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Improving Special Education Students' Outcomes Through Assistive Technology: A Review of Literature

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Abstract

This paper is a review of literature on improving special education students' outcomes through assistive technology (AT). The author reviewed 16 articles between the years of 2006- 2016 for the literature review. Keywords utilized in the literature search were "assistive technology", "student achievement", "IEP goals", "student outcomes", "special education", and "assistive technology outcomes". Findings suggest there is confusion among educators and service professionals regarding the definition of AT and when Individualized Education Program (IEP) teams should consider AT. There are debates among education stakeholders relating to the utilization of AT in high-stakes testing. Furthermore, the research suggests, educational professionals lack valid and reliable tools to determine the effectiveness of AT on student achievement.

1. Introduction

Throughout the history of education reform, the definition of special education and students who receive special education continues to expand. As the definition of special education broadens, so does the gap between the scores of students who receive special education to those students who participate in the general curriculum [16]. As educators, it is our responsibility to give our students the resources they need to achieve their Individualized Education Programs (IEP) goals and objectives [12]. Assistive Technology (AT) may be one of the resources students need. With AT being a relatively new discipline, there have been questions regarding utilizing and measuring AT in student goals and objectives, and factors that affect AT. This paper discusses the literature on improving special education students' outcomes through AT. The author reviewed 16 articles between the years of 2006- 2016 for the literature review. Keywords utilized in the literature search were "assistive technology", "student achievement", "IEP goals", "student outcomes", "special education", and "assistive technology outcomes".

2. Legislation

Education reform legislation has been a point of contention for various stakeholders in the field of education throughout the twenty-first century. There are three pieces of legislation that define who is eligible to receive special education, who utilizes assistive technology, and who qualifies for alternate assessments: The Assistive Technology Act of 2004, Individuals with Disabilities Improvement Act 2004 (IDEIA), and Every Student Succeeds Act [21]. The Assistive Technology Act of 2004 defines AT as "any product or device that is utilized to increase, maintain, or improve functional capabilities of individuals with disabilities" [7]. Devices outlined in the AT Act of 2004 are categorized by their technological capabilities. Examples of AT technologies are: low-tech devices, which can range from weighted pencils and/or pencil grips; medium-tech devices, which can range from manual wheelchairs to adapted computer equipment (mouse/keyboard); and high-tech devices, which can range from powered wheelchairs to augmentative communication devices (iPad/Go Talk Pocket). IDEIA promotes the use of AT by requiring educators and service professionals to consider the use of AT in a person's IEP to achieve outcomes, goals, and objectives outlined in part B and part C in the legislation [2].

Under IDEIA the students who are identified as having one or multiple diagnoses outlined below, meet the eligibility requirements to receive special education. These diagnoses include Intellectual Disability (ID), Autism Spectrum Disorder (ASD), Traumatic Brain Injury (TBI), Hearing Impairments/Deafness, Visual Impairments/Blindness, Emotional Disturbance, Speech/Language Impairments, Orthopedic Impairments, Other Health Impairments, Multiple Disabilities, and Specific Learning Disabilities [2]. With an increase of students entering special education, the cost to provide special education has risen. In 2010, federal funding through IDEIA was \$12.5 billion dollars. The majority of the funding came in the form of state grants to assist states to pay the costs of special education and early intervention services [1]. With the rising costs of special education and stagnant federal funding, states should shift their focus to evidence-based practices and professional

development for school personnel to adequately address the needs of students who have an IEP.

In 2001 No Child Left Behind (NCLB) legislation was passed for education reform due to the United States' poor international test scores [15]. In 2015 ESSA was passed replacing NCLB. ESSA mandates one percent of students identified with significant cognitive disabilities are counted towards their district's adequate yearly progress [16]. Students with severe cognitive disabilities must participate in adapted versions of these assessments known as alternate assessments, which are linked to alternate assessment standards. Under ESSA all students are expected to take part in the general assessment process, including those students that require testing accommodations such as assistive technology, use of a scribe, or prompting upon request [2]. The federal government gives the states and districts the flexibility to utilize alternate assessments and alternate standards with the one percent of the reported adequate yearly progress scores for students with significant cognitive disabilities. With states and districts required to report adequate yearly progress for students receiving alternate assessments, there is a debate among policy makers and stakeholders regarding students utilizing AT in high-stakes testing.

3. Assistive Technology Use During Assessment

In the literature reviewed AT is viewed as giving students an unfair advantage during testing. During the National Assistive Technology Outcomes Summit, Dave Edyburn, Co-Director of the Assistive Technology Outcomes Measurement System (ATOMS) Project, commented on current challenges associated with the use of technology in assessment:

We are in a situation right now where we have conflicting laws that we have to provide assistive technology. So if there is an academic performance problem, that is by definition the need for assistive technology and yet what we are doing is we are setting this up in the traditional amount of education that it only counts if it's here and we're not looking at the interaction between the person and a tool because that's cheating, that's less performance...When they re-roof your house, they are all using nail guns and yet in school they call it cheating [if AT is used, emphasis added] [17].

The literature suggests current statewide assessment practices may overlook the individualization of a student's IEP and this may impact student outcomes. Students, who receive special education services, are a heterogeneous group based upon the symptomology of their diagnosis. With such diversity in special education, learning styles vary from student to student based on the needs of the learner. McLaughlin and Rhim suggest education reform in the twenty-first century is

standards driven. Emphasis is now on content performance standards, assessments, and accountability and is shifting away from student-centered instruction [14].

4. Assistive Technology for Instruction

A common belief held among education stakeholders is that standard-based reform fuels negative attitudes when students with disabilities are involved [14]. The literature suggests there are stigmas associated with AT and this may influence the IEP team's decision to incorporate AT in student's IEP's goals and objectives [17]. Stigmas associated with AT are the cost of the device, and the device may draw attention to a student in an undesired way. [17]. Another stigma identified in the literature is the difficulty associated with training educators and students on AT [7], [17]. Brady et al. conducted a descriptive study regarding the professional preparation of service provider training programs. Their results suggest AT and AT services are addressed in different coursework for rehabilitative services and special education students. However, AT and AT services content focused on topics related to their discipline, this in return may provide a narrow scope of AT and AT services offered in the school and community settings. Research suggests an interdisciplinary team approach, which consists of family, teachers, occupational and speech therapists, should be utilized when incorporating AT in a student's IEP goals and objectives.

Browder, Wood, and Thompson suggest a multidisciplinary team approach should be utilized when planning IEP goals and objectives [2]. When facilitating instruction, data should be collected to determine if progress is made towards IEP goals and objectives. If students are not showing progress, teachers should determine if the skills are out the students' behavior repertoire, and carry out the necessary adjustments to facilitate student learning to ensure instruction is student centered. During this time discussions surrounding the utilization of AT on improving IEP goals should be addressed. Watson et al. [20] suggest that under IDEIA, IEP team members should discuss and consider AT during IEP meetings, and AT service provisions utilized should be based on peer-reviewed research. The literature promotes the importance of documenting AT outcomes. However, there is a gap in the research regarding the effectiveness of AT in the public-school setting.

There is a paucity of research conducted on measuring student outcomes when utilizing AT in the school setting. The author found three studies, which measured the effectiveness of AT in student outcomes regarding IEP goals. In a study conducted by Watson et al. [20] results show there was improvement on students' ability level on identified IEP goals and objectives when utilizing AT and working with a

multidisciplinary team knowledgeable on AT. In a study using AT (Tag Reader) on literacy skills (oral comprehension/written comprehension) results show there was an increase in the student's literacy skills when compared to baseline data [5]. Boswell et al. [3] conducted a study with a student who had a moderate intellectual disability on increasing his time-on-task with a self-monitoring intervention (MotiVader). Results from the pre- and post- test measures suggest the self-monitoring intervention increased the student's math fluency through the utilization of AT. The results indicate the student was able to accurately self-monitor his on- task behavior, regardless of his disability. Although these studies reviewed provide valuable research to the field of studying student outcomes through AT, there are limitations to these studies. The studies lacked generalization and maintenance data of the technology being utilized. With the small sample sizes of the studies, results may not be generalizable to other populations, due to the diverse population special education serves. Based on the literature reviewed multiple exploratory studies have been conducted on AT and their outcomes; however, the research to practice gap needs to be further explored in applied settings.

According to the research, the field of AT outcome measurement is up and coming area of research, which needs additional support and studies to produce the level of evidence-based knowledge necessary to address contemporary questions of accountability [10], [11]. Concerns about chronic underachievement are one of the core tenets of federal education reform emphasizes when measuring adequate yearly progress [10]. With limited research being conducted in applied settings there are questions that need answers, such as the demographics of individuals utilizing AT. Quinn et al [18]. conducted a study on the demographics in schools on who utilizes and has access to AT. Results show the largest percentages of students who access AT are identified with multiple disabilities, which receive instruction through self-contained classrooms in their neighborhood schools. Due to the heterogeneous nature of special education students, the results are not generalizable to other populations that utilize or have access to AT in general education classrooms and alternate placements, such as an approved private school or licensed private schools.

Based on the review of literature there is confusion among education professionals regarding the definition of AT, the compensatory functions of AT, and interchanging instructional technology with AT among educators. Jost and Mosley state, "the goal of instructional technology is to integrate technology into teaching and learning in content areas"; whereas AT is used to increase, maintain, or improve the functional capabilities of a person with a disability [7], [13]. To better meet the needs of the diverse learners in special education, research suggests the federal

government provide guidelines for education professionals, to enhance their understanding of AT's compensatory functions [16]. In addition, when making decisions supporting students in their IEPs education professionals should utilize theoretical frameworks to guide their decision-making process [5]. The two theoretical frameworks that are discussed in the literature are Matching Person and Technology (MPT) framework, and the Student, Environments, Tasks, and Tools (SETT) framework.

MPT framework suggests that assistive technology device selection should focus on the student, such as their strengths, interests, and challenges. SETT framework, which involves four identified areas for assistive technology decision making: (a) student needs and abilities; (b) current materials, equipment, resources, supports, and instructional strategies available in the environment as well as physical arrangement and potential changes to the environment; (c) current activities, critical elements, and curriculum; and (d) student needs, environment, and educational goals [5]. It is up to the IEP team to determine, which framework would work best for the student in reaching their IEP goals. Another factor facing education professionals is the commercial development of applications (apps) for education. The literature suggests evaluating AT outcomes is often difficult due to not having a valid tool to measure outcomes. With society utilizing technology more this can impact how AT is viewed in the school setting. Bouck et al., refers to today's students as the "iGeneration students," due to their increased utilization of technology across settings (home/school/community) [5]. With the increased use of technology, parents, teachers, and other special education service providers have difficulty selecting appropriate educational apps to enhance student learning [19]. Due to not having evidence-based tools to evaluate apps most people rely on reviews, which may not accurately depict the needs of the student. The results of Weng's study of evaluating a prototype of an app rubric showed a low inter-reliability rate towards the validity of the instrument, which was a common theme in the literature when trying to evaluate and determine which technology best suites the learners needs.

One solution that was discussed in the literature regarding evaluating student outcomes through AT was that researchers and schools should partner with one another to facilitate action research studies. Parette et al. suggest researchers should involve teachers in developing local data sets and connecting researchers to school district data sets [17]. Caroline Van Howe from Intellitools, Inc. stated, "The need for ...action research...working with individual school districts on short six-month projects to implement with them, according to their criteria, in a sustained implemental fashion and see what the benefits are from those short action research and then write up

those studies, doing independently” (p.26). Gathering data through action research may assist the field of AT of capturing an accurate picture of a diverse population.

5. Conclusion

This paper was a review of literature on improving special education students’ outcomes through AT. Based on the literature reviewed, there is confusion among educators and service professionals regarding the definition of AT and when IEP teams should consider AT. There are debates among education stakeholders relating to the utilization of AT in high-stakes testing. Furthermore, the research suggests, educational professionals lack valid and reliable tools to determine the effectiveness of AT on student achievement. The literature discussed how there is a research to practice gap in applied settings, and action research may bridge the gap, by having researchers and schools work together to capture the needs accurately of students who receives special education. There is a gap in the research regarding how AT effects student outcomes. However, the research shows AT can improve student outcomes in their IEP goals and objectives through an interdisciplinary team who is knowledgeable of AT [20].

Students who receive special education services are a heterogeneous population. Educators need to understand the diverse needs of students who receive special education services. Children with disabilities have wide ranges of differences and needs. Education stakeholders need to understand “Not a one size fits all” model should be utilized when teaching and assessing students who receive special education.

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Inclusive Education for Syrian Refugee Children in Scotland

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Abstract

The crisis created by the war in Syria is a multi-faceted challenge, which started in 2011. The objective of this paper is to highlight the implications of the war on, Syria in particular and the international community at large, in the form of a literature review. Within the scope of this discourse, the importance of education as a protective factor for refugee children has been discussed. The wider implications of refugee inclusion within the Scottish education system, involvement of school leadership and attention to teacher education form the main focus of this paper. Studies which explore the need for social and cultural inclusion in various contexts have also been reviewed. As the policies analysed in this paper are fairly recent, there is limited literature regarding the same and so this paper aims to draw attention to several shortcomings. Recommendations have been proposed for the revision of education policies and refugee integration policies which are currently implemented in Scotland.

1. Introduction

As of December 2015, it was estimated that 4.3 million refugees have left the country, seeking refuge in neighbouring countries like Egypt, Jordan, Lebanon, Turkey and Iraq, as well as several European countries [7]. The UNHCR has been the primary agency for ensuring resettlement policies are implemented. It has reached out to the international community which includes countries like Germany, Sweden, the United States and the United Kingdom. Ostrand [11] compared the response of these countries, in terms of accepting both asylum seekers and refugees. The review identified that currently, neighbouring Syrian countries have been accepting a significantly higher percentage of refugees compared to EU countries.

A report published by the Refugee Studies Centre in the University of Oxford examined the challenges experienced by these neighbouring countries in ensuring that refugee children had access to quality education [1]. The report identified that the public education system in Jordan is unable to absorb the incoming refugee children; Lebanon has the highest

number of refugees and a significant proportion is unregistered, which makes it difficult to provide access to education and other social services; Iraq doesn't have the funding required to expand their educational infrastructure; and, Turkey experiences challenges with the language barrier, as most incoming refugees are accustomed to learning in Arabic.

The UK announced in September 2015 that they will be accepting 20,000 refugees over a period of 5 years. These numbers have been changing constantly, owing to the challenges presented by the resettlement process [7]. It is also to be noted that the UK is not participating in the European Union's relocation policy. Within the scope of this discourse, the focus shall be on refugee children who are being settled in parts of Scotland, and the role of education in the resettlement process. Quantitatively, this may apply to a very small percentage of the overall refugee population that is fleeing Syria, but it may be crucial when we consider the long-term implications of resettlement in a host country.

Prior to the crisis created by war in Syria, the literacy rate for 15-24-year olds was 95%. Within four years, the enrolment rate in Syrian schools dropped down to 6%, while it is estimated that more than 50% of refugee children do not have access to any form of education [13]. Children who do have access to education face additional challenges which depend on the education system of the host country. These numbers are important, because they affect an entire generation of the Syrian population, which implies that even if the war ends, the prospects for economic stability are limited. Education could thus facilitate as the primary protective factor for ensuring that the future of refugee children is not compromised by present day events. The following sections shall highlight the realities of providing access to such an education.

2. Literature Review

The integration of refugees with a host community can be recognised as a dynamic two-way process, when the complexity of social relationships is highlighted. Policies would need to extend beyond targets or indicators, and focus on the nuances

created by cultural differences [17]. The United Nations Convention on the Rights of the Child (UNCRC), recognises that every child has the right to education.

Hek [8] conducted a study to identify the importance of education in the resettlement of young refugees in the UK. In this case, education was identified as a solution rather than a service, exploring the subject from the perspective of refugee needs. The importance of home-school relationship, the emotional and academic support offered by teachers, and the type of welcome offered by the school, was recognised as key for creating an inclusive environment. Additionally, the importance of learning English while promoting their own first language was crucial for increasing the feeling of acceptance. Hence, it isn't sufficient to simply provide children with the opportunity to be educated, the school community must appreciate the significance of the experiences which the children have undergone. The study stated that while child refugees may have experienced challenges and are associated with several risk factors leading to vulnerability, education facilitates as a protective factor, which could build resilience for the future.

Hopkins & Hill [9] examined the challenges experienced by unaccompanied asylum-seeking and refugee children in Scotland. Owing to the lack of parental guidance or care, these children could be associated with further risk factors, specifically related to mental health. Among the various points raised, it was identified that education played a pivotal role in easing the transition to a new living environment. The study also explored how the cultural and linguistic differences could make the access to educational services difficult. At the time, these studies focussed on refugees/asylum-seekers in general, and the data collected wasn't based on refugees from a specific context.

A report published by the Migration Policy Institute, discussed the same with the context of Syrian refugee children around the globe. It was identified that as the access to formal education became limited, the risk of poverty, infant mortality, early marriage, sexual exploitation and child labour increased [15]. The risk factors were noted to be higher for girls than boys. The study reiterated that the benefits of education depended on the integration of the host country's culture with the Syrian culture. Hence, schools would need to adopt an inclusive approach, to ensure that the children truly benefited from the educational services provided. Furthermore, educators would need to recognise the nature of the trauma experienced by the children and their families, and act accordingly. To ensure this happens seamlessly, educators would need to be provided with relevant training, that is specific to the context they work within.

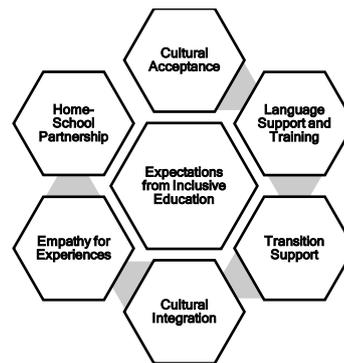


Figure 1. Expectations from Inclusive Education

3. Discussion

The New Scots strategy (2014-2017) is an initiative which aims to cater to the needs of asylum-seekers and refugees in Scotland. The education of refugees is one of the targets set within this scheme, with Education Scotland as the primary stakeholder [14]. The outcomes defined within this include,

1. Ensuring that all refugees and asylum seekers develop English language skills necessary for settlement in Scotland;
2. Providing access to educational opportunities;
3. Empowering individuals to utilise their pre-existing qualifications to seek relevant employment or further education; and
4. Recognising the value of linguistic diversity in Scotland.

One of the achievements of this initiative is the development of a new ESOL qualification (English for Speakers of Other Languages) customised to meet the needs of incoming refugees. The initiative has merit, in that it caters to the immediate expectations. However, when the long-term aspirations from the education system are considered, one must consider the integration of refugee learners into Scottish schools.

The Curriculum for Excellence currently implemented in Scotland, emphasises on inclusion, with the understanding that the needs of the learners are social, physical, intellectual, cultural and, emotional. The Excellence for All aspect of the policy emphasises that diversity within the classroom is important [4]. The Scottish education system places importance on the need for inclusive education. The 'Inclusive Practise Project' was designed with the specific intention of ensuring that by providing teachers with the tools necessary for creating an inclusive environment in the classroom, they would be able to support all types of learners [5]. Education of children with ASN was the primary intention when the project was designed, but now it would need to evolve to accommodate the

needs of children whose cultural expectations from education could be vastly different.

The basic principles of inclusive pedagogy imply that the individual's ability to learn cannot be viewed from a deterministic standpoint; rather every learner is unique, and provided the right environment is available, they will be able to succeed. Implementation of inclusive education requires a commitment to ensure that such an environment is made available to every learner. Furthermore, inclusive education isn't determined by individual teachers alone, but rather requires the efforts of the community at large [16].

The importance of inclusive education becomes apparent when all members of the community are recognised as a part of the social capital. A review compared multiple case studies within the UK, to understand their perspective about inclusive education. Children with Additional Support Needs (ASN), 'at risk' youth and refugee children were the prime focus. The study drew attention to the fact that inclusive education could have multiple connotations, depending on the group to which you belonged [2]. Hence, it must be noted that the parameters of inclusive education are quite broad, and the context presents significant differences.

Teachers are often recognised as the prime drivers of inclusive education. A study conducted regarding the education of refugee children in the Czech Republic examined the need for Continuing Professional Development (CPD) of teachers [3]. It identified that in order for inclusive education to be implemented effectively, the initial teacher training provided at the start of their professional career is not sufficient. CPD would be important to ensure that teachers are able to adapt to the present day needs of the system, specifically for teachers who would have completed their initial teacher training at a time when the need for inclusion of refugee children didn't exist. A similar study conducted within the context of Serbia, suggested that teacher education is vital for increasing teacher competence, especially within the scope of inclusive education [10]. They reiterated that the quality of teacher education cannot be determined by benchmarks alone, and would need to be a constantly evolving system, which addresses the needs that arise.

Forde and Torrance [6] examined the role of school leadership in increasing the effectiveness of inclusive education. They suggested that leadership in the education sphere is becoming increasingly complex, owing to the changes presented by globalisation. Hence, leadership functions may be classified as pedagogical, middle, school and system. Each of these categories influence the system in unique ways. The pedagogical leadership would focus on teaching strategies, inclusion of

personal values and issues of equity in the classroom. The middle leadership would build on the collaboration of teachers with the learning programmes, and critique policies from that perspective. The school leadership, influences the community surrounding the school, while also managing ethical challenges which arise. Lastly, the system leadership is responsible for shaping the national policy in accordance with the principles set by inclusive pedagogy. Hence, we recognise the role played by the various members of the education system, and the variables that need to be considered while approaching inclusive education.

Within the scope of this discourse, the inclusion of refugee children into the Scottish education system has been considered. Hence, teachers engaging in the process would need to be provided training and resources that are necessary for supporting learners from a cultural background that is significantly different from their own. As identified in the earlier section, the teacher's ability to accommodate the students' culture in the classroom, may be recognised by refugee families as an indicator of acceptance. This can be a very challenging task if teachers are not supported by the school leadership, the policy-makers and the Scottish system at large [12].

4. Conclusion

The expectations from refugee families indicate that, they seek a safe space of cultural acceptance in the host country, in order to transcend from survival to settlement. The above discussion indicates that within the context of Scotland, there is an existing framework for inclusive education, as well as, initiatives that aim to convert refugees into members of the Scottish community. However, the cultural differences of Syria and Scotland would need to be accounted for while implementing these initiatives.

Having considered the long-term needs and expectations from the education system of Scotland, teacher education and training has been identified as critical components for implementation of inclusive pedagogy. A recommendation from this discourse would be that while policies are developed for increasing inclusion, simultaneously, teacher education policies need to be revised. This could ensure that the outcomes set at a system-level are met at a pedagogical level, and thus the needs of the child are addressed in a holistic manner. The integration of learner expectations, inclusion policies and teacher education policies could be the solution to providing the education that refugee children deserve.

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Teaching Self-Determination to Middle School Students with Learning Disabilities in a 3D Virtual Learning Environment

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Abstract

In this study, we investigated the impact of student directed learning within a three-dimensional virtual learning environment (3D VLE) on the acquisition and application of self-determination skills in 71 middle school students with learning disabilities. We used a pre-and post-measure design and randomly assigned participants to the 3D VLE, the PowerPoint, or the control group. Quantitative analyses revealed the method of instruction had no statistically significant impact on overall knowledge acquisition or application of self-determination skills between groups. The results also showed a discrepancy between participants' self-reported rating of self-determination and their actual display of self-determination skills. Recommendations for future studies utilizing virtual learning environments to teach students with learning disabilities self-determination will be provided.

1. Introduction

Research from more than three decades on transition suggests that to be successful in postsecondary endeavors, students should possess content area knowledge and application skills, critical thinking skills, a sense of individual responsibility, self-esteem, self-management, self-efficacy, and selfdetermination [1][2][3]. However, the majority of students with LD are not exposed to a rigorous curriculum nor do they possess the basic selfdetermination skills (SDS) that are essential for successful navigation in postsecondary environments. One approach to reduce or eliminate inadequate transition planning is to use innovative technology to teach students with LD the critical SDS needed for successful transitions to post-secondary settings. Three-dimensional VLEs are 'an environment that capitalizes upon natural aspects of human perception by extending visual information in three spatial dimensions', 'may supplement this information with other stimuli and temporal changes' and 'enables the user to interact with the displayed data' [4]. VLEs provide users with a learning experience that is vastly different than traditional face-to-face instruction. Instead of sitting

and watching a lesson, users, via avatars, naturally and physically interact with objects, people, and situations in the VLE, thus promoting the feeling of immersion or of "being there" [5][6][7][8]. As such, immersion promotes active learning that contributes to skill acquisition and mastery by providing users with multiple opportunities to interact with their environment in ways that are not available in the real world and are particularly relevant for students with disabilities [9] [10] [11].

2. Purpose and Research Questions

The purpose of this study was to examine the effectiveness of self-directed SDS skills acquisition and application in middle school students with LD in a 3D VLE versus the traditional classroom setting. A simulated college campus, UCANFNSH, was created within Active Worlds, a 3D VLE. The participants learned seven components of SDS: (a) decisionmaking, (b) organizational/self-management, (c) selfadvocacy, (d) rights and responsibilities, (e) autonomy, (f) self-efficacy, and (g) disability awareness/understanding. After being involved in the brief SDS lesson, the participants were asked to perform real-world tasks to demonstrate knowledge and application of skills in the 3D VLE.

The researchers sought to answer the following research questions:

1. Does the instructional environment (3D VLE vs. PPT in the natural setting vs. no training) affect middle school students with learning disabilities ability to demonstrate knowledge of selfdetermination skills?
2. Does the instructional environment (3D VLE vs. PPT in the natural setting vs. no instruction) impact middle school students with learning disabilities scores on the AIR Self-Determination Scale?

3. Methods

3.1. Setting and Participants

The study took place in three public middle schools in Florida. Seventy-one middle school students between 12 -15 years of age with LD served as participants. Participants were diagnosed with a learning disability by a certified professional (e.g., school psychologist). Study participation was dependent on participant’s willingness to be assessed and to participate. Seventy-four percent of the study participants were considered ethnic/minority students; almost 60% were male, 31% were in 6th grade, 35% were in 7th grade, and 34% were in 8th grade.

3.1.1. Sampling. A power analysis was completed to determine the total number of participants per group. The statistical level of significance for this study was set at .05 ($\alpha = .05$), power was set at .80 and the expected difference in the means between the control groups and experimental group was one standard deviation. Therefore, the number of participants needed to have sufficient power is 78 [12].

3.2. Instrumentation

Three instruments were used in the study, the AIR Self-Determination Scale, the Self-Determination Skills Behavior Rubric, and SDS Module Quick Checks. The AIR Self-Determination Scale [13] measures a student’s ability to demonstrate self-determined behaviors, and assesses the frequency and opportunity to demonstrate self-determined behavior. Second, a socially validated rubric was developed to measure participants’ ability to apply seven SDS behaviors that successful college students with LD possess. The final tool(s) used were five three- question SDS Module Quick Checks.

3.3. Instruction

The SDS skills were taught through adapting five of the 36 lessons from the transition planning curriculum, *Whose Future is it Anyway?* [14]. The five modules focused instruction on seven skills selected from the literature on the SDS that are essential for success in college students with LD. The modules covered the topics of decision-making, goal setting, knowledge of supports, services and selfknowledge, self-advocacy and independence. All interventions took place during one face-to-face meeting in middle school computer labs. Each group had 23-25 students. All participants began to demonstrate and apply SDS by completing an online version of the AIR Self-Determination Skills Scale. After participants completed the first measurement, s/he either began watching the SDS modules through

power point online or completing the SDS tasks in AW.

3.3.1. The AW Group. The AW Groups received instruction and completed seven SDS related tasks within the 3D VLE. Upon arrival at UCanFnsh, participants were directed inside to watch the SDS modules. The last screen on the modules instructed the participant to “click on the monitor” to take the SDS Module Quick Checks. The exit screen on the fifth and final skill check-up displayed directions to begin the first of seven tasks.



Figure 1. Orientation point in UCanFnsh, a 3D VLE world within Active Worlds



Figure 2. Seven Colleges Welcome Center within UCanFnsh, a 3D VLE within Active Worlds

Table 1. SDS Tasks/Activities

SDS Tasks	Corresponding Self-Determination Skill(s)
UCanFnsh application	Self-knowledge, Organizational/selfmanagement
Self-identify with Disability Resource Center UCanFnsh	Self-knowledge, Rights and responsibilities, Disability awareness/understanding
Choose career at	Decision-making, Goal setting
Course registration	Decision-making, Autonomy, Self-knowledge, Organizational/selfmanagement

Email professors	Rights and responsibilities, Self-knowledge, Selfadvocacy, Disability awareness/understanding
Take AIR Self-determination Scale post-test	N/A

3.3.2 The PPT Group. Participants in the PPT Groups watched and listened to the five SDS modules in a computer lab. At the conclusion of each module, participants in the PPT Group took the same SDS module comprehension check-ups that the AW Groups completed. An adult volunteer read the skill application processes and tasks to the participants in the PPT Group. Participants were asked to click on the link on the computer screen to complete the five tasks.

3.3.3. The C Group. After completion of the pre-test measure, participants in the C Group accessed the same online skill applications that the AW Groups and the PPT Groups completed but did not receive any SDS instruction. An adult volunteer was present in C Group sessions, to review directions, explain the SDS activities, and provide necessary support to the participants

3.4. Data Analyses

Data collected from the AIR Self-Determination Scale and the Self-Determination Skills Behavior Rubric were analyzed using quantitative statistics. Differences between groups' ability to complete activities associated with self-determined behavior were analyzed using a Multiple Analysis of Variance (MANOVA).

A Kruskal-Wallis test was conducted on the AIR Self-Determination Scale post intervention data to analyze data and determine if statistically significant differences existed between groups' means scores due to the type of SDS training that were collected. A paired samples t-test was computed to determine if there were any changes to participants' self-determination skills following the intervention.

4. Results

4.1. Self-determination skill demonstration

The Kruskal-Wallis test was used to determine if learning in the virtual learning environment was related to a greater number of incidences of self-determination skills application. Results of that analysis indicated that the group (AW, PPT or CG) was not related to the participants' ability to apply self-determination skills on the seven tasks in the Self-determination Skills Behavior Rubric ($\chi^2=1.9$, $df=3$,

$p=.4$). The median score on the rubric was a three out of five; the mode was a four out of five. Median scores of three groups occurred more frequently with the two groups who received SDS training then with the C Group. Additionally, most of the AW participants scored either at or below the mean, indicating fewer participants were able to display SDS knowledge on the assigned tasks. Despite the small variability between the distributions of rankings between groups, the data from this measure shows that the method of instruction had no impact on participants' application of self-determination skills.

4.2. Group skill demonstration

To determine if learning in the 3D VLE was related to higher overall group scores on the SDS Module Quick Checks, the number of correct answers per module were calculated and compared between the AW and PPT Group. Data collected from the results of the Quick Checks revealed that the AW Group outscored the PPT Group in four of the five SDS Quick Check Modules (Decision Making, Goal Setting, Self-Advocacy and Independence, and Putting It All Together).

4.3. AIR Self-determination Scale

Using the post intervention scores on the *AIR Self-Determination Scale*, a Multivariate Analysis of Variance (MANOVA) was computed to compare the mean differences in the composite variable (capacity and opportunity) between the intervention and control groups. Additionally, a MANOVA allowed investigation of the interaction effect of the dependent variables. The interaction effect question was, "Does the change in the composite variable effect post intervention mean SDS scores equally across all three groups?"

The results of this MANOVA indicated that the post intervention scores on the combined variable (capacity* opportunity) were not affected by the method of self-determination skills instruction (Wilk's $\Lambda = .99$; $F(2, 64) = .47$). Additionally, univariate between-subjects tests showed that there was no difference in groups' means on the capacity, or the opportunity section of the *AIR Self-Determination Scale*. Thus, the interaction effect did equally affect the post intervention SDS scores across all three groups. All three partial eta squared statistics are small (cpty*oppt = $\eta^2 = .14$, capacity = $\eta^2 = .04$, and opportunity = $\eta^2 = .28$).

A paired samples t-test was conducted to determine if there was a difference in groups' scores on the *AIR Self-Determination Scale* from pre-intervention to post intervention. Three paired samples were tested: (a) pre-overall-post overall, (b) pre-capacity – post capacity, and (c) pre opportunity – post opportunity. Statistical significance was found

between the pre-capacity scores ($M = 45.00$, $SD = 7.09$) and post capacity scores ($M = 65.35$, $SD = 13.10$), $t(70) = 11.4$, $p < .001$ (two-tailed).

These results indicated that participants' knowledge and ability to display self-determination skills increased from pre to post intervention. A comparison of the pre-overall test scores ($M = 87.45$, $SD = 13.96$) and the post overall test scores ($M = 89.42$, $SD = 17.01$), uncovered no statistically significant change in participants' overall knowledge of self-determination skills, ($t(70) = .78$, $p < .44$). Further examination of the data also showed that there were no significant changes in the pre-opportunity scores ($M = 42.45$, $SD = 8.54$) and post opportunity scores ($M = 43.54$, $SD = 9.15$) as a result of the intervention ($t(70) = .78$, $p < .44$).

5. Scholarly Significance of the Study

Recently, in response to greater access to the general education curriculum and required participation in statewide assessments, self-determination skills research has focused on increasing the academic success of students with disabilities [15]. There is a lack of research regarding the most effective methods to teach transition focused self-determination skills to middle school students with learning disabilities [19]. Data from several meta-analyses on self-determination skills revealed numerous teaching strategies that have been investigated including: (a) large group instruction, (b) small group instruction, (c) one-to-one instruction, (d) modeling, (e) corrective feedback, and (f) commercially developed curriculums [16] [17]. The current study examined the impact of self-determination skills on students' ability to practice transition related skills. The statistical analyses revealed no significant differences in groups' scores on both the Self-Determination Skills Behavior Rubric and on all but one section of the AIR Self-Determination Scale. All participants, regardless of their group affiliation, displayed more knowledge of self-determination skills on the capacity section of the AIR Self-Determination Scale. This would indicate that either participants' overestimated their level of self-determination knowledge on the AIR Self-Determination Scale, or the participants' performance on the transition related tasks was not an accurate reflection of their level of self-determination skills knowledge.

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Thriving, Not Just Surviving as a Female STEM Major with ADHD: A Quantitative Analysis of Cumulative G.P.A.

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Abstract

The purpose of this study was to determine whether female college students with ADHD in STEM majors were achieving at the same level as their STEM ADHD male and non-STEM female counterparts. A convenience sample of 33 college students with ADHD volunteered to complete the ADHD Indicator Survey created by the Primary Investigator as part of an original study designed to analyze the executive and academic functioning of college students with ADHD. Statistical analysis of G.P.A. self-reported by students indicated that there was not a significant difference between the mean G.P.A. of females with ADHD majoring in STEM and females with ADHD who were non-STEM majors. There also failed to be a significant difference between the G.P.A.'s of ADHD STEM females and males with ADHD in STEM. Interestingly, the G.P.A.'s of males in a STEM major with ADHD differed significantly from that of ADHD males pursuing a non-STEM major. These results suggested that women with ADHD can be just as successful as males with ADHD in a STEM major or females with ADHD in non-STEM majors.

Session 8: Global Issues in Education

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The Use of Costume to Improve Student Performance and Participation

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Abstract

This research explores the selective use of costume to increase student participation in online posting and performances on examination. It also included a survey of student attitudes on the costume experiment itself. Data for the independent variable of costume having an impact on dependent variables of student participation and student performance was collected across five sections of two courses at a state university on the Eastern seaboard of the United States during spring and fall semesters of 2016, and spring semester 2017. Results included increased participation and mixed results on increasing student performance on examination.

1. Introduction

The gathering of data to assess the use of costumes to improve student performance and participation in the classroom is still in its infancy. Research on the pedagogical advantages of using costumes in the classroom to accelerate learning are rather spartan as its utility has heretofore remained being relegated to an intervention strategy for extreme cases. For example, costumes have been used as attention focusing device to improve the instruction of young adults with autism [1]. Elementary school math teachers have used dressing up as historical figures, such as Pythagoras, to improve student interest and retention [2], and health instructors have used costumes of hamburgers and common foods to improve pass rates for food safety classes [3]. However, even with the successful use of costume in extreme cases there remains a paucity of research in the use of costume to improve learning outcomes in mainstream courses.

In this context, our research in the use of costume to improve student performance and participation in mainstream college courses remains selective and exploratory. We call our use 'selective' because our use of costume was not to re-emphasize information being delivered, but was used once at the end of the semester as an incentive to experiment with increasing performance and participation. We employ action learning in the classroom emphasizing team activities and classroom cohesion [4], and used costume as an incentive to motivate teams to participate in online posting which would generate

investment in reviewing for the final examination with the rational participation and investment would likewise lead to improved performance on the final examination. Thus, hypothesis to test in the experiment is the independent variable of having the instructor dress in a costume would increase the dependent variable of teams posting online, herein defined as participation, and increased participation would likewise increase student test scores on the final examination, herein defined as student performance. Data for this experiment was gathered from classes at a mid-sized, public state university with approximately 6,000 students on the Eastern seaboard of the United States.

2. Methods

There are three elements we measured in this experiment, including student performance, participation, and perception. Performance and participation data were gathered from a junior level sociology business course of three sections over three semesters, hereafter referred to as junior level sections, and a freshman level introduction to social science course from two sections across two semesters, hereafter referred to as freshman level sections. The control courses without the use of costume were one junior level section and one freshman section during spring 2016. The experimental costume courses involved one junior level section in fall 2016 and another in spring 2017, and also involved one freshman section in spring of 2017. Perception data was only gathered from the spring 2017 sections. Data collection across two courses and five sections is limited, but this arrangement has advantages involving the use of the same books and instructor for each course across sections. This allows us to compare data from sections without costume of the same course to sections employing costume. However, the selective use of costume also allows us to compare data within sections where costume was used.

The independent variable of costume was employed in the following selective fashion to facilitate increasing the dependent variables of performance and participation. In the fall 2016, junior level course section engaged in the 'Bop and Hop Review' for the final examination where the instructor agreed to dress up as a rabbit to administer the final if

all teams were to post their questions with answers and page numbers where answers could be found to the online discussion. These online discussion postings serve as the study guide for examinations.

Action learning is employed in all sections taught by the instructor where the students themselves construct the study guide and up to 60 percent of the exam. In spring 2017, both the freshman and junior level course sections engaged in the 'It's About Time Review' for the final examination where the instructor agreed to dress up as Father Time if all teams were to post their questions with answers and page numbers where answers could be found to the online discussion. This selective use of costume incentive only on the final allows us to compare it to midterm examinations, where costume incentive was not used, within the same sections. Thus, we have a unique situation where we can do both intersection and intrasection participation and performance data comparison on online postings and examination scores, where point totals for midterms and finals have equal point totals.

Participation was measured using number of teams posting online questions with answers and page numbers of where answers could be found. In each section, both control and experimental, classes organize into teams of 3 to 6 students and have 40 minutes to create questions with answers and page numbers. Teams then have three days to post their questions with answers and page numbers online. In addition to data on the number of teams posting, data was collected on the time it took for teams to post. Under the rules of the 'Review', teams have three days to post online in order for the class to 'win' the challenge. In the control challenge, if 90% of the teams post within three days the class gets 2 extra bonus points added to their overall semester point total. In the costume experiment, 100% of the teams must post within the given time frame in order to win and have the professor to be in costume when conducting the final. Extra credit points are not added into student examination scores.

Perception of the costume experiment was measured in a Likert scale survey comprised of four questions that was administered after the final examination to the two spring 2017 sections where the costume experiment took place. The survey was comprised of the following four questions: 1. Were you curious as to what the instructor would look like dressed as Father Time?; 2. Did you smile or laugh when you first saw the instructor as Father Time?; 3. Did seeing the instructor as Father Time help to lighten the 'mood' of finals tension?; and 4. Would you recommend the instructor do this for other courses he teaches? The five point scale response contained the following choices: A. Strong yes; B. Somewhat yes; C. Neutral; D. Somewhat no; and E. Strong no. The first question was to measure student interest in the use costume prior to the final. The

second question was to measure initial response of student upon seeing the instructor in costume. The third question was to measure the student perception of the effectiveness of the costume in lowering the level of stress and test anxiety that often takes on a life of its own on college campuses. The fourth question was to measure student perception of should the costume experiment be done for future students. The survey was kept to a minimum of number of questions because student attention span and patience after taking a final during finals week is extremely low, and it was thought the response rate would drop significantly if the survey was comprised of ten or more questions. Thus, response rate and having a low number of questions were given a priority having control questions and other factors of employing a longer survey, and this survey with only four questions simultaneously becomes a limitation by having only four questions.

3. Result

The results of our exploratory experiment included strong data showing selective use of costume increased participation, data for increasing student performance was less conclusive than increased participation, and the survey showed student perception was strongly in favor of the experiment. Participation was measured in terms of teams posting online, and for the two control sections in spring of 2016 there were a total of 11 teams with 9 teams, or 82 percent, posting over a span of two days. The most significant difference was in the fall 2016 junior section when the costume experiment was tried for the first time with Bop and Hop Review. Students were excited and determined to see the instructor dress in a rabbit costume, and they organized posting during class time using laptops and smart phones.

In this section 100 percent of the six teams posted online within one hour of announcing the challenge. This less than one hour posting stands in stark contrast to the non-costume midterm review for the same class where all seven teams did post, but it took them 2 days. In the spring of 2017, the sections likewise achieve 100 percent of teams posting in the non-costume midterm review, but it took place over 8 hours for one section and 5 hours for teams in the other section. Meanwhile, for the costume final review both sections in spring 2017 achieved 100 percent team participation in posting took place in less than one hour. Thus, under the costume use participation increased in relation to speed of posting and having all teams post consistently.

Results for student performances were mixed, with some indications of selective costume use having positive impact on test scores and some indications being negative. In the control sections of spring 2016, scores between the midterm and the final went up an average 1.17 for the freshman section and 4.75 points

for the junior section. The score for the first semester of the experiment in the junior section of fall 2016 experienced the most dramatic increase of all sections with a rise in average score of 7.44 points between the midterm and the final. However, in spring 2017, the freshman section experienced an average decline of -2.00 points between the midterm and final, and the junior level section only showed an increase of 4.68, which is 0.07 points lower than the 4.75 increase achieved in the junior control section of spring 2016. Potential explanations for these mixed results on performance data will be explored in the discussion section.

Student perception of costume experiment was extremely supportive as the mean for the junior level course with 19 respondents was 1.05, with 1.00 being a 'strong yes' for recommending the instructor do this for other courses and 5.00 was a 'strong no.' The mean for the freshman level course recommending the instructor being in costume for future classrooms was 1.22 with 41 respondents. Interesting to note is two respondents in the freshman level course gave the lowest score possible, 5.00 or strong no, for the survey question were they curious how the instructor would look, but both of these respondents gave the highest support, a strong yes, for recommending the instructor do this for future courses. The mean for question 1, were you curious as to how the instructor would look in costume, for the junior level course was 1.40, and was 1.90 for the freshman level course. The mean for the junior level course for question 2, did the costume make them smile or laugh, was 1.15, and for the freshman level course it was 1.41. For question 3, did the experiment lower finals week tension, for the junior level course the mean was 1.05, and for the freshman course it was 1.41.

4. Discussion

Results for the selective use of costume increasing the dependent variable of participation was undeniably strong as participation increased from 81 percent in control sections to 100 percent of teams posting for all sections in the costume experiment, and times for team posting was reduced from 8 hours and 48 hours in control groups to less than one hour for all sections in the costume experiment. These results are quite dramatic in view of the extreme improvement.

Less spectacular are the mixed results for student performance as measured in examination points. As stated before, the score for the first semester of the experiment in the junior section of fall 2016 experienced the most dramatic increase with a rise in average score of 7.44 points between the midterm and the final. However, in spring 2017, the freshman section experienced an average decline of -2.00 points between the midterm and the final, and the junior level section only showed an increase of 4.68,

which is 0.07 points lower than the 4.75 increase achieved in the junior control section of spring 2016.

One difference between the freshman control section and the freshman experimental section was the control section was a class of 30 while the experimental section was a class of 50. Any instructor knows the difference between 30 and 50 students is tremendous where the class of 50 allows for significantly less time and makes learning every students name, especially students that rarely show up, nearly impossible. Meanwhile, a class of 30 is more manageable, and it is more difficult for a student to become nameless and feel lost. Even with the same instructor and using the same books, the issue of class size brings up the issue of other factors that cannot be controlled by the instructor when issues of budget concerns are prescient.

Likewise, the difference between the dramatic increase in final scores for the fall 2016 junior experimental course and the less dramatic increase in the spring 2017 junior level score, classes of the same size, indicate other factors were involved. This could be due to the quality of students in the classroom or the classroom cohesion. The instructor's observation of the fall junior level course after announcing the Hop and Bop Review challenge and of dressing in costume was it energized the classroom. Meanwhile, the instructor's perception of the spring semester junior level course was the class was worn out from an intense school year, and after announcing the It's About Time challenge it peaked students' interest, but it did nothing to change the fact they were collectively tired.

The lethargic collective energy level in the spring of 2017 had a large impact on the choice to limit the survey on perception of the experiment to four questions. Statisticians and methodologists can debate the utility of conducting such a limited survey of only having four survey items, but the researchers reasoned some data was better than no data, especially with exploratory nature of this endeavor.

This limited data from the survey demonstrated the experiment made them smile, lowered the tension common to finals week, and they overwhelmingly recommended the instructor continue to engage in the experiment for future courses. Perhaps more informative are the anecdotal comments made by students across the semesters. The first semester of the experiment, fall 2016, as previously stated, the announcement set the classroom abuzz and electrified the atmosphere with comments such as, "Are you serious? You would do that for us?" and "If you do that I am definitely going to be here!"

More interesting were the comments that were heard the first day of class in spring 2017 in both the freshman and junior level course with questions, "Did you really dress as a rabbit last semester?" being asked in both courses. This means news of the costume experiment traveled among students on campus. The

in between the lines reading of these comments, indicating this was 'news,' is the students in the experimental courses felt like something special and unique was taking place in their class, and this made their educational experience special and unique. This is further reinforced by the number of students requesting to take 'selfies' with the instructor in costume, selfies usually being reserved for 'Kodak' moments of events and locations that are special and memorable.

The use costume was interpreted by as clearly increasing student participation while its impact on student performance contained mixed results and needs further research. The selective use of costume in this experiment was used to motivate, and in this case it definitely improved participation. The next step would be to employ the use of costume to reinforce course material, such as using period costumes to reinforce historical figures in math, for this would seem to be more directly linked to performance in accelerating learning.

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Enhancing Blended Learning (BL) in the Egyptian Undergraduate EFL Classroom: Criteria to Select an Open-source Learning Management System (LMS)

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Abstract

EFL teachers who strive to use technology to facilitate learning and teaching in economically disadvantaged countries suffer from the scarcity of funds to buy/subscribe to commercial LMSs. Accordingly, in order to facilitate the use of LMSs in such countries, this case study aims to present a generic rubric to assist EFL instructors in choosing an open-source LMS exemplified in Google Classroom (GC) and Canvas (C). This comparison is based on a one-year hands-on experience of using the two LMSs in the undergraduate English Language Program in a higher education institution in Egypt. The rubric includes five main criteria: (1) class and group management, (3) content management, (4) assessment and feedback, (4) communication, collaboration, and synchronization, and finally, (5) capacity. The comparison revealed how C surpassed GC in class and group management, assessment and feedback, and communication, collaboration and synchronization whereas GC took precedence over C in capacity and content management. Even though both LMSs showed advantages and disadvantages, they both saved the teacher's class time and facilitated better communication and feedback outside class. Experimenting with the various available LMSs in the market is a daunting process. This paper guides EFL teachers in economically disadvantaged countries to choose the best open-source LMS based on the proposed criteria, saving both their time and effort.

1. Introduction

Information technology revolutionized the field of education, aiding in the enhancement of BL in higher education. BL refers to leveraging the digital content and integrating different delivery modes, teaching models, and learning styles to cater for monitored individualized, self-paced learning [1]. LMSs became part and parcel of BL roughly in 2007 [2]. Numerous LMSs were introduced in both open-source and commercial forms such as Moodle, Blackboard, Desire2learn, Canvas and more recently, Google Classroom.

Higher education institutions in emerging economies struggle to employ commercial LMSs, which may affect teaching and learning processes. With large-size, mixed-ability classes and different learning styles hindering teaching effectiveness, the EFL class is no longer a one-pace-fits-all lecture for all learners. Accordingly, there stands the need to take advantage of open-source LMSs assisting practitioners to create a BL classroom.

2. Literature Review

LMSs provide a wide array of features for learning and instruction. Not only is an LMS a convenient tool for messaging and providing a gradebook, it also facilitates interaction, evaluation and course content management [3]. It evaluates student and organizational goals and tracks student progress [4]. Moreover, such an interface allows sharing material by both students (Ss) and teachers (Ts), and posting announcements [5]. Other features include group work, assignment comments, synchronous or asynchronous activities.

These features are updated regularly by LMS developers to meet the needs of Ts and Ss and, hence, have the potential to improve motivation, guided practice, interaction, engagement, personalized learning, inquiry-based learning, collaboration, and project-based learning. Using JUSUR LMS in Saudi Arabia, AbouRezk [6] proved the effectiveness of BL in enhancing three different types of interaction: student-teacher, student-student, student-material/content; in return, these various types of interaction improved the speaking skill of the experimental group participating in synchronous and asynchronous speaking activities. AbouRezk concluded by accentuating the necessity for the EFL classroom to become more flexible to allow communication outside the classroom walls and called for e-learning professional development training sessions for EFL teachers. Such a recommendation falls within the scope of the present study that presents an easy and cost-effective tool Ts can tailor to enhance BL.

Despite all these advantages, an investigation into the teachers' and learners' perceptions of and attitude towards BL is of crucial importance. For example, in an attempt to determine EFL Indonesian Ss' perceptions of face-to-face teaching mode in comparison to online lessons, Wright [7] used quantitative and qualitative open-ended questions with more attention directed at motivation and interest. The overall scores reflected how a higher number of Ss associated face-to-face classes with higher motivation as a result of better understanding, peer and T interaction, and the direct and live provision of EFL input. Ss favouring online classes justified their preference depending on convenience, speed, and time and place flexibility. In the end, Wright recommended how a skilful implementation of BL can boost an EFL course without forsaking the importance of face-to-face teaching. In the same line of research, Emelyanova and Voronina [8] investigated the EFL sophomores' perceptions of an LMS-supplemented one-semester English course, with 32 hours contact hours. Pre- and post-anonymous surveys were used to trace the development of the learners' willingness to use BL in learning English. Results reflected a notable evolution in their attitudes towards using BL in EFL classroom. The percentage of those admitting the usefulness of LMS increased significantly from 27% to 63%, evidence showing how the learners completed the course with positive perceptions towards LMS learning.

In an attempt to investigate the perceptions of 50 male Ss using Blackboard in the English courses at Al Jouf University (Kingdom of Saudi Arabia), Pusuluri, Mahasneh, and Alsayer [9] found that it assisted them in learning at their own pace, especially in problematic language areas. Furthermore, pedagogically, Blackboard did not only provide various tools such as quick feedback, skill building, and improved communication in the BL instruction but further created a motivational learning environment. However, they found that the learners were neutral about Blackboard providing an interesting and lively environment, but this could be attributed to the early stage of application in addition to the lack of awareness of the benefits of Blackboard. This justifies why they recommended longitudinal research to see if such an attitude may change over time and to include female participants.

In conclusion, most studies investigating learner attitude towards the LMS-supported EFL classes did not focus on the criteria a teacher should focus on while selecting an open-source LMS to enhance BL, especially in financially disadvantaged countries, except Ramesh and Ramanathan [10], whose study is replicated and adapted here to suit the EFL classrooms in underprivileged countries. Accordingly, the purpose of this case study is to present a generic rubric to help EFL teachers in choosing an open-source LMS exemplified in GC and C.

3. Methodology

Ramesh and Ramanathan's replicated research study was conducted in India. Using a set of criteria relevant to the needs of an engineering higher education institution, they aimed to evaluate Moodle and Sakai, two open-source LMSs. The present case study, however, proposes the criteria of a generic rubric as a result of the researchers' own experience using both GC and C for one academic year.

The research participants were three English instructors and course coordinators. 85 Ss were enrolled in C and 25 were enrolled in GC. The courses focused mainly on the productive skills (speaking and writing). The criteria of the rubric were chosen based on the most essential factors for an English language course. The rubric comprises five essential criteria: (1) class and group management, (3) content management, (4) assessment and feedback, (4) communication, collaboration, and synchronization, and finally, (5) capacity. Each item and subitem in the criteria was evaluated using a 1-5 Likert scale to measure attitudes and perceptions, 1 being the least beneficial and 5 being the most beneficial.

3.1. Class and group management

This main criterion entails the ease of creating classes at the beginning of the semester. It is divided into the subcategories of creating a class and adding/removing Ss, adding sub-groups or sections for each course, adding co-teachers or teaching assistants, tracking attendance for the benefit of both teachers and Ss, sending notifications, and having a course calendar to highlight important dates or assignment due dates.

3.2. Content management

In order to make course content attractive and accessible to the Ss and Ts, an LMS should facilitate content management. The subcategories for this criterion are: creating a user-friendly and accessible interface, archiving after the end of a semester, importing/exporting/uploading content to use and reuse after a semester ends, and publishing and scheduling material in advance.

3.3. Assessment and feedback

Ts pursue the following features when they are assessing student performance: the ability to import/export quizzes from one class to another or from a previous semester to a new one, the presence of a question bank that covers a variety of options for creating questions, automatic grading, and a non-grading option. An LMS should be able to provide different alternatives for the provision of assessments

to the whole class or to a certain number of Ss within class, supplying different submission formats (file, video, audio, link, etc.), and setting flexible deadline with the option of deducting grades in the case of late submission.

Concerning feedback, first, an LMS should have more than one correction tool depending on the nature of the assignment: grading on the interface itself, on the submitted document and then returning it back to the student, or audio/visual feedback. Second, it is preferable that the LMS provides an option of integrating a rubric in the assignment so that the teacher adds the feedback into each student's work. The rubric is particularly significant for writing or speaking assessments. Third, it is highly beneficial for the student to receive feedback linked to a previous assignment. Fourth, for the purpose of academic integrity, the LMS should have a means of providing or syncing with a plagiarism detection tool.

3.4. Communication, collaboration, and synchronization

Language education emphasises on collaboration and communication inside and outside the class. Polls give Ss the opportunity to have an active role and participate in decision-making to develop and/or adapt any of the course material. For EFL Ts, having the Ss practice English outside of the class is an integral part of language learning. This can be augmented by a monitored space for student-student and student-teacher discussions. At the same time, Ss should be able to communicate privately with the instructor. Other features include dividing Ss into groups for collaborative work, allowing them to add material to promote active learning, accessing the LMS on mobile devices, and syncing with other applications for assessment or plagiarism detection etc.

3.5. Capacity

This includes the capacity of the LMS, including memory and the number of classes and Ss per instructor. It is noteworthy when considering a free LMS for an English Department in a higher education institution.

4. Results and Discussion

The overall results of the comparison showed the precedence of C (120 pts) over GC (91 pts) (see table 1 below for rubric and detailed breakdown of scores). GC scored higher in two criteria: content management and capacity; C, on the other hand, proved to be more beneficial for the instructors in the other three criteria: class and group management; assessment and

feedback; and communication, collaboration, and synchronization.

Table 1. Score breakdown for the two LMSs

Criteria	Score (C)	Score (GC)
A. Class and Group Management		
1. Creating classes and subgroups	5	4
2. Adding/removing Ss and Ts	5	3
3. Notifications	4	4
4. Attendance	5	1
5. Calendar	4	4
Total:	23	18
B. Content Management		
1. Interface	3	5
2. Archiving	2	5
3. Material management	4	4.3
4. Importing/exporting/ content	4	5
Total:	14	19
C. Assessment and Feedback		
1. Quizzes	5	3
2. Question bank	5	1
3. Grading	5	2
1. Assignments	5	4
a) Assigning		
b) Submission Format	5	1
c) Deadlines/ deduction policies	3	3
Feedback		
a. Correction tools	5	3
b. Uploading rubric	5	1
c. linking feedback to previously taught material	4	5
d. Plagiarism detection	5	1
Total:	47	24
D. Communication, Collaboration, and Synchronization		
1. Polls	4	5
2. Discussions/Interaction	5	2
3. Private messages	5	4
4. Collaborative work	5	3
5. Students can add material	4	5
6. Mobile-friendly	5	4
7. Synchronizing with other websites	5	4
Total	33	27
E. Capacity	3	5
Grand Total:	120	93

4.1. Class and Group Management

In class and group management, C scored slightly higher than GC. It was easy to create a class in the two LMSs with just a few steps. However, in C, Ts could create multiple sections for the same class/course and easily move Ss across them, which was not possible in GC. Both LMSs allowed for adding co-teachers with full access to the class, but C offered the option of giving defined roles for co-teachers, TAs, and observers. Adding/removing Ss was simple in the two LMSs. In both LMSs, Ts and Ss were instantly notified (via email and/or the mobile application) of all the new assignments, posts, etc., but they were not sent reminders before deadlines or important dates, and they could not customize the notifications they received. Attendance tracking was available in C, and Ss got notified of their absences, but this feature was not available in GC. C had an integrated calendar that sent notifications to Ss and Ts with important dates and deadlines; GC used Google Calendar. The two LMSs saved the Ts' time and facilitated collaboration between the co-teachers and course coordinators in tracking the number of registered Ss, their attendance, completed assignments, and submissions.

4.2. Content Management

As for content management, GC surpassed C in its simplicity and usability. C's interface was complicated (16 tabs) and required an orientation in class, while GC had only three tabs. Archiving was available in the two LMSs. However, in order to keep an archive of old assignments in C, Ts had to download them on a desktop computer or CD. Material in both LMSs could be uploaded in any format or synced with Google Drive in GC. When it comes to arranging the material, C had the options of arranging, scheduling, and posting the material as per the Ts' preferences, while GC only allowed arranging the material such that the newly added material were posted instantly with the most recent on top in the About tab. The two LMSs facilitated sharing and editing documents and allowed specifying whether the Ss can view, edit or comment on the shared documents. The ease of archiving and sharing class material with the Ss saved time and made the material appealing and accessible to them.

4.3. Assessment and Feedback

Assessment and feedback is one of the main criteria that showed a big difference between the two LMSs. C allowed the Ts to create a question bank with a variety of question types, while GC did not. As for grading, C provided the Ts with a comprehensive gradebook that showed Ss' graded and ungraded assignments in numbers (with decimals) or in percentages. GC had a less developed gradebook that

was not convenient for the Ts. Assigning assessments was easy in the two LMSs, providing the Ts with the options of instantly posting or scheduling the assignments, in addition to adding deadline and description for each assignment, and its weight. However, C had a further option that allowed the Ts to assign assessments to specific Ss if they had a make-up quiz or assignment. Ts could see submissions and late submissions' dates and times, but deductions could only be made manually by the Ts. In C, Ss could submit assignments in different formats (documents, videos, podcasts, etc.), while GC only allowed Ss to submit the assignments as documents in any google format (doc, excel, etc.).

Giving feedback on Ss' work was more efficient in C than in GC. Ts could provide written feedback (with a variety of correction tools) or oral feedback. Ts could also upload or create rubrics to help the Ss identify their strengths and weaknesses against the assessment criteria on the rubric. GC allowed writing comments on selected highlighted parts of the assignments with no rubric or easy-to-use correction tools. Both LMSs allowed the Ts to link feedback to previously taught material. Plagiarism detection options were only present in C by syncing with Turnitin, but were absent in GC. C and GC made it easy for the Ts to track the Ss' progress and performance and pinpoint their strengths and weaknesses and possible strategies to cater for their needs in a more personalized manner.

4.4. Communication, Collaboration, and Synchronization

In that context, C provided a more convenient communication and collaboration space for S-T, S-S and S-material interaction as proposed in [6]. C had three more advanced features than GC: discussions, private messages, and group projects. The Ts could initiate whole class discussions, and the Ss could share their e-portfolios with other Ss. The Ts could contact the Ss easily and instantly through private messages. Moreover, the Ts could add Ss to group projects, divide the work between them, and track their progress. The Ss had the option to share material with the class. Although GC provided the shared document options, C made it easier for the Ts to manage group work and facilitated different forms of communication. The two LMSs are mobile-friendly and C can sync with a number of other websites and applications.

4.5. Capacity

Although C seemed more solid in many aspects and encouraged the researchers to use it in more than one course, the small capacity of the free version was the main reason why the researchers resorted to GC as an alternative in classes with bigger number of Ss and

assignments. C has only a 250 MB capacity, while GC has unlimited capacity for institutional accounts and 30 GB capacity for all the G suite products of the personal accounts.

Having both advantages and disadvantages, the two LMSs aided the Ts in creating an active, BL environment that helped the Ts make the best use of their time and fostered smooth and frequent communication between them and the Ss inside and outside class. They also supplemented the Ts' efforts inside the class with accessible and appealing material that Ss can go through at their own pace. Furthermore, they allowed the Ts to provide better feedback and differentiated support to the Ss. In addition, they encouraged the Ss to have some control over their own learning and made them more engaged and motivated. This way the use of LMSs has made the best use of the advantages of BL [11].

5. Conclusion

In spite of the limited number of Ss who used the two LMSs, it is noteworthy to state how the researchers' hands-on experience as course coordinators allowed for a wider scope of the course, material, teacher, and student management. However, a survey distributed to other Ts using the LMSs would have added more insights into the results and discussion.

It is recommended that EFL instructors integrate the use of LMSs in all EFL classrooms, even in underprivileged countries. Ts can select the suitable LMS based on their needs; those who seek a large capacity can make use of GC and those who advocate more sophisticated options can use C.

Furthermore, LMS developers are required to add more EFL-oriented options to assist any EFL instructor, especially when it comes to assessment, feedback and communication. Last but not least, future studies should be conducted to further assess how far LMSs could foster learner autonomy in such learning environments.

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ASD - Not a Struggle of a Family but a Community Commitment

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Abstract

This communication is the second of a series of reflective reports on a work in progress that aims to measure the transformative impact of a child with Autism Spectrum Disorder within his/her intervention nucleus in a bidirectional logic of personal and social learning and development. The family is studied as a mobilizing agent of the community for the definition of a common project in which everyone will be subject and object of transformation and learning. The problem is deepened, moving from the family domain to the volunteer's social context. The program is described and how it prepares and monitors learning and practices. A qualitative methodology was adopted, using semi-structured interviews and focus groups, trying to understand how the love for a different child allowed preparing an action plan in which shared responsibility, belonging and unity gave birth to a new idea of a learning community - the Son-Rise family.

1. Introduction

This communication follows a preliminary article attempting to understand the impact of a child with autism spectrum disorder (ASD) within the family, as well as the power of the family as an active subject in the development of their child's potentialities [1].

The child in question will be named G, 34 months old, male and diagnosed with an autism spectrum disorder. In the initial diagnosis, he presented a great impairment in all areas evaluated, denoting a lack of consistency in visual contact, inexistence of verbal and non-verbal communication, and a null period of interactive attention. He showed lack of facial expression, as well as restrictive interests and exclusive and repetitive movements. His condition seemed aggravated by widespread hypotonia, which inhibited motor development; by an avoidant eating disorder, associated with the oral hypersensitivity that he manifested and the irritable bowel syndrome he suffered from. He is methodical and reveals discomfort facing unpredictability and excessive sensory stimuli.

After the diagnosis, the family worked out their beliefs, developed their resilience and took on the responsibility of defining an intervention program that would allow only their child to be the only one to set the

limit of his development [1].

They adopted the Son-Rise Program (SRP) as their method of intervention, having as a structural pillar the resorting to elements of the community, in a volunteer way, as mediators and promoters of learning and development. They selected, recruited and taught volunteered to give life to a community governed by the common goal of optimizing the child's zone of proximal development. They nurtured the team spirit and used their skills and tools to work the group's cultural, emotional and social intelligence, contributing to the dual purpose of teaching and learning.

Collectively, they affirmed themselves as a space of exchanges and social interactions that can awake the potential development of all the participants. They believed in the power of sharing and cooperation, valuing democratic dialogue and inclusion, promoting feelings of shared responsibility, belonging and unity that gave birth to a new idea of learning community - the Son-Rise family.

They inspired other families who showed interest in the method and curiosity for the complicity and synergy created around that team. Several parents of children with ASD sought help in this learning community and the information and knowledge were widely shared. This contagion has been rampant and other Son-Rise Families have emerged, creating an informal alliance in which together they promote and motivate themselves.

It is important to point out that this development of collective potential has occurred without planning and in an unpretentious way, as a natural result of the socio-interactive exchanges promoted by the method itself, by the learning derived from reflection and by the respect and profound gratitude of this family towards those who, in an altruistic manner, still unaware of the transforming power of a different child, accepted to participate and change for the sake of love.

Reflecting on the power of resilience and the role of these new learning communities in society, promoting the democratization of lifelong learning and development are aspects to consider in the context of an inclusive, cooperative, shared and participated citizenship that longs for a society of everyone and for everyone.

2. Autism Spectrum Disorder

The American Psychiatric Association [2] presents autism as a complex neurodevelopment disorder that manifests itself with great variability in the intensity and in the form of symptomatology. Taking into account this variability, the denomination Autism Spectrum Disorders (ASD) was adopted, allowing a single categorization of the continuous diagnosis, adapted to each individual through the associated specifiers and deficits that best represent the heterogeneity of the behavioral phenotype of that individual.

This spectrum is portrayed as a behavioral and relational dysfunction that concomitantly presents persistent impairment in social communication and restricted, repetitive and stereotyped patterns of behavior, interests or activities [2, 3]. Based on the perceptions of the studied family in this article and the method of intervention adopted by them, it is assumed, however, that autism, although having behavioral manifestations, is, in fact, a socio-relational disorder [4].

Etiology is assumed to be multifactorial, involving genetic, neurological and environmental causes.

The first clinical manifestations usually occur before 36 months of age, completing the diagnosis between the ages of 3 and 4 years, when the child is perfectly inserted in a social context where the expression of the symptomatology is more evident.

According to the data from the Center for Disease Control [5], the prevalence of the disease is 1/68, reaching 1.47% of the world's population, being four times more frequent in males.

Given the aforementioned difficulty in defining etiology, several intervention models/programs are used. In this article, the SRP method is essentially approached, since it was the one that was chosen by the studied family, which best corresponded to their beliefs and expectations of the intervention.

3. The Son-Rise Program

The SRP is an intervention model that aggregates the biomedical and educational approaches in a symbiosis that is completed with the intervention of the families [6]. It understands autism as a difficulty in connection and social interaction, in which the behavioral impairments are perceived as attempts by the child to preserve his/her sensory, motor and cognitive balance in a world that he/she do not yet understand. It began in the 1970's when Barry and Samahria Kaufman did not resign themselves to the prognosis associated with their child's severe autism diagnosis and developed their own home-based approach to affectivity, acceptance, motivation and belief in Raun's potential. Through the joining technique, they attempted to create a connection

that would allow them to rescue Raun from his/her solitary world, giving him control and the possibility to manage his timings in a sensory controlled and predictable space. Assuming a socio-interactionist perspective, where some saw defects, these parents found opportunities. They believed in the precedence of learning about the development and in the interaction as an enabler of acquisitions [7].

After three and a half years of intensive work, Raun, who had been assessed as having an IQ < 30, recovered completely from autism, developing a neurotypical development. He completed the Biomedical Ethics course and is currently the CEO of the Autism Treatment Center of America, founded in 1983 by his parents [4]. The success of this intervention seems to confirm the importance of the quality of social interactions and the collaborative dynamics to strengthen the Zone of Proximal Development, as Vygotsky affirmed, contributing to understand that the individual's learning capacity is determined not only by biological factors, but also, essentially, by the ability of the support system to relate itself with the individual's cognitive structures.

The SRP is intended to enable parents to take charge of the intervention, transmitting them the confidence they place in the development of children and showing them that autism does not have to be a life sentence.

The first step is to train the parents, welcoming them, encouraging them to appreciate the difference of their child and to believe in their abilities. At the same time, parents are taught to use the educational, attitudinal principles, techniques, and tools that make them the most effective educators of their children. They are also confronted with the need to create a playroom that promotes a great learning environment, great for the sensory processing and where inputs are controlled and diminished. The concern with the physical space of the intervention meets Vygotsky who defended that people with disorders are capable of benefiting from the learning process, like the rest, provided that they are properly stimulated in a receptive educational environment and conducive to interactive exchanges [7].

The Son-Rise Program offers several treatment options, where the intensive home programs (40 to 56 hours per week) seem to present more expressive success rates [8].

Since this is a 1:1 intervention, in sessions lasting no more than two hours, there is a need to co-opt a large number of volunteers who are guided by the same principles and work for clear and common goals. These volunteers will be the child's eyes to the world, trying to rescue him from a state of inertia unable to leverage learning and promote development.

The empowerment of parents, the belief that it is in social exchanges that learning resides, the use of natural contexts as intervention scenarios and the need to create

a cohesive work team, have encouraged the creation of learning communities where all the intervenients can be simultaneously learners and multipliers of knowledge, creating a network of sharing in which the whole overlaps the part in the pursuit of a common goal.

4. Learning Communities (LC)

The concept of Learning Community, not being a recent concept, since it is based on theoretical assumptions related to Vygotsky's socio-interactionist and Brufenbrenner's ecological views, seems to gain importance at a time when it is assumed that the significance and effectiveness of learning are supported by the interaction and co-construction of knowledge [9].

Vygotsky, by introducing the concept of Zone of Proximal Development (ZPD) as a mediator between real development and potential development, where learning is leveraged through the sharing and the quality of collaboration with more experienced individuals, cements the focus on mediation and the humanization of learning. Thus, understanding the ZPD, as a constantly changing psychological domain in which, through support techniques (scaffolding), one consolidates emerging functions and promotes human development, allows a dynamic conception of intelligence as a construct of the individual's sociocultural interactions [10].

The idea of democratization of learning emerges, assuming that all are capable of learning and evolving in society, regardless of their current condition, since only a tiny part of human potentialities are optimized, while the rest is waiting for an adequate profitability of the ZPD. Thus, it is believed that, using appropriate support techniques and permeated by the quality of mediation and socio-cultural interaction, it will be possible to intervene in the developmental path of a society and, consequently, of the individuals that integrate it.

Learning is thus assumed as the result of a process of exchange, in which individual and environment mutually influence each other, being in constant movement and transformation.

In sum, Vygotsky's perspective is based on the belief that the highest mental functions emerge from social processes and that these processes are formed through cultural tools or artifacts that mediate the interaction between individuals and among them and their physical involvements, echoing effects both in the user and in the surrounding context [10].

Accepting this ideology and fortified by a common interest, the first learning communities emerge as spaces of transformative interaction, based on the defense that difference and equality are compatible values, mutually enriching and able to promote equity and learning for all intervenients.

These communities take back the defense that the human condition is built along a historical-cultural process guided by social interactions in which development depends on the learning opportunities and interpersonal relationships established, considering that all the cognitive functions of the individual begin in an interpersonal process that, as a result of a long series of developmental events, will become an intrapersonal process [11].

With the creation of learning communities, the paradigm of education is changed, believing that learning must take place in a collaborative, cooperative and instrumental dynamic of sharing knowledge, skills and objectives, capable of transforming the course of personal and collective development. A dialogic and reflective learning performance is experienced in which everyone is subject and object of transformation and learning.

Learning communities, therefore, constitute themselves as an intellectual, social and cultural environment that facilitates a bidirectional learning promoting interaction, collaboration and collective participation, developing a sense of positive interdependence in which everyone, through practice, evaluation and reflection, empowers their capacities and blurs their limitations.

5. The Son-Rise Program and the creation of a Learning Community

The SRP shares Vygotsky's theory by defending the learning capacity of all individuals, relegating to society the duty to find the most fruitful strategies to trigger and mediate this process. In his approach, it is proposed the definition of a family intervention program depending on the selection, training and monitoring of a team of volunteers capable of collaboratively using scaffolding strategies capable of promoting learning and development [12], encouraging the initiative, within a logic of transient support and progressive autonomy.

Given the scientific evidences that show a positive and significant correlation between the weekly duration of the intervention and its success [6, 13, 14], the studied family decided to implement the Full Time - Level II Program, with a weekly duration of 40 to 56 hours. In order to enable this intensive implementation of the program, it was necessary to select, co-opt and train fourteen volunteers who, at the end, are part of a new learning community with the common goal of mediating G's learning and development and, simultaneously, promoting the enrichment and transformation of all intervenients.

The constitution of this team was a very rigorous process, where the parents assumed that the assertiveness in the selection of the volunteers would be

predictive of the quality of the exchanges and social experiences promoted and of the proficiency in motivating G to integrate a social and cultural context that promotes significant and internalizable learning [12]. Thus, they attempted to select individuals from various social sphere quadrants, with distinct personalities, but who shared unconditional love for G and the entrenched belief in his unlimited potential. *Commitment*, creativity, energy, empathy, sensitivity, critical and reflective spirit were some of the characteristics that parents sought in volunteers. Age, academic qualifications or social and economic status were not considered as selection criteria. The diversity of opinions and experiences was valued, believing in the power of egalitarian dialogue and dialogic interactions, highlighting the individual contribution to the development of society, as well as the role of the collective in the construction of the individuality of each one.

The recruitment and initial training of the volunteers took place in 3 sessions of 120 minutes each.

In the first session, G's narrative of the development was made, explaining his problems, his impairments and motivations. After, the fundamentals and principles of the SRP, as well as its intervention strategy, were presented, immediately assessing the interest of those present to join the team of volunteers. It was observed that all those present immediately identified themselves with the basic philosophy and guidelines of the SRP, feeling privileged that they were selected to develop such a dignified project, believing that, more than mediating the development of a child, they would improve their own development, as a consequence of interactive exchanges with all of those involved, and also as a result of the self-reflexive and critical practices imposed both in the personal and social dimensions [15].

In the second session, the SRP developmental model was presented and the techniques to be used within the playroom analyzed in detail, complementing with videos as examples. The SRP considers ASD as a social, relational, interpersonal, and interactional disorder, and as such, its social curriculum is highly focused on four critical areas of intervention: eye contact and non-verbal communication, verbal communication, period of interactive attention and flexibility. These fields of intervention must be at the heart of the volunteers action as well as the target of all invested tools.

The "joining" technique, being the pillar of the SRP, is priceless in allowing, through authentic acceptance, to establish, whenever the child is unable to build, connections, bonds and relationships that will be the basis of all learning.

In the third session, pair and group work were done to stimulate creativity, unlock some attitudinal constraints and promote team bonding. The self-efficacy

perception, described by Bandura, was simultaneously one of the aspects worked, since the parents valued their strong predictive value in the persistence and pursuit of the common objective [16].

In this new learning community, there are 14 volunteers (eight females and six males), a physiotherapist and the nuclear family (mother, father and child with ASD), in a total of 18 members with ages between 33 months and 60 years old.

Given the insistence and interest of the two children belonging to the family, their involvement in G's problem and their commitment to help him overcome his difficulties, the group chose to integrate them in the volunteer team, as the relationship with these children will be, in their perception, the beginning of the child's familiarization with his peers and an added value for the development of specific competences of the social curriculum. Social interaction between peers is also one of Vygotsky and Brunner's constructs, by stating that learning happens through collaborative knowledge-building projects in which the roles of all intervenients intertwine and complement each other, being everyone, regardless of the roles exercised, apprentices in an interactive and progressive process of knowledge construction [17].

The physiotherapist, not being a volunteer, belongs to the team, and she was the one to express, at a later stage, her interest in collaborating in this common project. The results obtained, as well as the precepts inherent in this and in any learning community, were the factors that were the basis of her decision, sharing the capital objectives of this group.

This team includes four couples, two of them with a minor child, being the remaining members single and with no descendants.

With the exception of the children, all volunteers completed the 12th grade, having six members completed a university course. Only one of the elements has training in the area of autism and special educational needs, and none of the elements of the team have worked with this problem before. The work areas are distinct and comprehensive, focusing on education, health, engineering, management and service to the public.

Ten of the volunteers belong to the extended family, the remaining ones are the child's former educator, a friend of the couple with training in the area and the mother of a teenager on the autism spectrum.

With the exception of the children, who have 30-minutes playroom sessions, the remaining participants have 120-minutes sessions, twice a week. This is considered the minimum amount of time for the child to establish a bond with the volunteers, and so being able to consider them as non-invasive and reliable elements, capable of arousing his interest to the world and people. These sessions are observed through a mirror glass, and,

at the end, the feedback of the follow-up is presented, referring to the techniques used, as well as some suggestions for acting and overcoming, giving value to the qualities, availability and love evidenced and promoting the feeling of belonging. All team members consider that this follow-up process is essential for pursuing the ultimate goal since it promotes self-reflection, stimulates creativity, encourages action in the limit of its potential, challenging the individual and collective ZPD in a dynamic to grow, allowing the growth [12].

6. Discussion of intermediate results

The continuous evaluation is an essential process for the readjustment of the communitarian journey.

The team meets monthly for monitoring and training, with the purpose of sharing ideas and experiences, analyzing the set objectives and their level of development and redefining objectives, strategies and activities. It is also the parents' goal with these meetings to inspire the team by promoting sharing and building bonds among the members of this new family, guiding them in maintaining a powerful focus: the belief in the unlimited potential of their child.

In the opinion of the team members, this process of shared and participated monitoring and evaluation of the practices proposed and mediated by the SRP is unanimously considered as one of the added value of this educational space that they integrate.

The present study used, as sources of information, the minutes and written reports produced in the monitoring process mentioned above, complemented with a set of interviews to all the intervenients in this Son-Rise Community. Both sources provided a collection of information that was the subject of content analysis.

After ten months of intervention, it was found that feelings of inclusion, acceptance, recognition and equality in the design of the action strategy promote feelings of personal and social fulfillment, capable of influencing all the quadrants of their lives. They point out that, more than a method of intervention, this program and this way of exchanging learning imposed themselves as a new way of being and thinking about life and citizenship. It is important to add the generalized belief that everyone benefits by integrating this voluntary scheme. They argue that, along with all the theoretical and practical knowledge acquired during the training, a new identity accompanied by renewed beliefs and a more empathic and sympathetic inner potential has shown them that the impossible is only a little more time consuming, blossoming a new way of problematizing life. When there were asked about the time spent, they were unanimous in recognizing it as an investment in their personal, social and cultural education, expressing deep gratitude for sharing. It

should be noted that at the time of recruitment, the potential volunteers were confronted with the need to ensure their participation for a minimum period of six months in order to promote greater connection with the child and the rest of the team. They understood the pertinence of this imposition and, at the end of the first six months of the intervention, they all expressed the desire to remain in the team until the final objective was reached.

After interviewing all the participants, it was possible to verify that acceptance and unconditional love are the dominant tone of the speech. The common goal is to see G get as far as he can get and to see him independent is the limit. All have revealed that if G's development does not keep up with their high expectations, it will not be understood as a discouraging factor since any gain is a victory and changes are always possible as long as one continues to believe them. All reported that their strength rests on G's small achievements, increased intentional eye contact and interactive attention and deep commitment to the program.

According to reports, the common motivation in this project is love, belief in G's potential, the will to make a difference in the life of this family, as well as the possibility of being part of a "miracle". It was also a consensual reference the fact that everyone felt gratified to be part of a learning community that appreciates the inestimable value of the difference and equity, believing in the power of the interaction and cooperation in a project in which the objectives of the participants are closely linked to each other, not being achieved in any other way than the collective way. Feelings like the perception of self-efficacy, pride and overcoming are also shared by this educational community.

In short, this learning community presents itself as a project of social and cultural transformation that relies on the unlimited potential of individuals, preferring to focus on their potentialities, looking at the limitations as eventual focuses of opportunity. It also seeks to break with a society that, in Vygotsky's words, has remained a development-blocking agent for people with disabilities by infantilizing and underestimating their capabilities [7, 9, 10, 12].

Vygotsky, along with the SRP, facilitates the birth of these communities by advocating the absence of learning without interaction and mediation, by assuming sharing and collaboration as determinant factors of success. Social precedence over the individual is assumed, believing that the efficacy of the learning process is intimately dependent on the quality of the interactions with the other and with the environment. His perspective on the capacity of overcoming of the individual, allowing him/her to act to the limit of his/her potential when using appropriate scaffolding techniques, introduced the concept of neuroplasticity that presents itself as one of the basics of the creation of this learning

community that believes that, intervening conveniently in the area of proximal development of this child, may create new synapses, unblocking learning and promoting its integral development, reaching, that way, the objective that was the basis of its association.

Thus, this learning community invests in prospective and creative interactions, permeated by the motivation and appreciation of the difference and diversity in a context in which the most experienced facilitators are able to operate transformations in the child, being reciprocally influenced by the interaction with all the intervenients and with the environment.

7. Conclusion

In a globalized and constantly changing society, it is fundamental to prod the capacity to reflect, to ponder and to problematize the future. To see learning as a collective process, resulting from meaningful and rewarding socio-interactional experiences, where the plurality of competences is valued and desired and where everyone feels valid and recognized, can contribute to a more inclusive being more respectful society of the difference as a factor of enrichment.

Taking the limitations as opportunities, working out beliefs and shaping attitudes allowed this family to take control of the intervention designed for their child, benefiting, together with the whole volunteer team, from a unique learning experience, capable of revealing the potential of all intervenients, in a maxim of which unity is power and that learning is a lifelong process.

To verify the transformative impact of the intervention traced to a child at the heart of the community that promote it is one of the great advances of this home-based program that, along with helping to learn, encourages rebirth; therefore, *ASD could never be just a struggle of the family but an inevitable community commitment.*

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Modalities of Pedagogic Practice: Bernstein's Theory of Curriculum and Pedagogic Practice

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Abstract

The main aim of this paper is to analyze two main types of pedagogic practices: Conservative (Traditional) and Child Centred Approach of Education (Progressive). This analysis uses Bernstein's theory of curriculum and pedagogic practice [1], [2], [3], [4] in order to understand the micro-processes of schooling and the impact over pupils' learning process and the extent to which they are actively involved in their learning process. The categories used to contrast types of pedagogic practices were derived mainly from Bernstein's paper [4], which provided a typology of pedagogy contrasting competence and performance in terms of discourse, time and space, evaluation, control, pedagogic text, autonomy and economy.

1. Introduction

Bernstein's exploration of pedagogic contents and the modalities of their transmission within classroom contexts generated a notion of two main types of pedagogic practices [1], [2], [3], [4], as the basis of analyzing two types of pedagogic practice. The model of pedagogic practice outlined by Bernstein [3] was initially presented in his 1971 and 1977 papers, and expanded in 1996, following empirical elaboration by Daniels [6], [7], [8]; Morais et al. [11] and Dowling [14], among others. In his theory Curriculum and Pedagogic practice, Bernstein [3] discussed two main pedagogic modalities, competence and performance (or invisible and visible) involving different schooling practices and different identities arguing that this level of time, text and space marks us cognitively, socially and culturally. Performance (or traditional type of pedagogy) tends to use subject-based curriculum. There is high demand on quantity of curriculum rather than quality of learning (process of acquisition). Competence, or progressive pedagogy, aims to empower learners to be active learners and to take part in their own learning process. It aims to meet different students' needs.

In his later book, 'Pedagogy, Symbolic Control and Identity', Bernstein [4] contrasted between two types of pedagogic practice, competence and performance (or progressive and traditional), according to seven main elements: Educational Knowledge; Pedagogic Space; Pedagogic Time; Pedagogic Evaluation; Control Strategies; Pedagogic Autonomy; and Pedagogic Economy.

2. Modalities of Pedagogic Practice: Visible and Invisible Pedagogy

In his famous and important paper, 'Class and Pedagogy: Visible and Invisible', Bernstein [2] addressed a crucial and original analysis toward our understanding the microprocesses of schooling. He distinguished two main types of practices according to three rules that act as regulative principles and can be considered as their internal logic. In his paper 'Social Class and Pedagogic Practice' [3], Bernstein claimed that '(A) pedagogic practice can be understood as a relay, a cultural relay: a uniquely human device for both the reproduction and the production of culture' and expanded on these three important and essential rules (hierarchy, sequence and criterial) which produce sub types of pedagogic practices through variation in the degree of their strength.

He regarded hierarchical rules as regulative rules as they established the conditions for social order, character and manner. They regulate and legitimate what is appropriate manner and conduct in pedagogic relations. These rules are not based upon logic but taken from wider social relations. Sequencing and criterial rules were called instructional, or discursive. They are about competence and skills of various kinds. He argued that regulative discourse is the dominant one as it 'creates a moral regulation of the social relations of transmission/acquisition, that is, rules of order, relation, and identity, and that such a moral order is prior to, and a condition for, the transmission of competences' [3].

3. Visible Pedagogy (VP)

According to Bernstein [2], explicit hierarchy, explicit sequencing rules and explicit criterial rules create visible pedagogy. In this type of pedagogy, classification is strong. Explicit hierarchy rules regulate the relationships between transmitter and acquirer which can be described, in this case, as a relationship of super- and subordination. Acquirers are likely to have little or no control over the regulation of their movements, activities, social relations and communication. The classroom is likely to be organised in a way which restricts children's movements and regulates their learning to specific places and things, increasing teachers' ability to control children and create specific type of teacher/learner interaction. In educational contexts, strong classification creates clear distinction between categories, tending to engender clearly marked individual identity.

Explicit sequencing rules regulate the transmission process. They publicly and formally regulate what children, for example, of four, five and six should do and specify the types of performance which they should acquire and the way which they must behave. The curriculum is organised usually in terms of age. 'These sequencing rules regulate the unfolding of a syllabus, the curricula, the system of assessment' [2]. In the case of explicit sequencing rules, the acquirer is always aware of the level of his/her progression and the criteria which should meet in specific age. Explicit sequencing rules mean strong pacing or rate of expected acquisition. With the syllabus and curriculum clearly defined, usually in terms of age, 'the child has some awareness of her/his temporal project although he or she lives in the past' [3]. Finally, visible pedagogy is marked by explicit and specific criteria. 'Where the transmission realizes explicit criteria, then the transmitter is continuously making the acquirer aware either in oral or written form what is not in his/her production' [2]. Emphasis is on what is missing in the acquirer's product, 'by showing what is missing in the product, the criteria will always be explicit and specific, and the child will be aware of the criteria' [3] (original emphasis). Therefore, visible pedagogy employs explicit, specific and clear criteria of evaluation which the acquirers become aware of order that they may be able to progress and to be promoted to the next stage.

The fundamental rule for visible pedagogy that 'things should be kept apart' but the question is why and for what purpose? Strong classification is realised through visible pedagogies but it does not arise that strong classification always give rise to strong framing. In any pedagogic practice, classification and framing may vary from each other independently so that we may have strong classification but weak framing and vice versa. We may have, for example, an integrative approach for curriculum where little

choice is offered to children and they may not have the power to affect the selection, sequencing and transmission of educational knowledge.

4. Invisible Pedagogy (IP)

Bernstein [2] considered that progressive infant practice, where it existed, would take the form of IP and empirically have the following features.

1. the control of teacher over the child is implicit rather than explicit. It is more likely to be personal, through communication, rather than positional, as the case in VP;
2. the teacher arranges the context which the child is supposed to rearrange and explore, therefore, the child is proactive and have some control over his/her learning;
3. within this arranged context, the child has wide powers over the structure of things and over the time-scale of his activities;
4. the child usually regulates his/her own movements and social relationships within classroom context;
5. in this type of pedagogy, IP, there is reduced emphasis upon the transmission and acquisition of specific skills; and
6. the criteria for evaluation is multiple and diffuse and not easily measured.

Implicit hierarchy, sequencing and criterial rules create an invisible pedagogy. The relationship between the transmitter and the acquirer is not clearly one of subordination. Acquirers are likely to have greater control over the regulation of their movement, activities, social relations and communication. 'Where the hierarchy is implicit, the acquirer is likely to be subject to the regulation of his/her peers. Consider the illustrations to the Plowden Report. The teacher is rarely obvious; the children are in the foreground' (Ibid., p. 118). This is the context created by implicit hierarchy,

'The more implicit the hierarchy, the more difficult it is to distinguish the transmitter. We can define an implicit hierarchy as a relationship where power is masked or hidden by devices of communication. In the case of an implicit hierarchy the teacher acts directly on the context of acquisition but not directly on the acquirer' [3].

Given implicit sequencing rules, acquirers do not know about their progression. This is the domain of the transmitter who also knows what counts as a curriculum, which will be less well defined than in the visible pedagogy. Where rules are implicit, sex and

age of children are not strong marking features. Rather,

‘The transmitter will look for signs of the child’s developmental stage, whether these be linguistic, social, intellectual or affective, and respond to the child and arrange contexts and contents according to how the signs are interpreted’ [2].

Implicit sequencing rules equal weak pacing of transmission. Children can never be aware of their temporal projects which only their teacher knows. As a result, children live only in the present time with respect to implicitness of criteria and the teacher is less likely to say what is missing in children’s products,

‘...the teacher is more likely to do this indirectly, in a context of general, diffuse support. Where the transmission realizes implicit criteria, it is as if the acquirer is the source of the criteria’ (Ibid., p. 119).

Children are not aware of the criteria which they should meet,

‘It is as if this pedagogic practice creates a space in which the acquirer can create his/her text under conditions of apparently minimum external constraint and in a context and social relationship which appears highly supportive’ [3].

The underlying rule of invisible pedagogy is that ‘things must be put together’ but what things and for what purpose? Weak classification is realised through invisible pedagogies but it does not arise that weak classification always give rise to weak framing. Bernstein [1] considered the possibility of having weak classification and strong framing, using programmed learning as an example, where the boundary between educational knowledge is blurred (weak classification) but there is little control by the pupil over what is learned (strong framing). ‘This example also shows that frames may be examined at a number of levels and the strength can vary between the levels of selection, organisation, pacing and timing of the knowledge transmitted in the pedagogical relationship’ (Ibid.).

Invisible pedagogy has many implications in the context of the early years of the child’s life, either in the home or in the school. According to Bernstein [2],

‘The weak classification and frames of the invisible pedagogy emphasize the importance of ways of knowing, of constructing problems, whereas the strong classification and frames of visible pedagogies emphasize states of knowledge and received problems’ (original emphasis).

Bernstein [2] contended that the basic concept to invisible pedagogy was play. Play is the means by which children exteriorises themselves to their teacher. Thus, the more they play, the greater the range of their activities, the more of them is made available to the teacher’s screening.

In more recent writing, Bernstein argued that the main concern of invisible pedagogies is not on

producing stratifying differences between acquirers ‘because they are less interested in matching the acquirer’s text against an external common standard’ [3]. The differences that arise from invisible pedagogies are not used for comparing between acquirers but to show their uniqueness. He further argued that

‘External non-comparable differences are produced by internal commonalities - that is, shared competences - whereas in the case of visible pedagogies external comparable differences are produced by internal differences in potential. In short, invisible pedagogies emphasize acquisition-competence and visible pedagogies transmission-performance’ (Ibid.) (original emphasis).

5. Contrasting the two types of pedagogy

In his more recent writings, Bernstein [3] provided a typology of pedagogy. He identified two models, of competence and performance and three modes within each type. He summarised the social logic for the competence type of pedagogy as

1. A universal democracy of acquisition. All are competent, and all possess common procedures. There are no deficits;
2. The subject is active and creative in the construction of a valid world of meanings and practice;
3. An emphasis exists upon the acquirer as self-regulating, or benign development. ‘Further this development or expansion is not advanced by formal instruction. Official socializers are suspect, for acquisition of these procedures is a tacit, invisible act not subject to public regulation’ [4];
4. Being critical and sceptical of hierarchical relations. This may suggest that transmission is no more than a facilitation, accommodation and context, management; and
5. A change in temporal view to the present tense. ‘The relevant time arises out of the point of realization of the competence, for it is this point which reveals the past and adumbrates the future’ (Ibid.).

These features distinguish a competence from a performance model of pedagogy but not all features of its social logic apply equally in all usages of competence models.

Bernstein [3] contrasted ‘two generic forms of pedagogic practice according to whether the ordering principles are explicit or implicit. These basic forms were shown to yield progressive, conservative, and radical modalities’. Their ordering principles are regulative rules, hierarchical rules and instructional or discursive rules, selection, sequence/ pace and criteria

rules. Studying the difference between the two main types of pedagogic practices is important because, '(T)hese differences in emphasis between visible and invisible pedagogies will clearly affect both the selection and the organisation of what is to be acquired' (Ibid., p.71).

Bernstein [4] also set out the contrast between competence and performance models in terms of discourse, time and space, evaluation, control, pedagogic text, autonomy and economy. Discourse refers to the form of educational content, whether in terms of specialised subjects or themes, or projects which require that the acquirer to be actively participative in the process of its acquisition. In competence models, pedagogic discourse is presented in terms of themes, projects and ranges of experience with a group base, 'in which the acquirers apparently have a great measure of control over selection, sequence and pace. Recognition and realization rules for legitimate texts are implicit' [4]. Stratification between acquirers is weak. On the other hand, in performance models, pedagogic discourse is presented in the form of specialisation of subjects, skills, procedures which are clearly marked and separated according to form and function. Recognition and realisation rules for legitimate texts are explicit. Acquirers have relatively less control over selection, sequence and pace. In performance models, acquirers' texts (performance), or their products, are graded and differences between acquirers are drawn according to their performance. Stratification between students is strong.

Pedagogic space may be clearly defined, specified and marked, or not. In competence models, pedagogic spaces are neither clearly nor specially defined and acquirers are allowed to construct spaces as pedagogic sites. Acquirers' movement is facilitated by the absence of boundaries which limit access and restrict movements. However, in performance models,

'Space and specific pedagogic practices are clearly marked and explicitly regulated. Interstices for acquirers to construct their own pedagogic space are restricted. Regulatory boundaries limiting access and distributing movements are explicit and well-marked. Classification is strong' [4].

In competence models, the present tense is more emphasized. The weak sequencing of different activities, with no apparent progression between them and implicit pacing rules, places emphasis on the present tense. The emphasis is upon what each acquirer is revealing at a particular moment. On the other hand, in performance models, the focus is upon what acquirers have in the past or will in the future accomplish. Strong and explicit sequencing of different activities (strong and apparent progression), combines further with strong pacing to emphasise the past and the future tense.

Evaluation considers what is present or what is absent in the acquirer's product. In competence

models, the focus is upon what is present in the acquirer's text. For instructional discourse the criteria of evaluation are likely to be implicit and diffuse. However, for regulative discourse the criteria (of conduct, manner and relation) are likely to be explicit and clearly marked. In performance models, the focus is upon what is missing in the acquirer's product; and criteria is more explicit and specific, and the acquirer made aware of the criteria.

With respect of control, in competence models, the absence of explicit structure and classification makes the use of positional control less likely as a strategy. In this type of control, the transmitter is regarded as a facilitator.

'Control, then, is likely to inhere in personalized forms (which vary with each acquirer), which are realized in forms of communication which focus upon the intentions, dispositions, relations and reflexivity of the acquirer. This is not to say that positional and imperative control modes will not occur, only that these are not favoured modes' [3].

However, in performance models, explicit structure and strong classification give rise to and relay order. Such explicit structures may be considered as resources for positional control which, in turn, legitimizes them and strong classifications. 'The economy of performance models, set up by explicit rules, makes the use of personalized modes of control less favoured options, as these modes often entail lengthy communication upon an individual basis' (Ibid.).

In competence models, the text is less the product of the child than that it reveals something other than itself. The product indicates the acquirer's competence development, as this is affected cognitively and socially, implying that 'the meaning of an acquirer's signs is not available to the acquirer, only to the teacher' [4]. In performance models, the text is regarded as the product of the acquirer's performance and this product is evaluated by grades. This gives rise to a repairing system in cases where children's product does not meet the sequence requirements of their specific age level. Moreover, in the case of performance models, the past and future of acquirers' performance are made visible.

Competence models need a relatively wide range of autonomy 'although teachers in any one institution are likely to have reduced autonomy over their pedagogic practice as this mode requires homogeneity of practice' [4]. Despite the fact that there are commonalities in constructing particular contexts and practices, each acquirer needs his/her own particular context and practice. For this reason, each school and each teacher need a range of autonomy in order to be able to do that.

'The pedagogic resources required by competency models are less likely to be pre-packaged as textbooks or teaching routines. The resources are likely to be constructed by teachers and autonomy is required for such construction. Competency models are less

susceptible to public scrutiny and accountability, relative to performance models, as their products are more difficult to evaluate objectively' (Ibid., p. 61-62).

However, Bernstein cautioned that it is difficult to discuss autonomy with respect to performance models, as there are important differences in their modalities. He distinguished between two main types of performance, introverted and extroverted,

'In the case of introverted modalities the future is the exploration of a specialized discourse itself as an autonomous activity. In the case of extroverted modalities the future is likely to be dependent upon some external regulation, for example, the economy or local markets... In the case of extroverted performance modalities there clearly is less autonomy because of the external regulation on performance futures' (Ibid., p. 62).

Autonomy is likely to be lesser in the extroverted type as acquirer's performance is subject to external regulation and needs to meet specific criteria made up either by the regulations of markets, or, by the government which exerts high control over pedagogic practice.

The transmission costs for competence models are likely to be higher than those of performance models. The costs of training teachers are likely to be high because of the theoretical base of competency models. Moreover, there are other hidden costs if a competence model is to be successful in its own terms. Bernstein thinks that these hidden costs are time based. It is time consuming on the part of teacher who has to construct pedagogic resources. Evaluation in competence models also requires time to establish the profile of each acquirer, discussing projects with groups and socialising parents into the practice of their children and their progression. Bernstein pointed out that these hidden costs are rarely considered or taken as concerns at the time of budget (financial) planning. 'This lack of recognition of hidden costs may lead to ineffective pedagogic practice because of the demands of the practice, or, if these are met, the lack of recognition may give rise to ineffectiveness because of the fatigue of the teachers' [4]. However, the transmission costs for performance models are relatively less expensive. 'Accountability is facilitated by the 'objectivity' of the performance and thus outputs can be measured and optimized... In general performance models are more susceptible to external control and to the economies of such control' (Ibid.).

Bernstein stated that teacher's commitment, motivation and personal attributes are important within particular modes. 'None of the above rules out the importance of the teacher's commitment, motivation and personal attributes, but these qualities operate within particular models' (Ibid.). These attributes are needed more in competence type of pedagogies as they require more time, efforts and personal and professional skills than in performance types.

Meanwhile, it is important to consider that 'most pedagogic practices are a combination of both forms, as well as of invisible and visible pedagogic practices, but lean more strongly in one direction or the other' [12]. Therefore, we expect that any analysis of pedagogic practice may have some element from Progressive but still more close to conservative type of pedagogy.

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The Plight of Adult EFL Learners in ESL Setting: The Case of Peruvian and Vietnamese

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Abstract

This paper attempts to describe how two adult EFL learners, a fifty-six-year-old male Peruvian and a thirty five-year old female Vietnamese have regulated their learning of English in ESL ecology, a university in the Philippines. The analysis was confined to the types of their learning motivation using Ryan and Deci's [6] intrinsic and extrinsic and Gardner's [6] instrumental and integrative dichotomies, and to the learning strategies that they have been utilizing based on Oxford's [8] and Malley and Chamot's [5] frameworks on the basis of qualitative data gathered through triangulated methods i.e., interviews, observations and survey through questionnaires.

Interviews revealed that the EFL learners under study were demotivated to learn English in their younger years, however developed high level of intrinsic and extrinsic motivation in their adult years of learning it. Data from the questionnaires registered P₁'s very high and P₂'s high levels of instrumental and integrative motivation as sustained by the mean scores of 4.4 and 5.0, and 3.6 and 4.0 respectively. The struggles found were on unintelligibility of the New Englishes in use (i.e., Peruvian, Vietnamese, and Philippine Englishes) and their incognizance of available strategies to process easeful learning. Observation and interview data recorded disheartening results on their employment of language learning strategies. Only two metacognitive, one cognitive and two social strategies were found employed, only when making sense of complicated lessons.

1. Introduction

Personal communications with EFL learners in the University where the researchers are connected, divulge critical issues on their struggle with learning English even when in their homeland. The complexity and subtlety of the language's phonology, lexicon, and grammar have become sources of their mental stress. EFL learners learning English courses in ESL countries may suffer more issues; hence, the present study probes on vital factors i.e., motivation and

learning strategies that may meliorate or ruin their language learning process.

2. Language learning motivation

Language learning motivation is a crucial determinant of learning a second and foreign language. Without it, even the brightest learners will not obtain a working knowledge of their target language despite desirable language aptitude and environment [6], [8].

People can be motivated because they value an activity or because there is strong external force that urged them into action. Deci and Ryan's [3] Self Determination Theory (SDT) distinguishes between intrinsic and extrinsic types of motivation based on different reasons or goals that give rise to an action.

Intrinsic motivation refers to a person's drive to perform a task because it is inherently interesting or enjoyable. Csikszentmihalyi and Rathunde and Ryan [7] as cited in Ryan and Deci state that the construct of intrinsic motivation describes one's natural inclination toward assimilation, mastery, interest, and exploration which are principal sources of enjoyment that influences his/her cognitive and social development. Although intrinsic motivation is an important type of motivation, it is not the only type of self determined motivation [6], [7]. A person may be driven to act by outer variable i.e., extrinsic motivation, which refers to the will of accomplishing a task that leads to a recognizable outcome.

Cognitive related theories such as: expectancy value, goal theory, and attribution theory also explain the intrinsic extrinsic dichotomy. The expectancy value theory postulates that students are motivated to study because of their expectation for success and their reasons for undertaking specific tasks. The goal theory posits that they set mastery or performance goals for different academic and non-academic pursuits. Attribution theory suggests that learners believe that achievements or failures guide their behavior and seek to understand why event occurs especially when the outcome is unexpected.

Another influential model is Gardner's [6] socio-educational framework which identifies two kinds of language learning motivation i.e., integrative and instrumental. When one wants to learn an L₂ to be identified with and become a member of the L₂ community, he has integrative motivation. This kind is associated with components such as interest in foreign languages, desire to learn the target language, attitudes toward learning the target language, attitudes toward the learning situation, desire to interact with the target language community, and attitudes toward the target language community [10].

Instrumental motivation, on the other hand, refers to motivation in which the learner's interest in learning the language is associated with the utilitarian benefits of language proficiency like course credit or a higher salary.

Dornyei [10] investigated the components of motivation in foreign-language learning (FLL) which involved learning the target language in academic settings without regularly interacting with the target language community. The results showed that instrumental motives significantly contributed to motivation in FLL contexts; nevertheless, this involved a number of extrinsic motives including the desire to integrate into a new community.

2.1. Language learning strategies

Oxford defines learning strategies as operation employed by the learner to aid the acquisition, storage, retrieval and use of information. These are specific actions taken by the learner to make learning easier, faster, more enjoyable, more self-directed, more effective and more transferable to new situations [8].

Malley and Chamot in Mitchell and Myles categorize language learning strategies into: metacognitive, cognitive and social or affective. Cognitive strategies help learners make and strengthen associations between new and already-known information and facilitate the mental restructuring of information [5], [8].

Metacognitive strategies help learners manage themselves as learners, their general learning process, and the specific learning tasks expected of them to perform. Affective or social strategies, on the other hand, refer to those that involve feeling and social contribution to learning as well as the learning circumstances that evoke feelings and peer's assistance.

Msuya's study on language learning strategies by EFL secondary school learners in Tanzania showed a majority's preference of social strategies in the learning of English language. Relatively, Ching et al.'s. investigation on the influence of gender on college EFL learning strategy use revealed that the

most frequently used strategies were the compensation types [2], [4].

2. Methodology

2.1. Participants' profile

The participants were two adult EFL learners i.e., one male Peruvian and one female Vietnamese who were 56 and 33 years old respectively when this study was conducted. For the sake of confidentiality, they are named Participants 1 and 2 (P₁, P₂). P₁ is a third-year student enrolled in the Bachelor of Secondary Education program, major in Music Arts and Health; while, P₂ is a graduate student enrolled in the Master of Arts in Education major in English.

P₁ grew-up in Lima, Peru and is married to a Filipina. He learned Basic English during his elementary years in Peru. He speaks three languages: Spanish, English, and Tagalog. P₂, on the other hand, was born in Tan Phu, Dong Nai Province, Vietnam and speaks Vietnamese, a Vietnamese dialect and English. She started learning English in her junior high school and studied its grammar for eight years as one of the content areas taught in Vietnam schools.

2.2. Instruments

Prince et al. [11] state that self-report surveys, observations, interviews, among others, have been used as assessment tools for learners' use of strategies. To secure insights from the subjects' authentic answers in their own words, interview was the main instrument used. The set of questions used in the first interview was on their language learning experiences; whereas, the questions asked in the second interview were on language learning strategies. The gathered self-report data were sufficed by the observations done by the researchers and the casual interviews done with some of their classmates.

Another significant instrument used was motivational questionnaire or self-report survey. The questionnaire consists of twenty-five-Likert-scale statements (i.e., ten questions on intrinsic and extrinsic types and another ten questions on instrumental and integrative types of motivation) that deliberately reveal the participants' language learning motivation.

2.3. Procedure

After the adult EFL learners had been purposively identified, the participants were informed about the investigation two weeks before the actual interviews were done. They were assured of their anonymity and of the confidentiality of the data to be gathered from them; hence, they confirmed their cooperation.

Table 1. Ps' mean level of motivation

	P1 Peruvian	P2 Vietnamese	P1 Peruvian	P2 Viet
Mean: Instrumental	3.8 High degree	4.0 High degree	3.8 High degree of motivation	4.0 High degree of motivation
Integrative	4.2 High degree	4.6 Very high		

They were requested to be open without reservations during the interview proper. The two sets of interviews began with exchanging of greetings. The natural flow of conversation was maintained since the interviewer encouraged the participants to speak easefully to obtain as much information as possible. Indeed, they, each at a time, were cooperative, relaxed, and spontaneous with their responses.

After the conduct of the interviews, the subjects were requested to answer the attitudinal questionnaires on language motivation. The participants' responses to the interviews were qualitatively analyzed based on the language learning and learning strategies frameworks used; whereas, the data from the questionnaires were tabulated and treated with simple statistics for interpretation and discussion.

3. Results and discussion

3.1. Participants' learning motivation

It can be seen from Table 1 that despite P1 age, he has high degree of intrinsic and extrinsic motivation the latter of which is greater. Similarly, P2 has both intrinsic and extrinsic motivation and likewise, the one driven by the outside forces is greater.

The figures suggest that after having been demotivated to learn English in their younger years as revealed by interview data, they are now motivated to learn it. This proves Dornyei's (observation that motivation changes over time [10]).

Now that the P1 and P2 are 56 and 35 years old and have gone a lot of challenges and classroom learning tasks, they may have more or less realized how far they have learned or unlearned, and finally accepted their potentials and act to improve them.

The expectancy value theory explains their extrinsic motivation which is probably triggered only now that they are mature. It appears that they have now realized the utility value of the language especially in this era of globalization.

The preceding discussion suggests that they might unconsciously have had these types of motivation since their younger years; however, it can be noticed that they were undermined by their linguistic environments - classrooms, teachers and classmates. as well as the outside communities.

Table 2. Ps' level of instrumental and integrative motivation

Mean	P1	P2
Instrumental	4.4 very high	3.6 high
Integrative	5.0 very high	4.0 high

Table 2 reveals that P1's instrumental and integrative motivation systems are *very high* with the latter as slightly higher despite knowing a little Tagalog and despite having a Filipina wife who can understand and speak his L₁. He possesses interest in English lessons and intends to learn them, primarily to become indistinguishable member of the English-speaking community in the University and at home.

Slightly different is the case of P₂ who has *high* socio-educational motivation with her integrative motivation slightly greater, too. She would always struggle to make sense of a lesson for her to cope with the demands of the ESL graduate classrooms. Her greatest integrative motivation is her belief that wider social contact and 2) a desire to belong to a certain community.

P1's and P2's linguistic behaviors and actions manifested McDonough's proposition that EFL's traditional integrative concept includes: 1) a general desire for wider social contact and 2) a desire to belong to a certain community [9].

3.2. Participants' learning strategies

Table 3 shows the summary of the participants' learning strategies. Both of them gave exactly the same answers to the questions related to critical issues on learning English and their solutions to such issues. They both confessed the difficulty they experience in understanding their teachers' and classmates' spoken English. The following are verbatim extracts from their sharing:

"I keep on asking my seatmates and friends. In the class, I always ask, what is the question? What said the teacher?" P₁

"I ask Ma'am Perla, my seatmate. Sometimes I feel very tired, sick of learning English. I always get stressed; I couldn't sleep. I do not attend my

Table 3. Ps' repertoire of learning strategies

Metacognitive	Cognitive	Affective/Social
1) Finding relevant material/resources-surfing the internet for possible reading articles - dictionary for vocabulary problem	1) Rehearsal/ memorization [5]	1) Asking questions/help from classmates
2) Repeated readings - doing vocabulary (P2)	-memorization of lessons including vocabulary	2) Using/ practicing the language with experts (P1)

class when I can't understand the assignment."
P₂

This admittance of struggle to learn English is explained by the very limited strategies they would use to survive in ESL classrooms. Not one of them mentioned employing metacognitive strategies that would have helped them lessen their mental stress.

Surprisingly, they would not employ cognitive strategies but give up when they could no longer process. The following are verbatim excerpts from their replies to queries as regards processing complex lessons, self-evaluation of their performance, and their past EFL classes:

"I don't enjoy reading much; I take it lightly with my wife's and friends help". P₁

"I don't sleep to read and read until I understand the material. Sometimes, I feel I will die if I don't understand a material or homework." P₂

"Yes, I always try to think how well I did on a task. Sometimes, I want to give up. I'm sad because I remember my past English classes. I failed because I didn't have good English environment; how miserable those times were."

P₂

P₂'s attributed her present poor language performance and failure not to her self-confessed innate low ability but to her past EFL environment.

P₁ has been utilizing a social strategy, rehearsal or practicing the language with the experts, which P₂ is not employing. Their personalities may explain the reason--P₁ is a jolly fellow teaching religion to Filipino children and has been in the country for three years; while, P₂ is a shy young woman who has been living alone in a small room for two years.

4. Conclusions and recommendations

The analysis of P₁'s and P₂'s learning strategies yielded challenging and awakening effect on the researchers. It is indeed a disheartening realization

that some EFL/ESL teachers including the researchers might have been overwhelmed teaching and accomplishing their syllabi, so unconsciously overlooked the deliberate teaching of language learning strategies, and examination of the learners' motivation as well as their own motivational strategies. It is saddening to find that highly motivated adult learners are ineffective learners due to poor manipulation of learning strategies. Henceforth, it is suggested that EFL/ESL teachers plan and monitor their teaching of learning strategies. They may do an honest evaluation of the classroom tasks they engage their students into to be able to indirectly offer strategies the students need to apply to process easeful learning and performance of the tasks. By so doing, they do not merely teach strategies through the language learning tasks but also prepare meaningful tasks that promote lifelong learning that goes beyond the classroom. In addition, in as much as the unintelligibility of the English spoken by the participants' ESL teachers and classmates was confessed as the major issue in learning oral lessons, the teaching of language awareness that subsumes the teaching of World Englishes, specifically the Englishes used by the EFL learners concerned is seriously endorsed for it promises a great help to the EFL learning in ESL setting.

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Session 9: Global Issues in Education

Title: Academic Teacher Induction in a Multiple Campus Environment - Encouraging Resilience in New Academic University Teachers 1
(Author: Marie B. Fisher)

Title: Learning to Teach
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(Author: Woohee Kim)

Academic Teacher Induction in a Multiple Campus Environment - Encouraging Resilience in New Academic University Teachers 1

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Abstract

In Australia, the Higher education sector has experienced significant change since 2009. The main changes include academic teaching standards, increased pressure to publish, integrating technology into teaching, while at the same academic teachers are finding it more difficult to obtain more permanent employment. These factors affect not only the teacher's inclination to engage in professional development relating to teaching but more importantly they often pay less attention to maintaining their resilience. This article identifies some of the main issues that stymie resilient behaviours in a multiple campus university environment and strategies used to improve the situation. This reflective paper was informed through personal observation, by the author, of habits of academics new to the Australian Catholic University (ACU) and considers strategies to encourage new academic teachers to engage in activities for personal and organisational resilience. It is hoped by sharing this experience our university can receive valuable feedback from colleagues on strategies to encourage resilient behaviours in our new teachers.

1. Introduction

The aim of this article is to contribute to world knowledge through observational reflection by reporting on strategies that encourage resilience in academics new to teaching and show how this might help their development and capacity building at our University. In addition feedback is sought from colleagues on strategies that are likely to increase participation in resilient behaviours such as attending professional development, building communities on their local campus and getting to know their immediate colleagues. This Scholarship of Learning and Teaching (SoLT) research is a work in progress.

2. Literature Review

The literature defines resilience in a number of different ways. The application of these recent studies concentrates on 'school' rather than 'academic'

teachers' ability to develop or demonstrate these qualities in Higher education learning and teaching activities [1].

In the twenty-first century in the Higher education milieu, academic teacher resilience is a quality that develops over a period of time, through experience and by applying strategies that promote the ability to 'bounce back', recover and reframe quickly when classes, interactions and career plans do not eventuate or falter [1], [2], [3].

Recent research by the University of Wollongong (UoW) in the state of New South Wales, Australia, has found that mobile technologies could be used for delivering professional development for casual (sessional) academics as well as students. In their professional development 'mobile' model they consider that learning can occur through two different approaches [4].

The first activity they call 'push', where learning outcomes are set, and information is provided to individuals to learn in a set timeframe. Whereas in the second approach 'pull' where academics who participate are encouraged to be more self-directed, engaging in opportunities that suit their situation [4].

Understanding what support academic teachers need relating to personal and career development is a vital first step to capacity building in universities. New academics need to build their resilience in higher education teaching by participating in timely, targeted professional development, which may be offered either online or in a collaborative environment [3].

Participation could be self-managed by the participants if they value what is offered by their school or university. Universities should be able to encourage resilient 'bounce back behaviours they can share with other new staff if the new academic recognises the value of the professional development offered [5].

3. Organisation of the Australian Catholic University

Australian Catholic University (ACU) was established in 1991 and formed from an integration of

teaching colleges, and religious institutes in Eastern Australia. There are seven domestic campuses in located four states, New South Wales (NSW), Queensland (QLD), Victoria (VIC), South Australia (SA), and one territory, Australian Capital Territory (ACT) [4], [6]. An additional international campus, a joint venture with the Catholic University of America, was opened in Rome in September 2015. The University emerged from the smaller teaching colleges established by clergy from several Catholic religious orders [4], [6].

4. Background

Since 2012 the 'Orientation to teaching' program for new academics has undergone a significant change at the Australian Catholic University. When the author first assumed responsibility for these professional development workshops, the duration was three hours plus a library information session [3].

The original brief was to provide an information session lasting three hours, to orientate staff into the ACU environment with little opportunity for new staff to ask questions or participate in discussion with their colleagues. In addition, a library session was added which participants found useful, but suggested that it contained too much information to absorb in the one academic development session [3].

These academics reported informally that they preferred to attend these Library sessions a few weeks after commencement, once they had settled into their new teaching responsibilities [3].

Over the last five years the program has been reviewed, renamed and the content aligned to helping new academics find appropriate support services and resources for their teaching, and to encourage participation in further professional development [3], [5], [6]. The revision occurred after consultations with heads of school in faculties and 'informal' feedback from new staff within their first year of teaching, the academic skills area and communication with colleagues in other universities [2], [3], [4].

The new program is called ILAT (Introduction to Learning and Teaching for Academics New to ACU) [3]. The change of name was necessary as teaching focused academics reported that they were confused by the number of professional development offerings at ACU called 'Orientation', including a Human Resources Induction program.

The format of this professional development was designed and developed to be a formally recognised program and, at the same time, encouraging academics to make connections between their role, discipline and relevant support for their learning and teaching activities [7].

The author observed that academics gained more benefit from participating in professional conversations with other colleagues about their role

when discussing actual scenarios that had been provided by more experienced teachers.

Many induction programs offered by the Learning and Teaching Centre and faculties are recommended but not mandatory. Therefore, teaching academics reported informally that they were not sure which program they should attend as the only one that was mandatory was the Human Resources Induction Program [3].

5. Higher Education Teaching Milieu

What is happening in the higher education environment that puts more pressure on academics resulting in resistance to resilient practices? Casualisation of academic employment in the Higher education sector is not new in Australia [8], [9]. Our University values excellent teaching. Casual teachers who successfully manage classes are usually offered longer contracts and, if there is an ongoing need across the University, more secure employment [3] [6].

Employment of casual (sessional staff) occurs for a number of reasons such as economic where universities may choose to employ people for a specific purpose which spans a teaching period such as a semester; and, given the changes in the structure of universities, that has been occurring more frequently over the last ten years. Once course materials have been developed their employment may cease after their last teaching event eg lectures and tutorials [5], [9].

The impact of these changes may be that teacher engagement with students may be limited to the length of the teaching period eg a semester. Sometimes they do not even meet their teaching colleagues, who may be based on another campus, which could help them build up some resilience by sharing experiences and participating in a community of practice either face to face or online [3], [10].

6. Resilient Teachers at ACU

At ACU the author has observed, over the last five years through facilitating the ILAT program, that a resilient academic teacher is committed to the profession and their students, views personal vulnerabilities or setbacks as a learning point [3]. These academics tend to use their experience or scholarly practice to improve or streamline new ways of learning, teaching and engagement with colleagues, students and commit to their own personal well-being through social and family activities [3], [11]. Engagement with colleagues and family may be maintained online or through face to face experiences [1].

Collaboration with colleagues in their faculty, participation in community events on campus and partnerships with academic skills also strengthens

support networks that academic teachers need to help them navigate challenging teaching demands and build confidence [1], [3], [5], [6]. At the same time they are acquiring knowledge about the language of learning and teaching and related frameworks. Once they become familiar with these frameworks they make decisions about how it can be integrated into their discipline to provide solutions for students, who may find it difficult to master content, obtain discipline accreditation or employ effective study skills [11].

It is important for new academic teachers to become resilient practitioners so they are able to adapt to changes occurring in technology and engage in scholarly teaching in a university environment [3], [6]. By engaging with colleagues they have the opportunity to build their careers and share their practice in their discipline and with campus communities to help others [3], [5].

Looking after their personal wellbeing by eating healthy foods, participating in exercise, getting enough sleep and connecting with family and friends is also important for work and life balance [12]. During 2016 and 2017 our University's Human resources area offered lunchtime sessions on a range of topics about wellbeing which is a good start. In addition, there are always community events occurring on all the campuses which provide opportunities to share personal and professional development experiences with colleagues in other organisational work areas and students [12].

6.1 Opportunities Vs Challenges

Multiple approaches such as attending a face to face or online offering such as a teleconference where casual teachers can meet others in the same situation and share their knowledge, skills and experiences, will build confidence and resilience as there are opportunities for mutual support [3], [5], [6], [13].

New academic sessional teachers reported, during recent workshops, that they learned more about their new role and felt they had support from colleagues in their school when their organisational unit integrated training sessions with the Learning and Teaching Centre ILAT workshops [3], [5], and [6]. Benefits included being linked to a 'buddy' who had either commenced work at the same time or a more experienced colleague who could be accessible during the teaching period. Over time this could become a self-organising community of practice on their local campus. The focus must be on new academics' learning and teaching needs to perform a specific teaching role rather than offering a program that the school or institution thinks they need [11].

Commitment to the role was also reported as a factor in building resilience. Some new academics reported that their main job was in the professions such as nursing, teaching or law and they wanted to

participate in teaching at a university to 'give back' to the profession and determine if it was right for them. Most people would not 'give up' their full-time job unless a longer contract or ongoing employment was offered and the salary was similar to what they earned in their profession. However, exceptions to this rule did occur.

One barrier to partnering across the university is often linked to new academics not wishing to 'advertise' they don't know where to find help or indeed need support to do their teaching in case they don't get repeat work [2], [3], [6], [13]. While another reason given for not continuing their professional development or collaboration is that they consider their workload is heavy as some academics work in a number of universities [11]. Often sessional academic staff may be working in one of the professions such as nursing, teaching, or as a solicitor and end up taking on too much work which means they have limited time to engage in professional development available to them [12], [13].

Working in a multiple campus environment can pose challenges for new staff. Some people reported informally that it was difficult to meet face to face with colleagues and supervisors who were located on a different campus but worked in their organisational unit. If they were located on the same campus they would be able to engage with a face to face community. Once they had made these connections it might be easier to develop an 'online' community of practice [3], [4], [6].

7. Practical Approaches to Transform Experiences of New Academics

It is important to note that there is no one theory that fits all. Resilient models of teaching at the time of preparing this article focused on activities in schools and mainly on student rather than staff behaviours. An interesting point to note is that most research outlining strategies for encouraging resilience in universities focused on university students' behaviours rather than those displayed by teaching staff [12].

The most common characteristics of resilience observed by the author in workshops with casual (sessional) and contract academic staff seemed to be emotional and mental wellbeing, physical health and technological capability [3]. Those staff that experienced a high level of stress and were not able to achieve adequate support they considered they needed to build confidence in one or more areas, tended to 'buckle' under pressure and leave their employment, sometimes during a teaching period [13].

Academics who engaged in learning and teaching activities that transformed their students and their own learning in the discipline and engagement, contacted the author to informally report their successes.

Transforming the experience of new staff occurs more often when teaching and engaging with peers in

the process of learning [3], [10], [11], [12]. The types of activities they engaged in were using think, pair, share activities in groups to learn and apply theory. So students built their confidence and on reflection teachers realised that they had experimented with different teaching strategies to help students acquire content knowledge. This led to these staff building confidence, experience and offering to share it with other new teachers [3], [10].

In a previous research article by Fisher and Gemmell, published in early 2017, feedback from new academic teachers supported the idea that staged support for them at the beginning, middle and just before the end of a teaching period would help them build experience and confidence in their new roles [3]. The challenge for our University is how to build enough capacity to support this model which serves a dual purpose.

Purpose 1: academics teachers obtain support for their learning and teaching activities when they need it most and;

Purpose 2 new academics need opportunities to engage with face to face or online communities of peers to build confidence and develop resilient approaches to build learning and teaching solutions.

In order to address the issues with staged support, Fisher and Gemmell proposed the redesign of an ILAT self-guided resource that could be hosted in the public domain, on the ACU Learning and Teaching website [3].

This professional development offering would enable new academics, that were waiting for their ACU logons to be available once their employment contracts had been processed, access to a self-paced guide that would help orientate them into their new role as well as provide access to a range of information to support their teaching.

At the time of writing, final quality assurance of this self-service product, 'ILAT, Self-Paced Professional Development Option' had been completed. Executive review and approval to upload it into the public website was granted in mid-August 2017. It is expected to be available immediately for new teaching staff. It will be trialled early next year and launched through an ACU staff bulletin story and via face to face ILAT workshops in early 2018. It has been suggested that Professional Development policy at ACU may need to change so that induction programs are 'mandatory' rather than 'optional'. When this occurs, academic teachers will know which professional development they should complete prior to commencing in their new role.

8. Proposed Model of Resilience

To help our teaching academics new to ACU it is important to incorporate resilience strategies into professional development in order to build capacity [3], [12], [13]. Recent research by Behari-Leake [10],

Mansfield et al [12] and Harvey [13], suggested that there are multiple ways to help build resilience in new teachers. Those academics who adopt a multiple approach and demonstrated the ability to 'bounce back' as well as view a positive side to challenges, are the ones who usually survive and obtain repeat work or more secure employment at ACU or another university [3], [12].

A resilient academic sees positive outcomes arising from negative personal or teaching experiences. They consider what they have learned by these practices and learn to love learning. Serving others by volunteering or engaging with your campus or online communities also provides support, engagement and helps one develop an optimistic outlook. At the same time it is a form of professional development with colleagues [5], [12].

New academics would receive their employment contract and a professional development list they need to complete for academic teacher induction;

The first professional development offering they would be expected to attend was an ILAT (orientation) face to face or virtual workshop linked with School or faculty induction. This is an ideal opportunity to meet colleagues and find a buddy or buddies to liaise with regularly to debrief teaching and share experience [5]. Also, new academics learn more about the structure of their local campus and community activities by connecting with others in their organisational area [3], [6].

The next step in this professional development continuum would be to complete parts of the ILAT Self-Guided resource. This resource would be available via the ACU Learning and Teaching website in the public domain and become a place where academics can learn about policies, procedures, support services and professional development that will be helpful in managing their new role.

New academics could access this site prior to employment, before the face to face ILAT workshops or at different times in the teaching period after they meet colleagues face to face. This self-guided resource does not have to be completed in sequence. Academic teachers can self-select areas and more importantly can build confidence as they don't have to 'advertise' to their supervisor or immediate work area that they have gaps in their knowledge or need guidance on support that would help them engage students more effectively.

9. Conclusion

This article has considered some of the most effective strategies observed at ACU and found in research for building resilience in academic teachers. At ACU academic teachers have to balance multiple demands on their time which is a common occurrence in the Higher Education milieu. Those who are employed as casual (sessional) teachers often manage

multiple forms of employment and may not consider professional development as valuable for building their resilience and profile.

In the Higher Education sector in Australia professional development for academics can be provided to staff online where those who participate 'self-direct' their learning or may involve some form of face to face workshop or 'in school' induction. Multiple pathways are important so that different approaches to learning and teaching are accommodated.

The challenge for our University is how to encourage all academic teachers to participate in professional development which will help foster communities of practice and support.

This research is a work in progress. The author seeks feedback and suggestions from the global community to help us move forward with providing development opportunities for all academic teachers (including casuals), build their resilience while at the same time encourage them to engage more with colleagues face to face and online to improve their teaching.

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Learning to Teach

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Abstract

The abstract is to be in fully-justified italicized text, at the top of the left-hand column as it is here, below the author information. Use the word "Abstract" as the title, in 12-point Times, boldface type, centered relative to the column, initially capitalized. The abstract is to be in 10-point, single-spaced type, and up to 150 words in length. Leave two blank lines after the abstract, then begin the main text.

1. Scope

This paper explores doctoral and postdoctoral training for teaching at university level and offers recommendations for sustaining preparation for this aspect of academic careers.

2. Method

An exploratory, action-oriented approach was adopted across two project phases: pilot, followed by roll out of the module with a larger group. Students met for theoretical instruction and participated in practice teaching. E-portfolio reflections on teaching, observed student behaviours, and undergraduate feedback provided insight to doctoral/postdoctoral and undergraduate perspectives on doctoral/postdoctoral participation in teaching.

2. Results

While some students expressed initial hesitation to engage with practice teaching, all were enthusiastic about their opportunity to apply theoretical teaching and learning principles to a live classroom setting and reported that they felt greater engagement with the teaching process, in particular the chance to implement innovative teaching practices in a low risk setting. While research and teaching significance have begun to be recognised more equally in the university, attitudes varied, reflecting a further need to address

how we value teaching in universities. Undergraduate students found varied instructor perspectives and different teaching approaches stimulating.

2. Conclusion

Both the school and students found this approach to doctoral training successful. The module offers a valuable module for promoting the school and discipline. Sustainability offers a significant challenge, requiring international, disciplinary, and university support.

Multi-tiered System of Support: Gateway to Supporting the Whole Child: Academically, Behaviorally, Socially and Emotionally

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Abstract

High quality instruction entails frontloading comprehensive learning supports that are available to all students. Comprehensive learning supports are most effective when provided through a multi-tier system of supports (MTSS). This holds true across the spectrum of academic and life skills necessary for becoming a healthy, productive, and responsible adult. A commitment to high expectations should extend throughout comprehensive curricula—including math, reading, the sciences and social sciences, foreign languages, and the fine arts—and into physical and mental health and work readiness skills. Rigorous curricula must provide opportunities for students to meaningfully engage with content; teach students how to access and evaluate the validity of information; build the capacity to conceive, develop, test, and communicate diverse ideas; and contribute to the ability to thrive in an increasingly competitive global economy.

1. Introduction

The past decade has witnessed the transformation of what was once considered good teaching. The mindset of equal resources with students found that would yield success has not been successful across all socioeconomic status levels. Test scores and school data on behavior revealed that students were still falling through the cracks. Educational and social mastery are the cornerstones to being productive members of society. Therefore, academic and behavior support are equally paramount for every student to be successful throughout the transitions of life. Many school districts have come to this realization that the aforementioned are not independent of each other and necessitated a conjoining of both during school instruction. In a strategic effort to guide all student to success, a transformation can be chronicled by the progression of the major initiative RTI to MTSS. Following is a brief summary of RTI and MTSS.

2. Response to Intervention (RtI)

RtI is a framework that many schools use to help students who are struggling with academics. There are three levels of intervention in RTI. During Tier I instruction, teachers differentiate instruction by providing instruction designed to meet the specific needs of students in the class using research based and validated techniques. Tier 2 is defined by the NCRTI as small-group instruction that relies on evidence-based interventions that specify the instructional procedures, duration, and frequency of instruction [9]. According to the NCRTI, Tier 2 has three characteristics that distinguish it from core instruction: 1) it is evidence-based, 2) it consists of small-group instruction, and 3) it involves a clearly articulated intervention implemented with fidelity. According to this definition, Tier 2 is meant to provide a limited, but targeted, support system for students who struggle to meet grade-level performance standards. The goal of Tier 3 is to remediate academic skill deficits with the idea that in doing so, students will be successful in the Tier 1 program without support. For Tier II intervention, the goal is remediation of existing problems and prevention of more severe problems or the development of secondary concerns as a result of persistent problems.

3. MTSS

Many school systems such as Colorado, Florida, Kansas and Michigan, have adopted the MTSS Framework to improving the outcomes of every student through family, school, and community partnering and a layered continuum of evidence-based practices applied at the classroom, school, district, region, and state level. Like RtI, MTSS is accomplished through a coherent continuum of evidence based tiered support. The caveat for RtI is that it is primary focus is academic. MTSS is a continuum of system-wide practices to support a rapid response with high quality instruction to academic needs and behavioral needs, with frequent data-based monitoring for instructional decision-

making to empower each student to achieve to high standards. It is considered to be it is more comprehensive than RTI because it also covers social and emotional supports. At each tier within the MTSS, a school team (such as Instructional Leadership Teams, Teacher Teams, and/or Student Support Teams,) routinely analyze qualitative and quantitative data to coordinate all academic and behavior supports a student(s) may need. Throughout each tier, school teams regularly review and adjust supports as indicated by the student(s) progress monitoring data. School teams will gradually and carefully increase or decrease the intensity of support, as needed. MTSS is not designed for consideration in special education placement decisions, such as specific learning disabilities. Instead, MTSS models place a larger focus on what should be done to help all students achieve progress and proficiency. Universal screeners for academic and behavior are given to each student in a school to determine what types of support they will need to be successful in the school environment.

3.1. Key features MTSS include:

Focusing on aligning the entire system of initiatives, supports, and resources.

Promoting district participation in identifying and supporting systems for alignment of resources, as well as site and grade level.

Systematically addressing support for all students, including gifted and high achievers.

Enabling a paradigm shift for providing support and setting higher expectations for all students through intentional design and redesign of integrated services and supports, rather than selection of a few components of RTI and intensive interventions.

Endorsing Universal Design for Learning instructional strategies so all students have opportunities for learning through differentiated content, processes, and product.

Integrating instructional and intervention support so that systemic changes are sustainable and based on CCSS-aligned classroom instruction.

Challenging all school staff to change the way in which they have traditionally worked across all school settings.

MTSS facilitates the integration of multiple school improvement efforts and represents an effective strategy to:

- Improve outcomes for all students, including high-performing students, English language learners, students receiving special education services, and those struggling with barriers to learning.
- Improve instruction and alignment of curricula across general and special education.
- Improve school climate and safety. Create safe and supportive learning environments free from bullying and harassment.

- Support students' mental and behavioral health.
- Implement effective discipline policy and practice.

The comprehensive learning supports provided through a multi-tier system of supports (MTSS) are effective. It spans the spectrum of academic and life skills necessary for becoming a healthy, productive, and responsible adult. A commitment to high expectations should extend throughout comprehensive curricula - including math, reading, the sciences and social sciences, foreign languages, and the fine arts - and into physical and mental health and work readiness skills. Rigorous curricula must provide opportunities for students to meaningfully engage with content; teach students how to access and evaluate the validity of information; build the capacity to conceive, develop, test, and communicate diverse ideas; and contribute to the ability to thrive in an increasingly competitive global economy. Furthermore, research has shown:

- Interventions that foster students' engagement in school have been shown to reduce high school dropout [10].
- A meta-analysis of school-based social and emotional learning programs involving more than 270,000 students in grades K-12 revealed that students who participated in these programs improved in grades and standardized test scores by 11 percentile points compared to control groups [3].
- A meta-analysis of 77 studies comprising over 300,000 students revealed parents' involvement in their children's education to be associated with higher student achievement, whether measured by grades, standardized test scores, or various other measures [5].
- Interventions that strengthen students' social, emotional, and decision-making skills also positively impact their academic achievement, both in terms of higher standardized test scores and better grades [4].

4. Conclusion

MTSS allows for the entire child to be considered in the course of the daily school routine by looking beyond the silo of academic instruction. The 2017-2018 school-year could be an opportunity for students to be provided with the supports they need to move towards being successful and contributing adults in the global economy/society. States and districts have the opportunity to improve school and student outcomes by implementing MTSS.

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Decolonize the Curriculum: Lessons from South African Decolonial Student Movements for U.S. Student Activism on Curricular Diversity

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Abstract

This paper studies student activism for curriculum reform at two locations around the globe: South Africa and the United States. The paper focuses on what student activism against prioritization of Western literature in a course at a U.S. university could learn from decolonial student movements in South Africa. Decolonial movements in South Africa such as Rhodes Must Fall and Fees Must Fall provide a framework of decolonial justice that assists in understanding curriculum in the U.S. university course as a site of injustice, epistemic violence, and colonialism. Based on this analysis, student activists from the U.S. university could frame activism for curriculum reform not only in terms of diversity and inclusion but also in terms of epistemic violence and justice, connecting their movement to larger goals of decolonizing the university and enabling pluralities.

1. Introduction

Education is often portrayed as an essential step for people to grow and learn. However, what people are taught rarely gets questioned. Curriculum is shaped in the interests of people in power, centering their knowledge and framework as materials to be learned [1], [2], [3]. Youth activists discussed in this study are asking the crucial questions of whose knowledge is taught in curricula. This paper explores what student activism against the prioritization of Western literature in Core Legacies of the Ancient World course at Colgate University, located in the United States, could learn from student movements such as Rhodes Must Fall and Fees Must Fall which demand university curricula to be decolonized in South Africa. The paper puts in conversation student activism from two disparate locations, facilitating transnational learning across the globe. Student activism in the United States and South Africa are challenging universities to disrupt Eurocentric canon perpetuated in course curricula, creating visions for plurality and new possibilities through their activism.

2. Curriculum and student activism at the studied sites

2.1. Curriculum and student activism in a U.S. university

This study focuses on student activism on curriculum reform at a particular U.S. university in relation to student movements in South Africa. The U.S. institution being studied, Colgate University, is a prestigious liberal arts college comprised of predominantly white students. Core Legacies of the Ancient World course at Colgate University is a part of the Core curriculum and a mandatory course for all students. Core Legacies course explores “texts that continue to have lasting influence on academic discourse and critical thought” (<http://www.colgate.edu/academics/core-curriculum>).

Having been a course focused on philosophy and religion in the 1940s [4], [2], the course was once named Western Traditions before being given the current name of Legacies of the Ancient World in 2009 in efforts to to expand the scope of the course to cover texts from diverse parts of the world. However, the five required texts for the course, which include the Homer, the Hebrew Bible, the New Testament, Plato, and a Roman text, still represent Western civilizations. While the Core curriculum aims to help students “learn, reflect, and live with an expanding awareness of one’s responsibility to self, community, and the larger world”

(<http://www.colgate.edu/academics/universitycatalogue/liberal-arts-core-curriculum>), Legacies of the Ancient World course has been criticized for limiting students’ awareness of human thought and discourses to those discussed in Western texts.

Student activism, while still small, has emerged in the spring of 2017 as students organized sessions to gather student voices and started conversations with faculty and administration to push for texts from more diverse parts of the world to be represented in the Legacies of the Ancient World course. Student activists are planning to host various actions and

continued dialogue with faculty and administration in the Fall 2017 semester.

2.2. Curriculum and student activism in South African universities

Social movements in South Africa have called for decolonization of curricula in universities. Rhodes Must Fall, a student-led movement centered around issues of decoloniality, iconography, and institutional racism, argued for decolonizing curricula as part of larger efforts to address the colonial past and decolonize the university. Rhodes Must Fall activists have criticized pedagogical models that position black students as deficient and falling behind in civilizational race, as well as course content that describes history of black people as a failure [5], [3]. Rhodes Must Fall challenge colonial legacies that continue to devalue, silence and inflict visceral pain on black students. Fees Must Fall, another student-led movement which arose in opposition to tuition hikes of 2015 and the inaccessibility of university education at large, have also demanded decolonizing the curriculum by ending the domination of Western epistemic traditions, histories, and figures [6], [4].

3. Analysis of curriculum through the framework of decolonizing university

South African student-led activism strongly advocated for decolonizing universities, using frameworks of decoloniality to criticize curricula, policies, and iconographies perpetuating Western epistemology, history, and thought in South Africa universities. Drawing from scholarship that has discussed decoloniality in relation to Rhodes Must Fall and Fees Must Fall, this section analyzes the curriculum of Core Legacies of the Ancient World course at Colgate University. This analysis critiques Core Legacies curriculum from a decolonial standpoint that formed the basis of South African student movements.

Core Legacies of the Ancient World course represents Eurocentric epistemology that South African decolonial movements have denounced. Mbembe argues that Eurocentric canon “attributes truth only to the Western way of knowledge production” and “disregards other epistemic traditions” [5]. Core Legacies have been criticized for putting Western civilization on a pedestal, framing it as significant to perennial issues and human thought while texts from non-western civilizations and cultures are erased from the curriculum. Mbembe claims that decolonizing is not about discarding European or other traditions, but rather about acknowledging and challenging which knowledge and frameworks are centered. By taking five texts from Western civilizations as required texts for the

curriculum, Core Legacies course perpetuates the idea that knowledge worthy of learning and discussing comes only from the West. The boundary of what counts as knowledge is thus limited to Western epistemic traditions, discrediting knowledge and thought that exist outside its frames. The hegemonic tradition recognizes European and Euro-American men as sole holders of knowledge. On the other hand, the worldviews and frameworks that non-western texts embody are denied and if presented, read under colonialist lens.

Hegemonic Eurocentric traditions produce epistemic violence that reinforces colonial hierarchies and devaluation on the oppressed. Pillay argues that epistemic violence is inflicted by colonial knowledge and thought onto the oppressed, which needs to be addressed through decolonization [8], [6]. The framework of Eurocentric knowledge portrays those who do not fit in Western models of development, knowledge production, and modernity as deficient and lazy people. Such labels diminish the humanity of the non-European ‘others’, allowing the powerful to enact violence and injustice to them. Through portrayals of the Western civilization as sole contributors of important legacies, the class delegitimizes the rich history, knowledge, and traditions that students of color may bring or identify with. People from the non-western world are seen as insignificant, underdeveloped, and lacking groups who were in ‘dark, unknown’ phases while the West developed great legacies. Students of color who identify with non-western cultures and legacies are often left in the class feeling invalidated and erased in the curriculum, hurt by everyday residues of colonial thought that devalue their existence, traditions, and humanity.

Curricula yet to be decolonized reproduce structures that benefit those in power. The internal colonialism perpetuated by curriculum and schooling allows white upper class to be protected within epistemic frameworks that validate their existence, knowledge, and modes of thinking [9], [7]. Structures of whiteness, Eurocentrism, and colonialism shape what kinds of knowledge can be taught in courses like Core Legacies of the Ancient World. Legacies that protect and reaffirm white Westerners’ colonial past, imperial today, and their future of power and privilege are highlighted in the course.

4. Student activism on decolonizing curricula in South Africa and the United States

Student activism at Colgate University has thus far used arguments drawing from multicultural education and critical race theory in order to advocate for curricular diversity. Student activists have based their demands for reform on scholarship around

multicultural education which argues that mainstream-centric curriculum marginalizes students of color, asking curriculum reform that reflects multicultural knowledge [10], [8]. Based on this framework, students have demanded curriculum reform as a step towards providing a more diverse and multicultural education. Furthermore, a student led report on students of color's experiences in Core Legacies course used critical race theory to elucidate racial inequalities that are reproduced through the curriculum [11], [12], [9]. Past literature in this field has demonstrated that in educational structures which center whiteness while silencing the history of oppressed and colonized groups of people, students of color face academic disadvantages and personal challenges of having to cope with institutional racism [13], [14], [15], [16], [10]. Multicultural education and critical race theory allowed student activists to frame their demands for curricular reform as issues of diversity, inclusion and dismantling structures that silence students of color's voices.

An analysis of Core Legacies curriculum under the decolonial framework advocated by South African student activists demonstrates the possibility of framing Core Legacies curriculum not only as a lack of diversity but also as an example of epistemic violence and injustice rooted in colonial thought. This opens up the possibility of student activism for diversifying Core Legacies curriculum to expand to addressing larger issues of decolonizing Eurocentric epistemic traditions widespread in U.S. education. Students disrupting Core Legacies curriculum at Colgate University and students mobilizing for Rhodes Must Fall and Fees Must Fall in South Africa are both imagining a world of plurality. They ask universities to reevaluate curricula that uphold Eurocentric hegemonic knowledge traditions which delegitimize and silence other frameworks and worldviews while crediting Eurocentric canon as the sole foundation of knowledge. They want to decolonize, to deconstruct traditions and structures that allowed colonizers to rule, to eradicate frameworks that perpetuate oppression, binaries, and hierarchies, to move beyond the epistemic framework that validates certain knowledge while devaluing others. They imagine a world where various epistemic traditions flourish, where different frameworks coexist and influence one another, where they can constantly question and challenge what they are learning. Their advocacy and activism open up spaces for new pluralities and possibilities.

5. Implications

This paper has implications for further study on topics such as but not limited to curriculum diversity, multicultural curriculum, decolonial research, student activism, and curriculum reform in higher education. This paper expands discussions in curricular diversity

to frameworks of decolonial thought. Moreover, future research that studies student activism on curriculum reform can have significant implications for policy, curriculum design and implementation.

Furthermore, the paper's focus on using South African scholarship and activism to inform emerging student activism in the United States has implications for future research on transnational learning across the global North-South that disrupts traditional flows of knowledge from the global North to South or Western countries to non-western countries. As more researchers study global issues in education, shifting towards comparative studies in education that properly uses and sheds light on previously silenced epistemologies of the global South and non-Western countries is essential.

6. Conclusion

In conclusion, this paper studies Core Legacies of the Ancient World curriculum in a U.S. university in relation to decolonial thought advocated by South African student activists of Rhodes Must Fall and Fees Must Fall movements. Core Legacies of the Ancient World course centers Western literature as the epitome of knowledge traditions, delegitimizing other frameworks and knowledge. Decolonial movements in South Africa such as Rhodes Must Fall and Fees Must Fall provide the framework of decolonial justice that assists in understanding Core Legacies course as a site of injustice, epistemic violence, and colonialism. Eurocentric canon singles out one framework as the sole lens from which the world should be viewed, thus hindering our ability to see pluralities, legacies, and humanity of people across borders. On the contrary, decolonization is about developing a perspective that allows people to see their positionalities and their relationship to others clearly [7], [6]. Relation and interconnection represent frameworks that depart from hierarchical and oppressive terms of colonialism [17], [11]. This paper is a step towards building relations, seeing interconnections and advocating for universities that value plurality and mutual connectivity. The radical imagining of decolonized curricula by students across borders show that movements for decolonization are interconnected as they fight against epistemic injustice and oppression that global structures of white supremacy, Eurocentrism and colonialism have created.

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Session 10: Learning / Teaching Methodologies and Assessment

Title: Bridging the Gap between Theory and Application in Academic Writing
(Authors: Imani Akin, Matasha MurrellJones)

Title: The Use of Peer Assessment and Modified “Post-Tea House Teaching” (PTHT) Approach to Teach Pre-University GCE A-Level Chemistry
(Authors: Li Juan Lee, Wei Bin Goh, Bei Ling Vina Ng, Junkai Tiah)

Title: Transactional School-homeschool Communication: Addressing the Mismatches between Migrant Parents’ and Teachers’ Views of Parental Knowledge, Engagement and Barriers to Engagement
(Authors: Claudia Schneider, Madeleine Arnot)

Title: Experiences of Instructional Staff with Student Cohort Learning Groups: The Need to Understand Value and Connection
(Author: Clive Hickson)

Bridging the Gap between Theory and Application in Academic Writing

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Abstract

Explicit instruction for writing is not common within higher education. Student struggles in developing high quality academic written work occurs within the cognitive process and in using scholarly resources. The qualitative study examined existing practices used in supporting student writing in higher education with the purpose of identifying new instructional practices to bridge the gap between thinking and writing. The theoretical framework included the cognitive load theory to examine student needs in terms of short term and long term cognitive loads. Data was collected from faculty staff and administration of higher education institutions. Significance of the research includes the collective strategies to support the academic writing needs of students and recognition of the role of cognition in student writing challenges. Research to further address thinking and writing and the gap in literature is needed.

1. Introduction

A lack of synthesis of theory and application in academic writing exist.. The deficient directly impacts the quality of academic writing in Higher Education. Students in Higher Education often struggle to create high quality academic writing. Multiple factors contribute to the gap between theory and application. A gap among the thinking, doing and seeing exists along with the selection of sources to support the writing process. Gaining clarity in the thinking and doing can lead to improvement [3]. Students may rely on non- scholarly resources as opposed to the many facets of scholarly resources available in College and University libraries. The guiding question for the research was: What instructional practices will connect student thinking and writing in Higher Education?

2. Bridging the Gap in Writing

Students struggle to produce work demonstrating critical thinking and analysis which aligns with course concepts and materials [4].

The abstract idea is invisible as the student attempts to apply concepts and to demonstrate understanding of content. Bridging the gap between the intellectual processes and developing the written assignment is the focus of study. The space between the idea and the written language is ideal for leveraging processes to lead to high quality academic writing. Explicit teaching which connects the thinking and writing is not a common process within higher education [8]

3. Purpose of the Study

An objective of the research was to examine existing practices as it relates to understanding theory and application in academic writing and identify best practices for developing academic skills to bridge the gap between theory and application in higher education. A qualitative study is appropriate for conducting the research to examine practices to determine how students' approach to writing and synthesis of course content varies based on cognitive approaches and the use of different resources. Previous studies indicate prior knowledge can be the key to student experiences in higher education [6]. The cognitive load theory addresses short and long-term memory in processing new learning and aids in grounding the research.

4. Review of the Literature

The review of literature includes research on cognitive learning theory with the purpose of analyzing the cognitive process in preparative for comprehending the writing process. Research includes studies of student writing issues. Barriers to writing were reviewed. Pedagogical strategies for developing curriculum for writing are explored. Instruction and learning strategies were addressed along with methods to encourage bridging the gap in understanding and application of writing strategies.

4.1. Elements of the Gap

Acknowledging a widening diversity of writing experiences contribute to a widening gap in skill level.

Research indicates the gap in student writing included knowledge of proper electronic references, planning, evidence, logic and fluency when developing paper assignments [1]. Barriers to writing included lack of time and lack of confidence, and comprehending academic texts or journals [5].

4.2. Theoretical Framework

The cognitive load theory addresses short and long-term memory in processing new learning and executing tasks may affect student grasping the logistics of academic writing. The cognition or thinking involved in writing should be sequential. Bridging the gap between theory and application of can occur through pedagogical strategies. Strategic analysis and use of the cognitive load theory requires an understanding of the levels of the theory. Three levels of cognitive load include extraneous, intrinsic, and germane [2]. Presentation of the task addresses the extraneous level. The task difficulty in relation to the individual’s expertise connects to the intrinsic level. The student’s present level of concentration impacts long term memory and explains the germane level of cognitive load theory. Each level impacts the other to influence the memory. How students think about writing is key to the process of writing.

Table 1. Dimensions of the cognitive theory load

Cognitive Theory Load – Three levels		
Extraneous	Presentation of the task	Instructor Obligation
Intrinsic	Task difficulty in relation to the individual’s expertise	Instructor-Student Co-Obligation
Germane	Student’s present level of concentration	Student Obligation

4.3. Curriculum Changes

Consideration of the learning and thinking processes related to the cognitive load theory when developing curriculum can support the integration of strategies for bridging the gap for writing. Providing multiple steps for developing the writing assignments can support students’ development of academic papers. [2] Grangelia, et al, posit instruction designed in this manner aids in reducing the extraneous load. Consequences for not identifying and addressing the gaps through theoretical models are repeated courses for the students and prolonged program completion rates for institutions. Integrating critical thinking into the presentation of the task, aligned with the student’s present level of understanding and cognitive ability can support the writing process.

5. Method

A qualitative study was used to conduct research to gather the perceptions of higher education instructors. The phenomenon of student challenges in academic writing was explored and strategies examined in a pilot study. An examination of best practices to determine how students’ approach to writing and synthesis of course content varies, can began with a survey of higher Education faculty who teach courses with writing assignments. An electronic survey was designed and the link to the survey sent to online and onsite faculty and staff in higher education. The sample population of respondents consisted of higher education faculty and instructors in various grade levels and settings.

6. Findings

Demographic data was collected from higher education faculty. The respondents were asked about the number of years teaching in higher education and 33.33% of respondents indicated teaching for 5 years or less. 33.33% for 5-10 years. 25% for 11-15 years, and 8.33% have been teaching for more than 16 years. The content areas taught by respondents varied. Content areas included Education, Educational Leadership, Business, Human Resources, Legal, Marketing, Leadership, Information Technology, Theology, Writing, and Curriculum and Instruction. Other demographic information included the grade level of population the instructors taught. 33.33% of respondents teach at the undergraduate level, 41.67% teach at the graduate level and 25% teach at the Doctoral level.

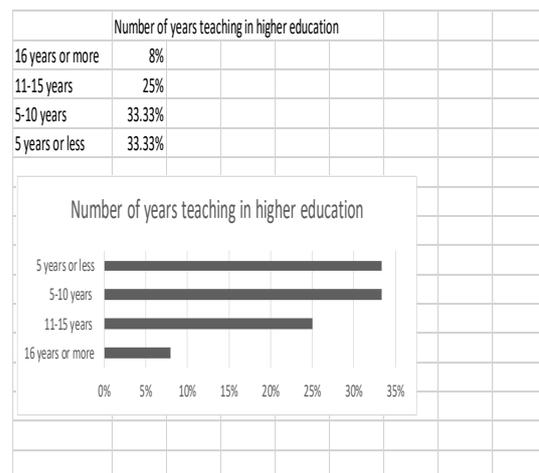


Figure 1. Writing instructor’s years of teaching

6.1. Resources and Strategies for Writing

Respondents teach for colleges and universities in which there are many resources available to assist students, including APA and writing resources in the college library, Writing Centers, Tutors and Coaches.

In addition, there are videos, APA sample papers and writing classes available to further assist students in the area of writing. The respondents shared a variety of resources available to assist students with writing at the institutional level. The resources shared by the respondents included Tutoring & Writing Center, APA and Writing Center, APA sample papers, Grammarly, Graduate Assistants, Student Coach, Library, Academic Success Center, Write-Point, Center for Writing Excellence, Break out writing classes and videos.

The respondents shared the same general concerns as it relates to student writing. Answers to the survey reveal students struggle with basic writing mechanics and grammar, APA formatting, and Plagiarism. The data indicates students are struggling to meet the requirements of writing assignments. Responses indicate students are not comprehending the assignment instructions and use of rubric. Resources and instances such as instructor provided feedback is not applied by students in order to improve on writing future assignments.

Table 2. Survey Question 5 Responses

Q5. What types of gaps in writing do you see ...?

- P1 - Not addressing the content properly
- P2 - Sentence structure, paragraph structure, citation
- P3 - The level of scholarly writing to meet graduate level standards
- P4 - APA, proper grammar, lexicon
- P5 - Grammar and understanding plagiarism
- P6 - Students come in at various levels. Some know APA, some do not. Some students come in with impeccable writing while others cannot keep subject-verb agreement
- P7 - Lack of primary resources
- P8 - I have noted that students that are ESL struggle more with writing and comprehension of assignment instructions. ...student do not use comments and feedback on assignments to make improvements in their writing
- P9 - lack of primary resources
- P10 - Inability to construct a cohesive paper that is logically constructed and adheres to the rubric

6.2. Monitoring Student Progress

As it relates to monitoring student progress, Instructors shared how well students responded to feedback, i.e., looking at the major issues within the first written submission and comparing from week to week to identify changes. The quality of student content, attention to details such as citing authors

properly, including the manner of structuring assignments with appropriate headings and subheadings is monitored. Monitoring how students connect the introduction and conclusion, and student sense of focus to avoid getting "into the weeds" or "off track" within their presentation emerged from the responses.

Table 3. Survey Question 7 Responses

Q7. What kind of cognitive strategies or theories do you implement in the learning activities ...to support student writing?

- Provide examples of writing and promote the writing center.
- Discussion
- Vygotsky, Piaget.
- Depends on the class and student.
- Grammarly and refer to tutorials on Microsoft Suite
- One method I use is PREP -- prepare, review, establish and pinpoint.
- I use recall methods encouraging to build on their ...
- Peer review Socratic circles for critical thinking
- Break down major papers into separate subsections ...
- Brainstorming and outlining.
- taught for 42 years and specialize in teaching students
- Too many to list.

When asked how instructors assess student progress in closing the gap in academic writing, respondents shared a variety of responses the common themes included the use of rubrics, summative feedback, Instructors allowing students to submit a rough draft prior to submitting the final written assignment. Progress monitoring is used for assessment and other personal techniques such as monitoring the ability of students to construct effective arguments. The introduction of an additional reflection assignment may be used to develop a final draft for an assignment. The assignment can also assist with monitoring student writing improvement over the course of the term.

7. Implications

Common themes include encouraging students to use the institutionally supported resources, providing outlines, using outside resources such as Purdue Owl, templates, web resources and instructor feedback to students.

The examination of current research led to developing new instructional approaches to support the academic writing process. Best practices may

involve technology to support instructional delivery of a high quality academic writing process within the learning management systems, at the University level. Other methods of instructional delivery such as face-to-face communication may be identified and included in the instructional approach to assist students in learning another method to academic writing. These curriculum changes can lead to a model and plan of action to raise the quality of student academic writing.

8. Conclusion

Discussion of the standards of students' level of academic writing is a global issue [6]. Research on student writing in higher education addresses many ways to approach and consider the issue. Bridging the gap between theory and application to enhance student writing is an approach, which could increase critical thinking and the quality of writing.

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The Use of Peer Assessment and Modified “Post-Tea House Teaching” (PTHT) Approach to Teach Pre-University GCE A-Level Chemistry

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Abstract

The revised GCE A-Level Chemistry syllabus not only requires students to be familiar with a wide repertoire of practical skills but also has greater emphasis on the application of content and skills with a higher weighting given to data-based question [1]. The investigation of an unknown compound in the laboratory and accurate application of theoretical concept remains an Achilles heel for our students. We believe that a more student-centred approach may produce better results than the conventional teacher-driven lesson.

In this project, we find that using peer assessment (with checklist) to assess students’ practical skills helped students master practical skills and build their confidence in carrying out laboratory work. The use of the modified “Post-Tea House Teaching” (PTHT) approach also increased student-centredness in lesson delivery and has potentially enhanced students’ competency in tackling data-based questions as observed by the better post PTHT test results.

1. Introduction

In the revised GCE A-Level Chemistry syllabus (beginning 2016), Science Practical assessment is no longer school-based. All students have to sit for a Practical Examination on a stipulated date. Students need to be familiar with a wide repertoire of practical skills in all topics of the syllabus. To prepare students adequately for the practical assessment, we decided to adopt the peer assessment approach to assess their mastery of practical skills.

In implementing peer assessment, a Titration Skills Checklist (see Figure 1) was given to every student during a Volumetric Analysis practical lesson. Students were paired up and instructed to take turns to assess each other’s skills, as they perform their practical work, using the observation checklist. Feedback was given to each other by their peer after they had both completed their peer evaluation. The

checklists were then submitted to the teacher who did a mass debrief towards the end of the practical lesson, highlighting the common mistakes made by the students. In order to evaluate the effectiveness of peer assessment in helping students to master practical skills, the teacher chose 4 - 5 students from each class (those with poorer practical skills) to observe further during a subsequent practical test. A total of 52 students were identified for this.

Skills	Description	Checked?	Remarks
Preparing standard solution	For reaction involving a solid – Tip content from weighing bottle slowly to reduce the loss of chemicals		
	Add appropriate volume of water to dissolve solid completely in a beaker before transferring the solution to the volumetric flask		
	Transfer solution properly into the volumetric flask using a glass rod and filter funnel		
	Rinse the beaker containing the solid/solution at least twice and transfer the washings to the volumetric flask using glass rod and filter funnel		
Use of pipette	Adds distilled water dropwise when near the mark		
	Invert and shake solution in the volumetric flask thoroughly to ensure homogeneous solution.		
	Rinse the pipette first with distilled water, followed by the solution to be pipetted (analyte)	✓	
Use of burette	Adjusts the liquid level in the pipette with the tip of pipette above the liquid surface	✓	
	Transfers liquid from pipette to conical flask with proper technique e.g. gently tap and roll the tip of the pipette against the base of the conical flask to ensure that all the solution is delivered into the flask	✓	
Titration	Rinse the burette first with distilled water, followed by the solution to be filled with (titrant)	✓	
	Clamps burette vertically	X	did not clamp the burette vertically, probably due to the titration flask was not in the bottom of the burette stand clamp.
	Ensure no air column in the burette (fill burette correctly including volume below tap)	✓	
Titration	Burette funnel out	✓	
	Rinse the conical flask only with distilled water (not with the titre)	✓	
	Ensure titration is done on the white tile	✓	
	Titrate with continuous swirling to ensure proper mixing	✓	
	Uses distilled water sparingly to rinse down any droplets of the titrant on the sides of the conical flask	X	
	Add titrant dropwise near the end point	X	
Titration	Stops titration at the correct end point	X	
	For titrations involving $KMnO_4$ as the titrant – Read the top of the meniscus in the burette	✓	

Figure 1. Sample of titration skills checklist (for student A during practical lesson)

A Qualitative Analysis (QA) checklist and an Energetics Checklist were also given out to all students during the QA and Energetics practical lessons respectively. Students used it for self-assessment as there was insufficient time to carry out

peer assessment using the checklist during these lessons.

In the revised GCE A-Level Chemistry syllabus (beginning 2016), there is also a higher weighting of data-based questions with an increased emphasis on application of content and skills as part of our desired outcomes of education. It is thus imperative that the curriculum is designed to effectively help the students acquire skills and knowledge to build their 21st century competencies and also to meet the demands of data-based questions at the A-level examinations. To improve on our lesson planning and delivery, we employed the modified “Post-Tea House Teaching” approach.

The Pre-University 1 cohort was split into two groups, namely the experimental (classes A, B and C) and control (the rest of the classes) groups. The experimental group was taught using the 3-step modified PHTT approach as described below.

Firstly, students are given data-based questions as pre-lesson assignment (see Figure 2) and are told to read and answer the questions on their own. Students will then submit their answers to their teacher so that he/she can identify disparate thinking and inadequacies from the students’ individual work before conducting the lesson. Next, students are engaged in small group discussions during the lesson where they will share their answers with their classmates and explain their reasoning. Lastly, the teacher will discuss selected questions with the class and teach intensively to clarify students’ learning based on their needs identified in the first step.

2016/2017 Year 5 Data-Based Questions

In Singapore, the 24-hr PSI is used by the National Environment Agency (NEA) to provide health advisory.

24-hr PSI	Healthy Persons	Elderly, Pregnant women, Children	Persons with chronic lung disease, heart disease, stroke
< 100	Normal activities		
101–200	Minimise prolonged or strenuous outdoor physical exertion.	Minimise prolonged outdoor activity.	
201–300	Avoid prolonged or strenuous outdoor physical exertion. If outdoor activity is unavoidable, wear N95 mask.	Avoid all outdoor activities.	Avoid all outdoor activities. If outdoor activity is unavoidable, wear N95 mask.
>300	Minimise all outdoor exposure. If outdoor activity is unavoidable, wear N95 mask.	If outdoor activity is unavoidable, wear N95 mask (for adults).	

(a)(i) In a 1 m³ sample of air, the mass of PM₁₀ and carbon monoxide were found to be 320 µg and 20 mg respectively. Calculate the PSI values for each of the above pollutants, leaving your answers to 3 significant figures.

Skills assessed: manipulate numerical and other data and translate information from one form to another

$$PSI_{PM10} = \frac{320 - 100}{350 - 150} (320 - 150) + 100 = 165$$

$$PSI_{CO} = \frac{200 - 200}{34 - 17} (20 - 17) + 100 = 118 \text{ (3 sf)}$$

(ii) What is the maximum concentration of carbon monoxide, in mg m⁻³, allowed in a sample of air in order for its PSI value not to exceed 150?

$$150 = \frac{100}{C_{i+1} - C_i} (x - C_i) + 100$$

$$\frac{1}{2} = \frac{x - C_i}{C_{i+1} - C_i}$$

$$C_{i+1} - C_i = 2(x - C_i)$$

$$C_{i+1} - C_i = 2x - 2C_i$$

$$C_{i+1} + C_i = 2x$$

$$x = 51.75$$

Figure 2. A sample of data-based questions given pre-lesson assignment.

2. Literature review

2.1. Practical Skills (Using Peer Assessment)

The use of peer assessment has the following benefits and students will accrue the benefits regardless of their belief in the worth of the activity[2][5]. The potential benefits of peer assessment are as follows. It increases students’ level of engagement. It encourages students to take ownership of their learning. It is a form of Assessment for Learning as students will receive an increased amount of personalized feedback given on their work. It helps students to understand and achieve the “good work”.

2.2. Data-based Questions (Using the modified PHTT approach)

The “Post-Tea House Teaching” approach comprises 5 components, namely ‘read read’, ‘practise practise’, ‘discuss discuss’, ‘talk talk’ and ‘do do’[3]. It was chosen as our teaching pedagogy as it lends itself well to our objectives of improving lesson design and the level of student engagement in learning. A prominent strength of this approach is that all of its components, including teacher talk, place students’ learning as the priority [3][4]. This approach is also aligned with Lev Vygotsky’s concept of zone of proximal development, enabling teachers to maximise students’ learning [3][4]. Another beauty of this approach lies in its adaptable nature which allows teachers to choose and arrange the components freely to design lessons that will best suit the learning needs of their students [3][4].

3. Analysis of findings

3.1. Practical Skills (Using Peer Assessment)

To evaluate the effectiveness of peer assessment in helping students acquire practical skills, the checklists of the identified 52 students obtained during the practical lesson were compared with that obtained for their practical test (see Figure 3).

The following observations were made based on the comparison. 46 out of the 52 students with poorer practical skills made improvement (less crosses (✖) were observed in the checklist) during the practical test. The remaining 6 students had the same number of crosses (✖) as in their practical test. None of the 52 students had more crosses (✖) in the practical test. The student with the most improvement had 8 less crosses (✖) in his practical test. All students showed competence in performing skills under ‘Preparing Standard Solutions’. These skills were not previously peer evaluated during the practical lesson. However,

Name	Volumetric Analysis Skills	1 Student X	
		During Practical Lesson	During Practical test
Use of pipette	<ul style="list-style-type: none"> Rinses the pipette first with distilled water, followed by the solution to be pipetted (analyte) Adjusts the liquid level in the pipette with the tip of pipette above the liquid surface 	✗	✓
	<ul style="list-style-type: none"> Transfers liquid from pipette to conical flask with proper technique e.g. gently tap and roll the tip of the pipette against the base of the conical flask to ensure that all the solution is delivered into the flask 	✓	✓
	<ul style="list-style-type: none"> Rinses the burette first with distilled water, followed by the solution to be filled with (titrant) Clamps burette vertically Ensures no air column in the burette (fills burette correctly including volume below tap) 	✓	✓
Titration	<ul style="list-style-type: none"> Adjust the amount of solid in the weighing bottle away from the weighing balance to avoid spillage onto the balance which may result in inaccurate mass readings Burette funnel out Rinses the conical flask only with distilled water (not with the titre) Ensure titration is done on the white tile 	✓	✓
	<ul style="list-style-type: none"> Titrates with continuous swirling to ensure proper mixing 	✓	✓

Figure 3. Comparison of checklists obtained during practical lesson and test for identified students

the students were verbally briefed on these skills using the checklist.

The following conclusions were drawn based on the observations above. Performing the experiment under more stressful exam conditions, during the practical test, might have been one of the reasons why the 6 students did not show an improvement in the number of ticks.

Peer evaluation checklist benefitted the students. They were more actively engaged during practical lessons and hence more aware of the skills (inclusive of the skills 'Preparing Standard Solutions') needed and better able to achieve the good work expected of them.

Additionally, the peer assessment approach was well-received by the students (164 respondents) based on the following survey results (see Table 1).

Table 1. Survey questions and results for peer assessment using checklists

Survey Questions for peer assessment using checklists	Strongly Agree & Agree (%)
The peer evaluation & feedback helped me to improve on my titration skills & techniques.	79.3
The practical skills checklist raises my awareness of titration skills.	95.7
With the practical skills checklist, I am more confident of my titration results.	89.7
With the practical skills checklist, I am more competent in performing titration.	93.3

3.2. Data-based Questions (Using the modified PTHT approach)

To evaluate the effectiveness of the modified PTHT approach in helping students tackle data-based questions, test scores were collected after every data-based assessment and compared between the control and experimental groups (see Table 2). In particular, 3 classes (X, Y and Z) from the control group were identified for comparison with the experimental group (classes A, B and C) based on their High School Secondary 4 Chemistry results.

Table 2. Comparison of test scores between control and experimental classes.

	Sec 4 Chemistry %	Scores		
		Test [9 marks]	Mid-Year Exam [10 marks]	Promotional Exam [11 marks]
Experimental Class A	75.37	4.42	6.11	6.47
Control Class X	77.39	4.52	5.39	6.43
% with respect to control	-2.61	-2.23	+13.24	+0.60
Experimental Class B	79.75	4.7	6.2	6.60
Control Class Y	78.04	4.21	5.5	6.33
% with respect to control	+2.19	+11.68	+12.73	+4.21
Experimental Class C	74.00	4.41	4.35	6.06
Control Class Z	73.44	3.72	5.44	6.70
% with respect to control	+0.76	+18.60	-19.98	-9.57

The following observations was made based on the scores collected. For classes A and X, class A eventually obtained higher scores for the Mid-Year and Promotional Examinations despite having a lower Secondary 4 percentage for chemistry. For classes B and Y, class B obtained significantly higher scores for all three assessments despite having a slightly higher Secondary 4 percentage for chemistry. For classes C and Z, both classes have comparable Secondary 4 percentage for chemistry. While class C obtained much better scores for the Test, class Z eventually outperformed Class C for the Mid-Year and Promotional Examinations.

The following conclusions were drawn based on the observations above. The use of the modified PTHT could have attributed to the better scores of Classes A and B as compared to classes X and Y respectively. The inconsistency in the performance of class C as compared to class Z could be a result of the limited number of lessons conducted using the modified PTHT approach before the assessments and the lack of lessons conducted between Mid-Year and Promotional Examinations to sustain any possible impact of the pedagogy. In the Mid-Year and Promotional Examinations, students from class C

might have also chosen to focus their effort on the content questions rather than the data-based question as part of their exam strategy.

Additionally, the lessons conducted using the modified PTHT approach was generally well-received by the students (56 respondents) based on the following survey results (see Table 3).

Table 3. Survey questions and results for lessons conducted using the modified PTHT approach.

Survey Questions for Lessons Conducted Using the Modified PTHT Approach	Strongly Agree & Agree (%)
I find Data-Based Question (DBQ) lessons useful in helping me to understand the various ways of representation of data (e.g. tables, text graphs, diagrams).	74.6
I find DBQ lessons useful in helping me to identify and apply relevant data given in the question.	78.7
The group discussion during DBQ lessons allowed me to reason out to my peers/ hear from my peers on how data could be analysed.	66.6
With the exposure to DBQ exercises, I become more confident in handling DBQ.	70.7
I would like to have more DBQ exercises to prepare me for examination.	96.0

4. Discussion

4.1. Strengths of Using Checklist with Peer Assessment and the modified PTHT Approach

The crafting of the Practical Skills Checklists allowed the teachers to establish a common understanding and standardisation of practical skills amongst themselves. The use of the checklist with Peer Assessment and modified PTHT approach also enhanced students' active engagement. The modified PTHT approach allowed the teachers to tap on students' prior knowledge and teach what they do not know and not what they could learn on their own.

4.2. Limitations of Using Checklist with Peer Assessment and the modified PTHT Approach

The use of the Skills Checklist only allows the tutor and students to assess one's ability in performing the specified skills in the list. The quality of the

performance could not be measured using the checklist. The correlation between the advantages of using the checklists (i.e. increase in awareness of titration skills, confidence & competence) and students' accuracy in titration results could have been explored. This could be done by tracking students' accuracy of titration results (compared to tutor's results) before and after the use of the skills checklist. The results could then be compared and analysed to see if there is an improvement in students' accuracy in titration results, where the latter is what will be assessed in students' work in the A-level Practical Examination.

Similarly, students' written observations in a Qualitative Analysis report before and after the use of the skills checklist could be tracked and compared, to see if there is any improvement in the quality of answers with the use of the skills checklist.

From our survey results, we see that only 79% of the student respondents strongly agreed and agreed that the peer evaluation and feedback had helped them to improve on their titration skills and techniques. This could be due to the lack of time in some classes to allow proper peer evaluation and feedback to take place. Time could be set aside intentionally for students to do so, to ensure deeper discussion and evaluation could take place.

For the use of modified "Post-Tea House teaching" approach, we noticed very similar answers amongst the students' work which suggested that they might have discussed the pre-lesson assignment questions before the submission of their own work. This has impacted the effectiveness of the approach to some extent, as the tutors of the experimental classes observed a low level of enthusiasm during students' discussion as they have already discussed with their peers previously. This could explain why only 67% of the student respondents from the experimental classes strongly agreed and agreed that the class discussions allowed them to reason out to their peers or hear from others on how data could be analysed.

Moreover, there were only two lessons conducted using the modified PTHT approach for the experimental and control classes before the data-based question (DBQ) lecture test and Mid-Year Examination. There was also a long gap with no DBQ lessons between the Mid-Year and Promotional Examinations. The impact of the modified PTHT approach might thus be limited as reflected in the results of classes C and Z (see Section 3.2.).

5. Conclusion

Based on our preliminary findings, the use of peer assessment with checklists and the modified PTHT approach have been effective in achieving our desired learning outcomes. Further work to expand the scope and depth of our research is needed to improve on the reliability of the results. For example, the checklists

could be used to assess practical skills other than titration and qualitative analysis, and more lessons using the modified PTHT approach could be conducted to better evaluate the effectiveness of the pedagogy.

6. References

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Transactional School-home-school Communication: Addressing the Mismatches between Migrant Parents' and Teachers' Views of Parental Knowledge, Engagement and Barriers to Engagement

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Abstract

Applying organisational communication theory, this article advocates transactional systems for school-home-school communication with parents of pupils who have English as an Additional Language (EAL). It draws on a mixed methods case study of two secondary schools in England including survey data from 64 parents of EAL pupils and from 407 EAL/non EAL students, and data from semi-structured interviews with 10 recently arrived migrant parents and 18 teachers. The findings highlight schools' deficiencies in transactional school-home-school communication reflected in mismatches between parents' and teachers' perceptions regarding parental knowledge of their children's schooling, levels of parental engagement and barriers to parental engagement.

Experiences of Instructional Staff with Student Cohort Learning Groups: The Need to Understand Value and Connection

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Abstract

In recent years, the development of learning communities in higher education has received considerable attention. However, much of the current research has focused on student perspectives, with comparatively little understanding generated from the perspectives of the instructional staff members that work with such groups. Therefore, gathering the perspectives of instructional staff can enhance the overall insight of this type of learning experience; it can begin to complete the circle of understanding that encompasses both students and instructors. This paper addresses a research project that utilized action research methodology to systematically investigate, gather information about, and improve ways of operation within the role of instructional staff in a cohort learning community experience. Findings from the data identify the need for instructional staff to: understand the importance of developing the potential of the cohort learning community; foster opportunities for communication between instructors, and recognize themselves as their own cohort community.

1. Introduction

In the 1980s, post-secondary institutions began to follow a “business model” approach to their operations [1]. This resulted in institutional administrators being faced with the challenge of managing large scale environments while also being financially creative and efficient. This was not a simple challenge to undertake as such environments often incur considerable costs and, at the same time, must ensure high quality educational experiences [2]. Notably, this time period was also accompanied by a rise in the popularity of undergraduate education programming and student demand for quality educational experiences. Therefore, the effectiveness of instructional delivery also started to become a point of interest for institutional administrators [3].

Ultimately, this resulted in a movement toward more learner-centered experiences [4; 5] that attempted to emphasize the quality of student experience. Arguably, since the 1980s, the popularity

of undergraduate education has not decreased and, in many respects, it has increased. This has created the need for programming that is not only cost-effective but also supports the continued development of instructional excellence to ensure high quality learning opportunities for students [2]. Ultimately, such efforts have resulted in a movement toward more learner-centered experiences [4; 5] and, in recent years, an appreciation of the importance of developing learning communities in higher education environments [6; 7]. This was due to community being identified as essential when aiming to support collaboration and promote high levels of learning [8]. One approach that was embraced to aid institutional efficiency and effectiveness and to enhance the learning experiences of students has been the use of cohort learning groups. Since the early 1990s, there has been a marked increase in the practice of providing cohort-based learning opportunities in post-secondary institutions [8].

The literature categorizes cohort learning groups as being situations where students are intentionally placed in consistent groupings for their learning [7; 9] while also experiencing a common, sequential program of learning [8]. By doing so, such groupings allow for students to be involved in learning opportunities that include shared experiences, provides for an administrative ease of design and delivery using lock-step programming [12]. The benefits of cohort learning experiences are well documented in numerous studies. Such studies typically report an enrichment of learning for the student cohort membership [9]. While there are some drawbacks noted in the literature, namely perceived tension, jealousy, and competition between members, the benefits of cohort experiences present compelling reasoning for the adoption of cohort programming in educational environments [9].

However, the majority of the research literature has not addressed one specific component of the cohort experience. It has neglected to understand the role of the instructional staff members who teach the cohort learning groups. Although there are many positive results for students, there may well be other benefits or issues for instructional staff. For example, the

increase of student presence and voice that is often found in cohort learning groups may provide a readiness to engage in classroom activities or may pose unique challenges to instructional staff. Therefore, knowledge of the role and experiences of instructional staff in a cohort experience is of value to the full understanding of cohort learning.

In discussing the notion of community of inquiry, researchers have identified three interdependent elements that are necessary to ensure a meaningful learning experience: social, teaching, and cognitive presence [13]. In particular, the teaching presence element describes instructional staff as being critical for success and the modeling and facilitative role that instructors play as being vital for student retention and progress. However, although instructional staff members are viewed as being a part of the overall success of such learning communities, little is known about the specific role that they play in this success or their perceptions of their role. Therefore, due to this distinct absence of an understanding of the role of instructional staff in a cohort experience, research is required to add to the literature and provide new knowledge on the cohort community from an instructional staff perspective.

2. Methodology

The purpose of this research study was to investigate and understand the perspectives of instructional staff members that teach students in a cohort learning community setting. The cohort learning environment where the study was conducted was an established part of a collaborative programming experience between a large research intensive university and a small regional college in northern Canada. This joint venture was constructed in a manner that allowed students to take their undergraduate course work at a local regional college while attaining a Bachelor of Education degree from the larger university. Due to the uniqueness of the program at the regional college, the students experience their programming as part of a cohort that would be described as a restrictive closed-cohort [9]. As such, cohort members take the same courses as each other and in the same sequence; thereby following a common community style class schedule that is consistent amongst all the students. Interestingly, this issue of community is further extended as a single classroom is used for the delivery location of the majority of the courses in the program.

Based on the identified lack of understanding of the cohort experience from an instructional perspective, the research study was purposefully designed in a manner to investigate and consider the following research questions:

1. What are the experiences of instructors when delivering coursework to a cohort of students?

2. How can instructors contribute to the student cohort experience?

2.1. Research design

The research study utilized action research as its methodology. Action research in education involves systematic inquiry to gather information about, and subsequently, improve the ways of operation, teaching, and how well students learn [14]. The study followed an outsider in collaboration with insider approach to the action research process [15]. This approach to action research requires that both the researcher and the participants to collaborate in order to understand issues and find answers to question(s) or problem(s).

As per the Action Research design, the research study had a series of repeated phases [initial, action, observation, reflection] with each phase consisting of a particular focus such as relationship building, the consideration and reflection on instructional practice, and planning future action. Action research data collection techniques can be categorized under three headings: experiencing (e.g. observations and field notes), enquiring (e.g. interviews and discussions), and examining (e.g. journals and personal reflections) [16]. Therefore, the research study utilized data collection techniques that fell under each of these categories.

The role of the researcher in this study was both a participant observer and a non-participant observer [14]. The participant observer role occurred during the planning, action, and reflection phases of the study. However, during the observation phases the researcher took on a non-participant observer role while taking field notes and recording observations. Consequently, the researcher met with participants, discussed their experiences, conducted individual informal interviews and small group discussion sessions, collected on-line individual reflections and compiled researcher notes throughout the research process. Throughout this process, the researcher posed probing style questions to clarify and seek elaboration of participants' responses as suggested by Patton [17]. The specific probes were designed to help clarify the understanding and interpretation of the data being provided and develop a deep understanding of instructor perspectives of their experiences of teaching a cohort learning community.

To enhance credibility and trustworthiness, several sources of validity were considered. Process validity to examine the adequacy of the processes used in the different phases of the study was continually established through the triangulation of journals, observations and interviews. Democratic validity, ensuring that all perspectives were considered, occurred through data gathering from individual interviews, and dialogic validity was

enhanced through the continued intentional sharing of findings with the participants.

2.2. Participants

The eight instructional staff members delivering the variety of courses to the cohort learning community were invited to participate in the study. From this total of eight, seven agreed to do so, providing a participant pool representing 87.5% of the overall instructional staff.

All seven of the instructional staff participants had obtained at least a master's degree and several had earned a doctorate. All participants had experience of teaching in the K-12 school system and experience of teaching post secondary level course work. Of note is that the instructional staff participants had a range of previous experiences of teaching with cohort groups at the post-secondary level. One participant had taught more than 10 cohort groups, several had taught more than five cohort groups, one participant had taught a cohort group but at another educational institution, and another was completely new to the cohort experience and teaching to such a learning community of students. However, none of the participant instructors reported that they had personally experienced being part of a cohort learning community as learners themselves.

2.3. Data collection

Data were collected from a variety of sources. From this data it was possible to interpret and begin to understand the lived experience of the instructional staff members. The qualitative data collected were interpretationally analyzed. Analysis involved manual categorization through line-by-line coding of transcripts, interpretation of researcher interview notes, and participant reflections that identified salient meaning from the data. Such meaning was then grouped by content and themes and patterns were identified to describe, draw conclusions, and explain the phenomenon being studied [18].

3. Results

The findings of the data collected from the instructional staff participants indicated that they believed that their experiences were most beneficial. Interestingly, and of significant importance, they noted that these benefits were not only restricted to the student cohort community members but also applied to the instructors themselves.

In regards to the kind of benefits that the instructional staff members believed that the student cohort members experienced, they remarked that although there are always "...pockets of students..." that can challenge any teaching environment, they found that the cohort experience allowed students to

"...do it together to extend learning..." and there was a "...power to the group..." that supported and aided student work habits. Comments were made that suggested that "...common goals..." resulted in opportunities for "...interactions for students with each other..." and that there was a "...shared motivation..." to achieve learning expectations or goals. These findings of increased learning opportunities and a supportive environment mirror the understanding gained by other researchers [e.g. 7; 10; 11; 19]. Not surprising, the instructional staff participants overwhelmingly supported the value of a cohort learning experience and concluded that they believed that their own participation had also been most beneficial. As one participant remarked,

"A really, really worthwhile experience. I have become a better teacher. I find that I need to not only consider what I need to teach but also consider how might I support other instructors and how can they support me..."

The data collected in this study was rich and varied with many points of discussion. From this, three themes of experience for the participants were identified:

1. Developing the potential of the cohort.
2. Providing platforms for communication.
3. Recognizing the instructional team as a cohort.

3.1. Theme: Developing the potential of the cohort

In alignment with the strengths identified by others [e.g. 7; 10; 11], participant comments collected in personal interviews and group sessions identified that the cohort experience provided a level of collaboration and comfort for the students that supported learning experiences. Hence, it was believed that students were prepared to risk and sought support from each other. Example participant comments:

"Cohorts can provide opportunities due to trust, allegiance, and loyalties."

"Cohorts can present a different dynamic. There is a comfort to risk but also a concern to critique... collaboration is something that can be exploited with a cohort group."

It was also remarked that it was critically important that the cohort members be given opportunities to learn how to function effectively as a group. To not limit the potential of the cohort, it was viewed as a weakness by the instructional staff to simply assume that students had this understanding. This was seen in such participant comments as:

“We cannot assume that students will become a cohort, we need to teach being a cohort...students need to learn to be in a cohort.”

“...need to set the tone for the group...you belong to a cohort so you have responsibilities to yourself, the cohort, program, and profession...you are part of a club!”

“...students are getting something special...we need to let them know...need to be deliberate in letting students know what being in a cohort is...”

These comments illustrate that the instructional staff participants believe that cohorts have considerable potential but such potential needs to be drawn out of the group rather than simply expecting it to occur. That, according to the participants, is a key role that instructors can play; to support the realization and impact of the cohort.

3.2. Theme: Providing platforms for communication

Participants identified the importance for instructional staff to have the opportunity to meet as a group to discuss issues pertaining to cohort matters and their instructional practices. The instructional staff participants remarked that they believed that students often require assistance to deal with learning issues or those things that occur in day-to-day life outside of the learning environment. Lei et al. [7] suggested that the introduction of cohort learning experiences in further education was due to issues that included instructor isolation which can lead to a lack of effectiveness. The fostering of opportunities for communication between instructional staff could address such possible isolation and increase instructional effectiveness. As one participant remarked:

“Discussing issues with someone else is helpful...I think others are probably experiencing the same kind of issues as we share the same group of students.”

The data collected from the instructional staff participants indicated that increasing communication could support them as a group, provide for a better student experience, and illustrate to students that the instructional staff are a collective team. Example participant comments:

“Our teaching is not done in isolation...one body of students that we all share...”

“When other instructors discuss what they were seeing or experiencing, I understand that I could learn from their experiences too.”

“...the instructional team needs to role model...we need to ensure that the instructional team speaks the same language.”

“Most of the instructors share the same office, the same student group; can we not arrange times for us to share other issues too?”

Similar to Pemberton and Akkary [9] who suggested that cohorts provide opportunities for students to share experiences, the instructional staff participants also recognized the importance of sharing information amongst their own membership. As explained by one instructional staff participant:

“...students know more than we do, they all experience the same things each day...they know what is going on, where I come in one day a week and know little of what has occurred since my last visit...”

Therefore, communication between the instructional staff could increase information and understanding and decrease the isolation identified by Lei et al. [7]. Such sharing could also, according to the participants, provide a collective response to those students in need of support. This would negate the need for a student to inform a number of separate instructors the same set of information and provide the foundation for a collective, consistent and supportive response across all the members of the instructional team.

3.3. Theme: Recognizing the instructional team as a cohort

Interestingly, the instructional staff participants identified that they too needed to become a cohort; a need to provide opportunities for reflection as an instructional team for the opportunity to share instructional expertise and develop relationships. Example participant comments:

“We need to think of ourselves as a cohort too. Not really part of the student cohort but something like a partner or a co-cohort, one that can intersect when necessary but has its own identity. How can we not think that way?”

“I think we are a cohort in many ways, our own cohort...we haven't really formally acted like one in the past...in a coherent manner as such...but we have informally been one especially between certain instructors. Maybe we need to think of ourselves as a cohort of instructors much more than we normally do. I think that would have a lot of benefits for everyone.”

“We are [a cohort] whether we want to be or not as we have a common group of students.”

While there was a belief from participants that an instructional cohort may have occurred previously in an informal manner, it was suggested that there was a need to do so in a more formal manner. Such a move was viewed to have the potential of allowing instructional staff to share ideas, thoughts, and best

practices and to ensure that the learning environment is informed from all those that contribute to the student cohort experience. This notion is highlighted in this participant comment:

“Perhaps it is just me but I have always wanted to be more than just an individual instructor...especially as we have a group of students that have common experiences. Surely, we need to talk to each other to ensure that we know what is going on in each other’s classes. Isn’t that good pedagogy?”

Participant remarks indicated that they believe that if the instructional staff members see themselves as a cohort, students would be positively impacted. This thought supports the work of Ford and Vaughn [20] who suggested that a bond or connection between instructors and students is necessary for a successful cohort experience. Therefore, the purposeful creation of an instructional staff cohort that could operate separately from and intersect with the student cohort could prove to be advantageous to the overall learning environment.

4. Discussion

In regard to the research questions, analysis of the data has provided evidence that can answer or at least partially attend to each of the research questions.

1. What are the experiences of instructors when delivering coursework to a cohort of students?

Overall, the participants believe that the experience is positive and an enjoyable experience. As one participant suggested:

“Not having taught a cohort before I really didn’t know what to expect. I suppose some things were a surprise and others were what I expected. However, it has been really enjoyable. It is like being part of a family in many ways – there are ups and downs but generally it is much more personal than some of my other experiences.”

2. How can instructors contribute to the student cohort experience?

The instructional staff participants indicated that they believed that they have a distinct role to play in the cohort learning experience. For example, a participant remarked:

“We need to be able to come together on a regular basis. That way, we can support each other and also be a better team for the students. I will not be asking them to think one way and someone else the opposite.”

5. Conclusion

This paper addresses a study that focussed upon the cohort learning environment from the perspectives of instructional staff members. From the data collected, it is evident that the instructional staff participants recognize and appreciate the uniqueness of the cohort experience and the benefits that it can bring not only students but also themselves. They also have articulated that in many ways that they see themselves as a possible cohort that can, at times, intersect and co-exist with the student cohort group. It was mentioned on numerous occasions by the instructional staff participants that, by assuming a cohort identity, they could become more: aware of specific issues with the student cohort group; cognizant of integrating teaching ideas from each other; and supportive of each other.

It is suggested that further study occur to continue to understand the identified themes, any others that may be identified, and investigate how an instructional staff cohort might operate, as it is clear that the instructional staff participants in this study visualize a distinct role for instructors in the overall cohort experience supported through the intentional creation of an instructional staff cohort. How such a cohort of instructors might operate and exactly what role and responsibilities it might require to be successful, need to be a focus of potential future work. Further, it is important that future research also consider how institutions might support instructional staff members that teach in cohort learning environments. For example, should institutions ensure instructional staff recognize and understand how to assist students to gain full benefit of the cohort experience? Or, should time be made available and opportunities created for instructional staff to meet to discuss the cohort instructional experience?

At present most thinking concerning cohort learning environments has centred on the student experience and the contributions that students make to each other. However, the findings from this study suggest that instructional staff could benefit if attention was provided to their role too.

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Session 11: Curriculum and Learning / Teaching Methodologies

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Title: Effects of Task Complexity and Dyadic Task Condition on Narrative Writing Performance
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Title: Upper Secondary School Students' Reports on Feedback in English Writing
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Change in Academic Writing Education

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Abstract

There have been some major changes in academic writing education since its official introduction in 1950s. One of the changes is student needs. When academic writing education was introduced in the United States, it was targeted at students who were “underprepared” and lacked the competent English skills in academic writing. Thus, the primary objective of the education was to teach those students how to write well in English. But nowadays, more and more students, especially graduate students, enroll in a writing course not because they lack the language skills, but because they want to learn how to clarify and support their central research idea in a research paper so that the paper could pass the review for publication. To help the students develop a clear and convincing idea in their writing, it is necessary to incorporate a logical thinking training into the education. In my presentation, I will introduce how the new writing education has been implemented at Nagoya University since 2010.

Specifically, I would like to introduce a research writing pedagogy called the Logical Writing Process Cycle (LWPC). Inspired by the work of Howard Kahane [1], LWPC was developed in 2008 to enhance the ability of Japanese university graduate students to publish research papers by improving their ability to think clearly and argue convincingly, and to communicate their thoughts to domestic and international audiences. Different from approaches based on language teaching, this pedagogy focuses on the application of logical arguments to forms of research writing. Under the pedagogy the entire writing process is a development based on a thesis statement [2]. In particular, the development includes (i) finding the premises that bear a direct inferential relation to the statement; (ii) turning the logical argument into an abstract; (iii) elaborating the abstract into a complete paper.

Within six months of the course, 20% of the students succeeded in publishing papers at an international level. Between 2008 and 2010, during which period Hokkaido University provided academic writing support based on the pedagogy, the number of publications by students in the Division of Human Sciences doubled (Naka 2010). Inspired by the success of LWPC an academic writing program was established at Nagoya University in fall 2010 offering individual tutorials to graduate students and researchers. Between fall 2010 and fall 2016 at Nagoya University 613 tutorial clients reported 161 publications domestically and internationally.

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Effects of Task Complexity and Dyadic Task Condition on Narrative Writing Performance

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Abstract

This on-going research draws upon Robinson's Triadic Componential Framework for task design [4] which suggests that increasing task complexity loads along the resource-directing dimension would lead to greater complexity and accuracy in language performance. The participants are 90 students enrolled in an English language proficiency course at Universiti Putra Malaysia. A repeated-measures latin-square will be adopted where all learners will be subjected to tasks at 3 different levels of +/-contextual support. The learners' essays produced in dyads and individually, after engaging in each task, will be rated for grammatical accuracy, syntactic complexity and fluency. The learners' perceptions of affective factors will also be gauged at the end of each session using an affective questionnaire. The study could have pedagogical implications on task selection, task design and task conditions for the teaching of writing in ESL classrooms. Also, it could provide some theoretical support for Robinson's Cognition Hypothesis [4], [5].

1. Introduction

A growing number of studies has been conducted in the past two decades investigating the roles and effects of using pedagogical tasks in L2 learning and teaching. Areas that have been investigated include the cognitive and interactive processes that occur when learners engage in tasks as well as the quality and quantity of learners' oral and written production. One area that has received burgeoning attention is the task complexity dimension. Robinson's Cognition Hypothesis has dominated discussions on task complexity variables [4], [5]. Robinson developed the Triadic Componential Framework for task design which posits that task complexity variables can be grouped into resource-dispersing dimensions and resource-directing dimensions [4]. The resource-directing variables would challenge learners' cognitive and information processing abilities based on the level of reasoning required to

complete the task, the number of elements in the task and whether the task is in the "here-and-now" as opposed to being in the "there and then". Meanwhile, resource-dispersing variables would challenge learners in terms of the learners' amount of existing knowledge to perform the task, the amount of time given for planning the task, and whether it is a single task or multiple tasks.

The on-going research is interested in investigating one aspect of Robinson's resource-directing dimension which is +/- contextual support during individual and dyadic task conditions.

2. Research questions and hypothesis

The on-going study seeks to answer the following research questions;

1. What effects do +/-contextual support, and individual vs. dyadic task conditions have on grammatical accuracy?
2. What effects do +/-contextual support, and individual vs. dyadic task conditions have on syntactic complexity?
3. What effects do +/-contextual support, and individual vs. dyadic task conditions have on fluency?
4. What effects do +/-contextual support, and individual vs. dyadic task conditions have on learner affective variables?

Based on the predictions of the Cognition Hypothesis the following hypotheses were formulated:

1. The task with -contextual support and dyadic task condition will result in greater grammatical accuracy and syntactic complexity compared to the tasks with ++contextual support and +contextual support and individual task condition.
2. The task with ++contextual support and dyadic task condition will result in greater fluency compared to the tasks with +contextual support and -contextual support and individual task condition.
3. The task with -contextual support and individual task condition will result in higher difficulty and

stress levels compared to the tasks with ++contextual support and +contextual support and dyadic task condition.

3. Research methodology

The participants will be 90 students enrolled in an English language proficiency course at the Centre of Language Advancement, Universiti Putra Malaysia. A repeated-measures latin-square will be adopted where all learners will be subjected to tasks at 3 different levels of +/-contextual support, individually and in dyads. Learners will be randomly assigned into three groups and the order for the task administration and dyadic vs. individual conditions would be randomly assigned. This would help reduce subject-characteristic and task-sequencing threats. The tasks that will be used are comic strips with pictures and dialogues (that tell a story) which learners could refer to when writing their narrative essays (++contextual support), comic strips with only pictures which learners could refer to when writing their narrative essays (+contextual support), and only the beginning and ending of a story (-contextual support). Three sessions for each level of task complexity will be carried out at an interval of 1 to 3 days. The learners' essays produced in dyads and individually will be rated for grammatical accuracy, syntactic complexity and fluency. Grammatical accuracy will be measured using the proportion of error free T-units to T-units [1]. Syntactic complexity will be measured using the average number of clauses per T-unit [1]. Finally, fluency will be measured using the mean number of words produced per minute of the total time spent on task [3]. The learners' perceptions of affective factors while engaged in the tasks at differing complexity levels individually and in dyads will also be gauged at the end of each session using an affective questionnaire. Results of the study will be analysed using descriptive statistics, repeated-measures ANOVA and MANOVA.

4. Conclusion

The study would test Robinson's Cognition Hypothesis [5] which posits that increasing task complexity along resource-directing dimensions, which would include +/- contextual support, could increase accuracy and complexity levels of learner production, while decreasing fluency. Robinson [5] predicts that increasing the cognitive load of a task would result in greater accuracy and syntactic complexity as learners would stretch their interlanguage to meet the cognitive demands of the task. However, as there would heightened noticing and greater processing of input to deal with the high cognitive level of the task, fluency would be reduced.

Also, this study could potentially provide support for Long's Interaction Hypothesis [2] which contends

that interactional processes that occur during interaction while completing a task could lead to interlanguage development. Some of these processes would include negotiation of meaning (i.e. confirmation checks, clarification requests, and comprehension check), and negotiation of forms (i.e. focus on erroneous grammatical items, syntax, morphology, pronunciation and spelling). Even though the proposed study would not be analyzing the specific processes that occur during dyadic interaction, the comparison between the written output produced by dyads and individuals could show the differential effects of these two task conditions on accuracy, syntactic complexity and fluency.

The study could potentially contribute to the body of knowledge on how manipulating task complexity in both individual and dyadic task conditions could yield differential results in learner writing performance. This study could provide useful insights into the effects of using tasks with three different complexity levels of +/- contextual support and individual vs. dyadic task conditions on learner production of narrative texts as well as the effects on learner affective variables. In particular, to date, no research has been done in this area within the Malaysian context.

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Upper Secondary School Students' Reports on Feedback in English Writing

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1. Introduction

Two previous qualitative studies at upper secondary school level focusing on different perspectives - students [9] and teachers [8] indicate that current feedback practices in English writing classes in Norway are not compatible with the main FA principles, and as such call for further research in this area. The aim of this study is, therefore, to examine whether the identified feedback practices and attitudes from these two small sample studies persists when we have a larger sample of upper secondary students. To that end, the following research questions are posed:

1. What types and forms of feedback do the students of English receive to their written texts?
2. To what extent do the students engage with feedback?

2. Body of knowledge

2.1. Formative assessment and the situation of feedback in Norway

After the introduction of formative assessment (FA) pedagogy at almost all educational levels and contexts in Norway [7], it became one of the main school developmental strategies for the 2010-2014 period, with a number of courses and workshops offered to teachers [2]. As a result, there has been a growing awareness and huge interest for work with feedback. However, whether the mere interest in FA and feedback, and involvement in professional developments [10] has actually changed feedback practices remains uncertain.

In L1 and L2 writing, for example, feedback remains an underexplored topic. The existing studies in L1 writing [1] and in multidisciplinary contexts (e.g. Havnes et al. [5], Gamlem & Smith [4]) show that the overall situation of feedback across subjects and levels is not what is supposed to be. Likewise, we find out that the situation in English writing is not any better. Although there is a unanimous agreement on the role of feedback in writing instruction [2], [6], [9], still, a poor formative feedback culture is outlined by [2], [6].

Furthermore, less is known about what students as the main agents think about feedback [3], [9]. In Burner [3], among other findings, we find out that students prefer to get positive, specific and constructive feedback. They emphasize the importance of receiving oral feedback, which is echoed in Saliu-Abdulahi [9] as well as supported by the teachers as a good form of feedback [8], though not regularly used. Of special importance is students' concern about the engagement with the text. In both Burner [3] and Saliu-Abdulahi [9] students express lack of revising strategies for acting on feedback. In the present study we will find out what a larger sample of students report about their experiences with feedback.

3. Method

In the attempt to fill the knowledge gap with regard to feedback in English writing and confirm the findings from two earlier qualitative studies [8], [9], a paper-and-pencil survey was designed and distributed to first year upper secondary students from low and high achieving schools in Norway. The survey also has an open-ended question where students are asked to list suggestions for good feedback practices that they believe can help them improve their writing. The data were subjected to statistical analyses SPSS (Statistical Package for Social Sciences) and is limited to descriptive statistics - presenting the percentage distribution of the answers. The answers from the open-ended question are summarized and used to identify emerging themes and common answers, and when relevant are presented together with the quantitative findings.

4. Conclusion

The findings from the study rather confirm the previous qualitative studies that in a context where feedback practices should be formative, they are first and foremost summative, almost exclusively delivered to completed and graded texts. The corroboration of the findings from this quantitative study with the previous qualitative studies adds value and strengthens the rationale for the implications. An

important pedagogical implication is that teachers need more professional development about FA and feedback in writing. They should be trained to use a more student-centered feedback and tailor comments towards the students' preferences and needs. Just as important, the teachers need to make the feedback usable by delivering it to a text in progress and asking students to work with ungraded texts. Also, teachers need to focus more on communicating feedback in interactive dialogue through peer-feedback and regular one-to-one scaffolding dialogues.

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Factors that Influence the Longevity of Urban Texas Teachers

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Abstract

Teacher turnover in urban high-poverty schools is detrimental and irreversible to students' achievement. In fact, one of the most prevalent social justice issues today is the unequal distribution of experienced teachers to urban high-poverty schools. Researchers suggest that experienced teachers are more effective at raising student performance than new or early career teachers, thereby ensuring their students are equipped for life after high school. Unfortunately, teachers leaving the field is an oft-cited challenge for school leaders. This is true across the nation and has been described as a great challenge for urban districts in Texas. The purpose of this research, therefore, is to explore factors empirically tied to teacher retention in Texas urban school districts.

1. Introduction

Experienced teachers are more effective at raising student performance [1] and thereby ensuring students are equipped for life after high school. Unfortunately, teachers leaving the field is an oft-cited challenge for school leaders [2]. This is true across the nation and has been described as a great challenge for rural districts in Texas [3]. The purpose of this research, therefore, is to explore factors empirically tied to teacher retention in Texas rural school districts.

Since 1989, the national teacher attrition rate in the United States has increased 50% and remains steady at approximately 8% [4] while the Texas rate for teachers leaving the classroom was 16.6% [5]. In 2012, schools lost 238,000 teachers due to attrition, essentially equal to the demand for the following school year. Teacher attrition is also a great area of concern for those teachers who are new to the field. Researchers cite teacher attrition rates between 19 and 30% within the first five years of teaching [6], [7], [8], [9], [10]. This is particularly relevant, as the number of newly hired teachers has increased over the last decade, the high attrition rate has significantly and negatively impacted the teaching labor market and student experiences.

At the organizational level, the most frequently cited reasons for teachers leaving regardless of their years of service in the field stem from dissatisfactions with the job (55%) [11], [12], [13]. Workplace conditions have a large impact on the teacher turnover rate and researchers commonly find attrition linked to instructional leadership, school culture, collegial relationships, common planning time/collaboration, teachers' decision-making input, professional development resources, facilities, and lack of parental support and involvement [14], [15].

With this challenge, it is important that policy makers and school leaders be proactive in their efforts to staff their schools; however, armed with knowledge of teachers' impact on learning, accountability issues, and the need to prepare students for success in a global economy, the educational system cannot sacrifice teacher quality by simply filling vacancies with warm bodies. Rather, the factors that determine how to preserve teacher quality and affect teacher retention and long-term employment must be explored. To address these issues, the primary purpose of this study was to identify specific factors that impact teacher retention within urban Texas districts.

One of the most prevalent social issues in the United States today is the unequal distribution of quality teachers to urban, high-poverty schools. Teachers who work in urban, low-income, high minority schools experience higher rates of attrition than their colleagues in urban areas with low rates of poverty [16].

The success of schools depends on the ability of a school to retain its experienced teachers [17]. However, there is no clear consensus as to how to retain quality educators in high-poverty urban schools, yet researchers suggest that teacher retention may be more influenced by factors outside the classroom, such as increased stress associated with multiple professional roles and organizational factors [18]. For example, Moore Johnson and colleagues [19] studied how working conditions predict job satisfaction and career plans for a sample of more than 25,000 teachers in more than 1,140 schools in the

United States. The results of their report, Project on the Next Generation of Teachers, showed that urban schools suffered from higher rates of teacher turnover than those in rural and suburban areas. Additionally, the organizational factors of the urban schools in the study played a large role in whether or not teachers chose to leave their post.

2. Methodological and Theoretical framework

During the 2014-2015 school year, there were more than 8,500 schools in 1,200 districts across Texas [20]. Of those 1,200 districts, 11 were categorized as Urban District Types and were used in this analysis. In order to enable the researchers to arrive at a better understanding of factors which contribute to teacher retention in urban districts in Texas, district level data were analyzed for each of those districts.

This study used a non-experimental, retrospective research design. The primary purpose for the analysis of data collected in this study was to identify specific factors that impact teacher retention within urban Texas districts. All data collected for this study were from the 2014-2015 TAPR district-level reports. Data were analyzed using backward multiple regression techniques as found in the SPSS software. The backward multiple regression technique removes insignificant variables at each stage of the analysis to develop the most efficient regression equation using only those variables that are significant. Significance for the model was set at $p < 0.05$.

The regression model identified four factors that make a significant contribution to the retention of teachers in urban district types in Texas. These factors included district special education participation percentage (SPED) rate for a district, teacher tenure average (TENAVE), new teachers (FIRST5), and the percentage of students identified as At Risk (ATRISK) ($R=0.948$; Adjusted $R^2=0.833$; $p=0.000$). See Table 1 for the regression beta weights.

3. Findings

Two of the predictor variables have a negative relationship with the dependent variable. As the percentage of students participating in special education increases, the percentage of teachers who are leaving a district decreases. The second negatively related variable in the regression model is the percentage of a district's students identified as At Risk (for dropping out). As this population increases, the percentage of teachers leaving a district will decrease. Interestingly, these findings are inconsistent with previous author findings for other settings and may be attributable in part to an increased scale of financial and human resources in large urban districts in Texas

where funding is inclusive of monies tied to student enrollment and attendance.

Two of the predictor variables were also found to have a positive relationship with the dependent variable. The first is the percentage of teachers within their first five years in that role. As the percentage of a district's teachers within their first five years increases, the teacher turn-over rate increases. The final significantly contributing variable has a direct relationship with the dependent variable. As the average tenure of a district's teaching staff increases, the teacher turn-over rate also increases. In other words, as average experience in a district increases, teachers are less likely to stay with the district. Interestingly, this last piece is also inconsistent with previous author findings for other settings and may be attributable in part to experienced teachers' pursuit of professional opportunities in other district types (not urban).

4. Conclusion

In conclusion, there are a number of notable implications related to findings in this study. Given the important role teachers play in student achievement, district and campus leaders should be continually considering ways to train, equip, and retain teachers. This research sheds light on factors that influence teacher turnover in urban school districts in Texas. Contrary to previous unpublished findings based on other district types, this research found that an increase in At Risk and Special Education populations contributes to teacher retention. The authors believe this may be attributable to an increased pool of fiscal and human resources which can impact a district's ability to support both teachers and students.

There are also implications pertaining to the impact of teacher experience on retention in urban school districts. Whereas the finding that the percentage of new teachers (within their first five years of experience) has a negative association with teacher retention is consistent with previous unpublished research by the authors, the finding that increased teacher experience also negatively contributes to teacher retention is inconsistent with that research. Both factors have implications for teacher support in urban districts. Implications will be discussed further in an expanded analysis.

Finally, this research is consistent with the conference strand addressing preparation, certification, and mentoring and the strand addressing policy and advocacy. In the way of illustration, this research offers important empirical points for possible approaches to this challenge. By more effectively identifying factors that contribute to teacher retention and teacher turnover, school leaders can better ensure the cultivation of an environment where teachers stay

and grow in their capacity to address the diverse needs of the students they serve.

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Session 12: Educational Foundations

Title: Teachers' Resistance to Change: Understanding Resistance Roots
(Author: Khaled Albaker)

Title: An Introduction of Reflective Teaching Styles for Oral Surgery
(Authors: Amaar Hassan, Matthew Morris, Asfa Mughal, Tariq Ali)

Title: Developing Language Skills in the Early Years in Multilingual Luxembourg: An Ethnographic Study
(Authors: Simone Mortini, Claudine Kirsch)

Title: Education and Development of Competitive Skills for Socio-economic Engagement among Youth of the Niger Delta Region, Nigeria
(Author: Irene U Berezi)

Teachers' Resistance to Change: Understanding Resistance Roots

Khaled Albaker

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Abstract

This paper reports on teachers' reactions and responses to reforms, as teachers exhibited mixed attitudes toward changing the secondary education system started in 2008. This paper focuses on understanding the roots of teachers' resistance. As literature is divided on how best to approach reforms: either in a hierarchal and directive manner or through seeking consensus, this paper attempts to provide a realistic portrait from the teachers' perspective. The piloting schools for the reform were targeted (a total of two). Data was collected through informal interviews, nine formal interviews, and a questionnaire that was distributed to all teachers in both schools with return ratio of 65%. Analysis of the main findings indicated that teachers were aware theoretically of basic requirements of what to change on both: personal and organizational levels. However, from teachers' point of view, policy makers' failure to deliver on initial promises complicated their day-to-day reality. Also, they commented on the pace of introducing and implementing reforms, as they felt untimely rushed. Lack of communication during reform times was an area of concern for teachers. Finally, disempowerment and a sense of being left behind were also reported. The paper concludes by suggesting strategies and techniques to reduce teachers' resistance for future reforms in the Bahraini educational system.

An Introduction of Reflective Teaching Styles for Oral Surgery

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Abstract

The sessions presented in this assignment offer a commentary and reflection into the different styles of teachings for the surgical extraction of teeth using presentations, case-based learning and simulation. The sessions offer an insight into how student focused learning may be implemented into the different teaching methods based on the same topic. This article is split into three sessions; the first consisted of theory, enabling students to enhance their existing knowledge of Oral Surgery. The Second session involved the extraction of teeth using simulation, enabling students to increase their exposure through such clinical encounters. The final teaching session was a one-to-one encounter, for a surgical extraction, on a real patient. The focus of the session was to remain as a mentor, rather than a teacher. The learning objectives, style of teaching and feedback are all considered when determining the effectiveness of the teaching sessions and may support a diverse group of learners. However, it is also important to deliver individual needs for students to satisfy every student towards their own learning objectives.

Introduction

The first session consists of a student-focused discussion with eleven Dental Core Trainees (DCTs) with similar clinical experience to participate at the study day. The students identified wisdom teeth extractions as a developmental need prior to the session. Therefore, it was already highlighted as a useful topic. Learning objectives and outcomes were sent in an email to the students prior to the study day (see Figure 1). The morning consisted of mainly an interactive “theoretical” session, enabling the students to grasp their existing knowledge of oral surgery scenarios, whilst encouraging their own learning outcomes and further reading. This was achieved using brainstorming, presentations and lectures prepared by the students before and during the session. There were also some practical elements to the morning designed to keep the students focused and adding some teaching variety.

The second session enabled the students to split into groups of two for an afternoon session, with myself and two other clinicians supervising them.

The learning objectives of this session were designed so that the students could utilise the knowledge gained from the morning session, and apply this when extracting the teeth on the cadaver. Simulated learning is a useful method in this situation, due to student’s limited experiences when learning in clinical situations [1]. In this session, I wanted to demonstrate that knowledge is not just the ability of technical skill, but of the process of applying theory and technique from scientific knowledge.

The final session involved a one-to-one clinical encounter with surgical removal of a wisdom tooth under local anaesthetic, on a patient. The student may apply their knowledge gained from previous teachings into a real scenario. It also covers the techniques used in a clinical setting, and how these sessions can be adapted to support diverse learners, whilst maintaining student-focused learning. During this session, I had maintained my position as a mentor, rather than a teacher, to create a positive atmosphere in the clinical setting.

2. Minor Oral Surgery Techniques (Theory)

The study day was structured into four parts; two in the morning and two in the afternoon. The first three parts of the session are discussed, which were mainly theoretical, but they also involved some case-based scenarios (with radiographs), simulation and clinical activity. This was so that I could provide the learners with some variation in learning styles, throughout the morning and afternoon. The last part of the session was with cadavers and is discussed more in session two.

The audience were all graduates of Dentistry, working as DCTs in the Maxillofacial department at Hull Royal Infirmary. Although this was a compulsory teaching session, these types of learners will certainly be involved in teaching and continued development at some point in their professional careers. I wanted to create an atmosphere that introduced key principles of oral surgery, whilst also engaging the student’s deeper thinking skills and facilitating effective group learning. I knew this topic would be a relevant one,

full lesson plan:

Time	Title	Presenter	Equipment required
9.10	Introduction	AH	Flip chart
9.25	Principles of excisional biopsy	SS/LT	
9.40	Principles of incisional biopsy	SM/MB	
9.55	Haemostasis (including monopolar, bipolar, silver nitrate)	NA/IA	Monopolar bipolar (tips available?)
10.1	cryosurgery	AK/BO	Cryotherapy machine
10.40	Break		
10.55	Sutures (types and techniques)	CM/TN	
11.10	Surgical hand ties	AH	rope
11.25	soft tissue surgery - incisional biopsy for diagnosis - excisional biopsy – FEP, pyogenic granuloma, mucocele, calculi - suturing practice	AH/STC	(Pictures of lesions) Bipolar, cryotherapy machine drapes + metal trays disposable suture packs suture types pigs skin binbags
1.00	Lunch		
2.00	Radiographic interpretation for 8's	MD/JT	
2.15	Use of cone beam and its implications (consent, tx options – operculectomy, coronectomy)	AH	
2.30	Basic SR principles (LA, flap design, bone removal, sectioning, closure)	AH (with STC)	
3.00	break		
3.15	Simulation of surgical extractions.	AH/STC	Drapes + metal trays pigs heads (6) scalpel surgical kit drill

Figure 1. Learning Objectives for the session/lesson plan

as on a previous study day, the students had asked for a session on oral surgery, as they felt like they were not getting enough experience. It was also useful to note that all the DCTs had a similar background of clinical experience, so that the topic was not overly exhausting or too simplistic for the students.

The cohort involved eleven students. This is considered as rather large by some scholars; groups larger than eight individuals means that contributions from students may start to decline [4]. McCorie in 2006 advised that having groups larger than eight enables some students to avoid participating, however this situation was difficult to rectify as I was not able to choose the group size [5]. Broadly speaking, smaller groups may increase positive

learning and thinking, however, much of this research lacks validity [6]. It is important that the effectiveness of teaching does not solely focus on group size. McCorie [5] also discusses that there are multiple factors, which may influence effective learner experience, such as a positive atmosphere, critical thinking and involving students more in active learning. I felt like in my session, students would still participate effectively as they were all encouraged to presentation and brainstorming exercises, and this approach would maintain the usefulness of small group techniques in this 'larger' group.

The lesson plan I had created was also sent to the learners a couple of weeks before the session, highlighting background knowledge needed, general

aims and objectives for the day. There were a few reasons why I emailed this prior to the lesson. These were so that the aims and objectives of the session were clear, and that meant the outline for the day created a safe environment; they would be able to prepare appropriately for their own lectures and nothing would be unexpected. From my own experience, I found lecturers often publish further reading at the end to encourage students for further reading, however releasing material before the session enables students to participate and make comments in the class by using the resources provided. There is increasing evidence for using online resources, which may enhance the student's ability to learn outside the classroom [7]. Despite this, it is still important not to detract the students from making the session as interactive as possible, as the available literature suggests that learners still prefer classroom activities over learning online [7].

The first part of the morning session had the students in pairs performing presentations on allocated topics. These involved the students giving lectures on simple surgery, such as biopsies and using haemostatic agents. The students were split up into pairs and assigned a task; to discuss all the principles of minor oral surgery using presentations they had prepared prior to the session. The idea was to work together which would accomplish the learning objectives for the study day. The use of co-operative learning during group activities is well known; Johnson et al evaluated the uses of co-operative learning in groups and how this can be used to facilitate learning and promote positive relationships amongst colleagues [8]. The students were assigned a topic and they were encouraged to participate in small ten-minute presentations, with a teaching style of their choice. There were some difficulties with the presentations lasting only ten minutes long. The learners had a lot to cover, so the session ran longer than expected. It also meant that some of the students rushed their presentations, as they were aware of the time constraints. One example of this was a student's presentation of excisional biopsies (cutting off skin lesions). The student presented a lecture, and then at the end, provided each participant with a clinical case. A sheet of paper with a lesion drawn on a lower lip was provided, and the students had to draw out a design for the excision. However, as there was not much time left, it was rushed, and he pursued to give the answer before anybody had a chance to draw anything. As a result, one student wrote on the feedback form for his presentation (see Figure 2) that he should have spent more time allowing the students to proceed with the interactive element of his session. This is something that I reflected on also, as it is difficult to expect students to present on topics for ten minutes, which are perhaps exhaustive.

The role as a facilitator, rather than a teacher, switches a traditional didactic approach into a structured session. Open-ended questions were used with the rest of the learners, rather than picking on specific people, such as 'how did you find that presentation?' These questions were used if I felt the topic digressed or that there were still some objectives to go through. At the end of the session I encouraged reflective thinking for the students by providing everyone with forms to complete anonymous feedback (see Figure 2).

FEEDBACK FORM 13/12/2016 - Minor Oral Surgery

Presenter: [redacted]

Topic: Excisional biopsies

In evaluating the sessions, consider the following points:

- Were the aims and learning outcomes for each session met?
- Were you able to contribute to the session?
- Was your understanding of the topic challenged and/or developed?
- Were you given resources to follow up learning on this topic?

Poor Fair Average Good Excellent

Please provide additional positive comments:

linked nicely to benign excisional biopsies
 clear definitions - reinforced with
 handout - interactive
 references - give a bit more time to go through examples
 → you spent me time planning it

Please provide any areas that could be developed:

- aims
 - anatomy
 - difficult as malignant biopsies are a topic in itself
 → chose key area to talk open on
 short presentations

Figure 2. Anonymous Feedback Form

The second session of the morning, after the break, continued with presentations from the students in pairs. I had brought some props to help the students engage in learning, and to develop clinical skills which would go hand in hand with the theoretical aspect. Kolb's experiential learning cycle (1984) discussed a cyclical approach to learning, which is enhanced by practising and gaining as much clinical experience as possible [9]. Therefore, the students suturing on cadavers and tying surgical knots would develop their own skills. I was aware that the students already had reasonable exposure to suturing. Therefore, they did not require extra facilitators to accommodate for small teacher-learner ratios. I did not provide much feedback, as this was a chance to get some practice and have a break from lectures, rather than develop new skills.

At the start of the third session, the students were divided into groups to brainstorm a scenario based on wisdom teeth radiographs, which I had provided. They would then allocate a speaker to summarise their ideas to the rest of the students. Race has

analysed that learners are more active by discussing case scenarios with peers and finding solutions [10]. This way of learning is more efficient by stimulating the student's interest and curiosity to learning and is a preferred approach to didactic learning. There are also few opportunities with traditional lectures for students engaging in feedback; however, the possibilities are much more significant during brainstorming sessions, with other students asking questions to gather a response.

The style of learning in the session is largely based around Lave and Wenger [11] and is a critical component to learning by students due to being more active in the session. The social interaction, with students being involved in the 'community' encourages social interactions and constructivist theories to learning built upon by Vygotsky [12].

I am aware that many of the individuals had little experience in teaching, yet teaching may become an integral part of their careers. Having developed my own skills using postgraduate education, I have been able to reflect on my own approaches and use this to develop my teaching experiences and encourage a positive atmosphere of learning. It was important for me to engage others in student focused teaching, so that they may enhance their own learning skills and provide a positive environment for learning in the future, with a double-loop style of learning [13]. Double-loop learning encourages teachers to think more about their own beliefs and objectives, with the idea of becoming better leaders. Therefore, training fellow students to become better teachers by self-reflecting more may encourage them to build up their own leadership skills as well as experience learning.

Although the session was largely successful, I felt like there were some limitations to group sessions. Students resistance to Problem-Based Learning (PBL) sessions can cause them to be slightly disjointed for the first few sessions, however this usually resolves once the students have participated in more PBL sessions [14]. In this session, the presentation involving Computed Tomography (CT) scans became largely disjointed, as the student who was delegated the task of this topic was absent on the day, therefore I had to read out the student's lecture as a last-minute decision. I felt as though I had not prepared the presentation, therefore I had not gained the knowledge to present this lecture appropriately. Also, I was aware that I was not vastly more experienced or senior than others in this topic, therefore I asked one of the maxillofacial consultants to attend and oversee the session as a senior figure and second facilitator, which was useful to use him as a point of reference if the group became stuck with grasping concepts such as this one. Despite this, the overall feedback was very good, with all the students mentioning that they had learnt a lot. I feel like this was mainly due to making sure that the individual's collective

developmental needs were met. The students were given an opportunity to identify their learning needs. During the morning session, the students were asked to name one thing that they would like to cover during the day, with all the points raised written on a viewing board. After the mid-morning break I asked students to write on a sticky note one thing they had learned so far, and at the end of the session I set aside fifteen minutes to discuss learning outcomes, what we had learnt in the day, and whether they felt like this had been achieved. This also gave me an opportunity to look back at the developmental needs highlighted by the students written on the board and to check we had covered all the points.

3. Minor Oral Surgery (simulation and reflection)

As Kolb [9] famously described the cyclical nature of experiential learning is a continuous motion through observing, reflecting and experiencing. Kolb [9] argues that when there is more purposeful learning, objectives and planned activity, clinical experience will help facilitate learning. Thus, performing surgical extractions on cadavers appears to promote experiential learning, as this session encouraged a more hands approach as opposed to theoretical knowledge only. There is limited research on the teaching of surgical removal of impacted wisdom teeth at undergraduate and postgraduate level with pig cadavers. A systematic review [15] recognised that simulation is a recognised tool when there is feedback provided in the educational experience, although its data presented was equivocal, rather than statistical. Zangrado et al [16]. evaluated feedback using pig mandible for certain oral surgery techniques and concluded that these sessions offered advantages due to its similarities to tissues with humans, providing a high level of education. Despite this, the techniques offered in the study were not of wisdom teeth, but were other techniques used in periodontal surgery. The same teaching principles may be applied to a session involving surgical removal of wisdom teeth however.

The afternoon session involved a simulation of surgical extractions with cadavers (pigs head), and the students were split into groups of two. A quick debrief of the session was outlined to the students. The procedure involved picking a suitable tooth, raising a flap with a blade, drilling jaw bone and then elevating the tooth out using instruments. There were only two bone drills in the session, so the students had to rotate the drill between, however this was still sufficient for the session. Between the 11 students, there were three clinicians (including myself) who volunteered to act as facilitators, so that there were an increased number of teacher to learner's ratio, which would maximise feedback and learning output.

As the students in this session were all dentists who have begun a career with the need for continued professional development, it was important for me to develop self-reflection skills, which would help the students learn from their own experiences. To help the students become more reflective, I would attempt to ask the right questions, rather than give answers. This would be useful to the learners to develop independent reflective skills [17]. For example, why did you feel you were not able to take the tooth out? What do you feel went well, and what did not?

This session was one that I hoped would be an open, safe environment for clinical learning without patients, which would encourage an open and honest area for self-reflection and feedback. Students were engaged to a session that would focus on attention, reflection and compassion rather than focusing on outcomes, clinical competence, and efficiency [18].

Although the trainees were roughly the same level, there was one student whom at the start had told me she had rather limited experience on surgical extractions, and that she had little confidence in her own technique. It seemed apparent that most of the other students had a few more years of exposure to surgical extractions, which may have been the reason why she appeared to approach me at the start. She had recently graduated from Dentistry at Birmingham and had only been practising for 6 months. She went on to discuss that during her experience at undergraduate level she did not gain much exposure of wisdom teeth extraction. This may be due to the General Dental Council [19] offering little guidance on teachings for wisdom teeth removal and how much exposure a clinician requires for graduation.

An explanation was given on how the simulation session would benefit her, as this was an opportunity for her to apply all her theoretical knowledge to the clinical encounter. This session would give her exposure to the skills needed for oral surgery, and that we were separate from the pressures in a clinical environment. This was an opportunity for her to reflect on and address developmental needs in a safe environment that would improve her skills on her pathway to learning. With this student, I felt like she required some confidence building and was in need for one-to-one tuition. A review by Luhanga [20], describes one-to-one tuition as an important tool in developing a safe and effective beginner. I decided with this student, I would first attempt a surgical removal of a tooth whilst she observed, so that she would gain more exposure observing a clinical procedure. Whilst performing the surgical removal of the tooth, I was speaking aloud and reflecting, so that she understood my approach during the clinical encounter. This approach is a concept designed for students to capture thought processes and can be used to assess competence in the clinical setting. During one-to-one tuitions, there can be limited

discussions during the procedure, as the facilitator does not usually explain his or her methods. This restricts the learner's ability to reflect and analyse methods used in the session to apply for future cases. Therefore, clinical reasoning is an important factor in reducing errors in the medical profession, despite advances in technology and protocols.

The student was delighted with most of the tuition I was able to offer with her observing incision of the gum, bone removal and some tooth elevation. However, I realised the other students were also seeking feedback, therefore I was not able to complete the full procedure. There were eleven students to three clinicians to oversee the clinical encounter. This meant that there was a closer interaction with students due to a small student to teacher ratio. However, it did become difficult to discuss personal feedback throughout the whole procedure of the other students, I was only able to visualise some aspects of the procedures, and ask the students how they felt it went, rather than directly observing the whole session with one student. One-to-one tuition would have been more personal and provided detailed and immediate feedback to students [18].

It was obvious during the session that different students had various preferences for learning and some required more attention than others. I was careful, like with the individual student mentioned earlier, to adapt to personalities to maximise learning in that clinical environment. However, I made sure I was not too adaptable as I wanted to encourage independent learners who could adapt to different situations.

4. Minor Oral surgery, One-to-one, in a Clinical setting

The final session involved a patient who required Multiple dental extractions under local anaesthetic. The team involved myself, two dental nurses and an LDFT1 (Longitudinal Dentist Foundation Training) who was the learner. An LDFT1 is a dentist in their first year (of two years) training after graduation. They are competent to treat patients but are often supervised. They train one week in general dental practice and one week in hospital setting. My role at the department is a dental core trainee (DCT), which involves generalist training, surgical, teaching skills and is equivalent to an LDFT2.

Fugill evaluated that dental students responded positively when the teacher had desirable characteristics, such as knowledge, professionalism and respect [20]. I am only one year ahead of the student regarding training, and I was aware that my knowledge of the procedure may not have been much more than the student. Therefore, I was particularly careful to implement some other aspects of positivity in teaching described by Fugill such as

feedback and student autonomy. Despite being a senior by only one year, I felt that it was an advantage, particularly during a one-to-one situation [20]. By dressing appropriately, arriving promptly, maintaining professionalism you can model desirable attributes for the student to aspire to over the next years and act as a mentor, whilst still providing clinical apprenticeship [21]. You can still develop close relationships with students of a similar age and status. Dental students value these types of relationships with a learner, as they can offer regular contact at the department, comfort, and clinical support. A consultant may not have the same clinical timetable or be around the student's computer room during lunch hours to build relationships with learners as they often have other responsibilities. Despite this, I was still aware of my own limitations, as my role as a DCT has rather limited experiences to teaching. I asked a consultant if he would oversee the session and provide a second role as a facilitator should we both become unstuck with the clinical procedure. I felt like having the consultant nearby would provide the student with reassurance during the session in case there were any complications.

My aims of the session were to assist the student with independent clinical reasoning, learning and reflection, whilst applying the teaching styles already discussed in the previous sessions. Most of all, I wanted to act as a mentor to the student. A mentor is a teacher who takes a unique interest in the student's career, providing support and guidance.

Before the procedure, the learner and I spoke about the patient, medical history and clinical procedure. We identified potential complications, and I did this by asking open ended questions, such as, "which teeth do you would think may pose a problem and why?" I then asked how she would perform a local anaesthetic to the patient, and the student answered appropriately. I posed a different question to the student, prompting cognitive skills. I asked if I was a patient that needed both upper wisdom teeth out and had a gag reflex, how would you perform a local anaesthesia differently. The student was unsure of this answer and I encouraged the student to read up on the anatomy of the palate and get back to me, the answer to this question was not relevant to the patient but I still wanted to promote active learning and reflection.

I felt it was important to set some ground rules, as it was still patient interaction; this was to reduce stress levels and the occurrence of any unexpected events. For example, the notes highlighted that the patient was nervous, therefore we agreed not to discuss anything that would make the patient more anxious. If the student was struggling, then I would try to avoid taking over and offer support and guidance, as a role of a mentor.

Once the patient arrived, I assumed this background role, an assistant, a facilitator, whilst the

student led the clinical procedure. I spoke very little and took the role of a dental assistant during the procedure. Whilst the student was performing one of the extractions, the root snapped, however she was still able to retrieve the piece without my assistance or guidance. Once the patient had left I gave the student feedback. I did not feel it would be appropriate to provide this during the clinical procedure (as the patient was nervous), however it was still important to direct the learner to think about her own performance during a one-to-one session. I advised the student that often when I had extracted teeth, the patient 'jumped' up in the chair a little bit when I held the tooth with forceps. When she was performing her extractions, the patient was not doing this, and I suggested that if she applied more apical pressure, then the tooth would be less prone to breakage. Generally, the student was very good, and I did not want to provide an exhaustive list of detailed feedback and demotivate the student.

In summary, the student was confident, and the procedure was not complicated, therefore this helped me in my role as a mentor for this session, and the student as an independent learner. A future one-to-one tuition could involve a more complex tooth extraction. I feel like a more challenging clinical procedure would have also provided the student with more comprehensive feedback of the session.

5. Conclusions

Performing surgical extractions on cadavers appears to promote experiential learning, as this session encouraged a more hands approach, as opposed to theoretical knowledge only. There is limited research on the teaching of surgical removal of impacted wisdom teeth at an undergraduate and postgraduate level with pig cadavers. A systematic review recognised that simulation is an important tool when there is feedback provided in the educational experience [15], although the data presented was equivocal, rather than statistical. Zangrado et al [16] evaluated feedback using pig mandible for certain oral surgery techniques and concluded that these sessions offered advantages due to its similarities to tissues with humans, providing a high level of education. Despite this, the techniques offered in the study were not of wisdom teeth, but involved other techniques used in periodontal surgery. However, the same teaching principles may be applied to a session involving surgical removal of wisdom teeth.

I wanted to create an open and dynamic relationship with the students that provided a safe environment. I would accomplish this by changing my role to a facilitator, rather than a teacher. I decided to sit quietly and listen to the students during the teaching sessions. This technique encourages participation from peers and the facilitator is often

quiet as the 'absent friend' [5]. I felt like this approach was useful in trying to get the students to think about other student's presentations, which encourage reflection.

The feedback for the sessions were extremely positive, I realised that clinical competence is more than just a skill. Even if simulation did not improve the technical ability of students, it would encourage the learners to develop reflective skills, and build confidence for future sessions in the department.

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Developing Language Skills in the Early Years in Multilingual Luxembourg: An Ethnographic Study

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Abstract

In trilingual Luxembourg, 65% of the children do not speak Luxembourgish by the time they enter school. In 2017, a new law on plurilingual education in the Early Years replaced the previous legislation that considered the teaching of the national language as main mission of Early Childhood education. The new legislation requires practitioners in formal and non-formal education institutions to teach Luxembourgish, familiarise children with French and valorise their home languages. Whereas the flexible use of languages is a natural phenomenon in the Luxembourgish society, languages are often strictly separated in schools and non-formal education settings [3], [4]. Research findings have shown that translanguaging, that is the employment of one's entire linguistic and non-verbal repertoire to communicate, make meaning and construct knowledge, can foster learning and language learning in particular [2]. By contrast, research on the implementation of multilingual pedagogies, especially in the Early Years, is rare [5]. Duarte [1] calls for research that provides insights into translanguaging approaches and ways of using translanguaging effectively in mainstream education. The project 'MuLiPEC – Developing Multilingual Pedagogies in Early Childhood' (2016-2019) led by Kirsch, aims at developing innovative and inclusive language pedagogies that foster the children's multilingualism and capitalise on both the children's home languages and Luxembourg's official languages [3]. The research team observes and coaches seven teachers and para-professionals in two formal and two non-formal education settings over a year's time and analyses language pedagogies and changes thereof. The research abides to the ethics of the University of Luxembourg.

The present paper examines, firstly, how a Cap-Verdean Creole speaking three-year-old developed her language repertoire over 10 months in the 'précoce', a non-compulsory year of formal education. Like the other children in the class, she did not speak Luxembourgish at the beginning of the school year. Second, it investigates the ways in which the practitioners' language practices and scaffolding techniques contributed to this development. The qualitative longitudinal study used a range of methods including observations and interviews. The data in this paper come from seven ethnographic observations and video-recordings of children and adults during daily routines (e.g. morning circle), planned language activities, and free play. The findings show that the girl developed her repertoire in that she picked up words in other languages (e.g. French, English) and developed her skills in Luxembourgish. This was possible owing to the practitioners' language choices and practices. They provided input in Luxembourgish and increased its complexity; scaffolded language learning through linguistic and paralinguistic clues and gesture and mime, and translanguaged when appropriate to ensure communication, meaning-making and knowledge-construction. They also built on the children's repertoire, for instance, in projects promoting storytelling in several languages. These findings provide insight into the ways children develop their language repertoire and into the range

of pedagogical strategies used by these practitioners to promote language learning.

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Education and Development of Competitive Skills for Socio-economic Engagement among Youth of the Niger Delta Region, Nigeria

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Abstract

This paper examines the gap that exists between educational provisions and development of competitive skills among youth in the Niger Delta region of Nigeria. For over three decades, there have been reported claims of massive investment in educational development in the region. Yet, the region has the highest level of unemployment and under-developed youths leading to all forms of social vices as occasioned by governments lack of employable and competitive skills among the youth.

Could it be that educational provisions in the Niger Delta are bereft of empowerment, engagement, experience and evidence elements of education in relation to the development and acquisition of competitive skills? The study adopted the survey research method with the population drawn from youth in the region. Data were obtained using structured questionnaire and analysis was carried out using statistical methods. The results showed that there was no significant correlation between educational provisions and development and utilization of competitive skills for socio-economic engagement among youth of the Niger Delta region. Appropriate skills development programmes were lacking as there were no sustained investment by education providers on the development of competitive skills. Recommendations were that learning contents that are practical skills inclined must be re-engineered to facilitate socio-economic engagement among the youth in the Niger delta region.

1. Introduction

One of the greatest attributes of the globalization debate in the twenty-first century is that it leverages on global knowledge economy through the creation of flexible access to knowledge for development. Since [2] Bhola ascertained that education is development, it is certain that knowledgeable skills would translate to competitiveness in research, innovation and development. All these outcomes are predicted by sustained investment in educational provisions that

are driven by specific skills expectation for socio-economic engagement. Recall that as part of innovation strategy, Organization for Economic Cooperation and Development [5] identified education skills, environment, development, competition, investment, industry and entrepreneurship among others as strategies for socio-economic engagement among youth. Hence, if education is development [2], the skills acquired through education must create, innovate and invent technologies that would generate socioeconomic engagement among youth in the Niger Delta region.

2. Statement of the Problem

For over three decades, there have been claims by governments in the Niger Delta region of massive investment in educational provisions for youth empowerment that would facilitate job creation, entrepreneurship development and competitiveness in a global knowledge economy. Unfortunate, there is still high unemployment rate, deficit in employable skills subsists and there is restiveness among the youth all of which are traceable to absence of competitive and creative skills for socioeconomic engagement. This study is of the concern that, educational provisions have not enhanced the development of creative, innovative and inventive skills that are critical to socio-economic engagement for sustainable development.

3. Literature Review

3.1. Education and Development

In human existence, education is designed to facilitate awareness, enlightenment, attitudinal change and advancement in the ways humanity and its socio-economic spaces are shaped for progress. Without education, there cannot be civilization and advancement in knowledge and its' application for the well-being of mankind. This perhaps informs the view of Bhola [2] that education is development. Whatever

the perspectives from which education is conceived (formal, informal and non-formal), the benefits are evident only if the competencies gained through education can be translated to practical solution to human problems.

While reviewing emerging education priorities in the post Millennium Development Goals (MDGs) era, the European Union [1] provided converging priority areas for education and development to include among other things:

- (i) Equity
- (ii) Provision of good quality education
- (iii) Advancement beyond primary education
- (iv) Skills and competencies development
- (v) Lifelong learning or learning throughout the life cycle.

Among the five priority areas above is the focus on skills and competencies which underline the fact that, the right to education goes beyond being formal school certificated. Accordingly, it includes opportunities for learning in other environments including technical and vocational education and training (TVET), remedial education and innovative programmes. Thus, opportunities for learning and skill development are to be designed with labour market needs, ensuring a better transition from school to work.

Besides, the Ell [1] observed that, current areas of discourse do not only major on the emphasis on learning with measurable indicators, but inclusive are investment expectations, accountability and transparency and making education goals at all levels and national expectations, relevant to poverty reduction and sustainable development. The relationship between education and poverty reduction and sustainable development, provides a platform for the justifications for the development of competitive skills.

To the Ell [1], a holistic and integrated vision of education is critical to make education relevant to broader development goals. Thus, education needs to be integrated with rapidly changing and industrialized economies (knowledge and cyber driven world), providing students with the kind of complex skills and competencies needed to work and innovate in a global community.

The concomitant is that, there is recognition that education plays a critical role in development more broadly, including economic growth, workforce development, environmental sustainability, health, nutrition, peace and social justice. These possibilities of education are however not only tangentially theoretically but basically skills driven.

3.2. Skills Competency and Development

The Organization for Economic Cooperation and Development [6] notes that education and skill must focus on two main objectives. First, that of

empowering people by developing their skills and second, that of strengthening education systems through peer learning and policy dialogue. A critical review of the first objective shows that OECD works with governments to develop policies that provide access to high quality education opportunities so that all people (youth inclusive) – women, older adults people from disadvantaged backgrounds, and first generation immigrants and their children can succeed. Such high-quality education opportunities must not be seen as an end to itself, but as a means to an end. Therefore, OECD [6] advanced that decisions about education policy (investment, equity, access, funding, among others) should always be based on the best evidence possible. Such evidence is based on what the survey of adult skills (SAS), a product of the OECD programme for the international assessment of adult competences (PIAAC) measures as adults proficiency in the key foundation skills for the workplace. These skills are literacy, numeracy, and the ability to solve problems in technology-rich-environments. Such skills are to be used by adults in the workplace, at home and in their communities.

Also, while writing on building and using skills for better jobs and better lives, OECD [6] reported that skills are central to achieving sustainable, innovation driven economic growth and social inclusion. The on-going sustainable development goals (SDGS) is tied to adaptation of competitive skills. For instance, vocational education and training (VET) systems, which now prepare people for professional, managerial, and technical jobs in expanding fields, such as technology, health care and design, as well as in more traditional vocational trades are now being structured to ascertain how they can better adapt to the fast changing demand of labour market, especially markets that situated in environmentally degraded settings where poverties are evident. Thus, sustainable development is tied to the acquisition and utilization of competencies which must be evident in mitigating developmental challenges in all aspects.

3.3. Skill Competencies and Socio-Economic Engagement

Improved skills increase the possibility of achieving sustainable development goals (SDGs) that will translate to socio-economic development. This is because, global competitiveness is no longer associated only with exchange rates, industrial policies, labour costs, and natural resource endowments [8]. Today, it is also influenced by workforce skills, management of how skills are used, and governments ability to formulate and implement education, training and skills, -based policies. For socio-economic engagement, skills competence must be driven by competitive skills development strategies which Enright [4] reported must be characterized by systems operation that:

- (i) Align industrial, development and skills policies
- (ii) Develop skills development clusters that support different but interlinked industries;
- (iii) Provide multifaceted opportunities
- (iv) Identify and absorb “relevant best practice” from abroad but adapt to local contexts; and
- (v) Expand skills linked with needs of the economy and society.

Thus, for socio-economic participation in the resolution of under-development issues, one should understand the types of skills that are basic to youth development. Skills according to OECD [5] are generally divided into “hard” skills such as technical skills and using modern equipment, and “soft” skills such as teamwork, communication and negotiation. To [5] the skills that would address competitiveness are craft skills, cognitive skills, interpersonal skills and higher-level skills.

The United Nations Education, Scientific and Cultural Organization [7] noted foundational skills, (literacy, numeracy), transferable skills (problem solving, communication and leadership), and technical and vocational skills (practical jobs preparation inclined) as basic to competitive socio-economic engagement. The World Bank [9] identified a core set of basic skills, both cognitive and social, necessary for productive employment and earnings. Inclusive are vocational, life skills, higher-level skills (intensive services, such as financial intermediation, compute and information services, legal and technical support skills. The International Labour Organization [3] recognized, those skills that enhance the capacity to take advantage of job opportunities and improve personal bargaining power in the labour market. Given these needed skills for productive employment among youths could it be said that educational provisions drive these skills? Are these skills appropriately developed through educational provisions for the youth? Is there any correlation between educational provisions and the development of competitive skills among youth? And what is the dimension of funding and investment in the development of competitive skills among youth for socio-economic engagement?

4. Research Questions

The following research questions were raised for the study

1. Do educational provisions significantly correlate with the development of competitive skills for socio-economic engagement among youth?
2. To what extent do educational provisions assist to create and develop competitive skills for socio-economic engagement among youth?
3. How have educational investment and funding enhanced the development of competitive skills for socio-economic engagement among youth?

5. Methodology

The research adopted the descriptive survey method. The accessible population comprised 1500 teachers from three post primary education institutions in Bayelsa, Delta and Rivers state respectively, all in the Niger Delta region. The sample of 306 teachers were selected using the simple random sampling technique. A set of structured questionnaires was used for data collection. The questionnaire titled: “Education and Development of Competitive Skills for Socio-Economic Engagement (EDCSSE)” was validated twice and consequently, a Cronbach Alpha of 0.68 was obtained before it was put to use.

6. Results and Discussion

The results of this study are based on a total of 285 (93%) out of 306 participants who responded to the instrument for data collection. Table 1 below shows the personal characteristics of the respondents in terms of sex, age, years of experience as teacher among others.

Table 1. Demographic distribution of the respondents

Variables	Frequency(n=285)	Percentage
Sex		
Male	61	173
Female	112	39
Age		
51 years above	10	3
41 – 50 years	43	16
31 – 40 years	93	33
21 – 30 years	122	43
Less than 20 years	18	5
Years of teaching Experience		
Less than 5 years	74	26
6 – 10 years	144	50
11-15 years	36	13
16 years above	31	11
Institution of service		
Secondary schools	191	67
Post-secondary school	94	31

The personal characteristics of the participants in the study are descriptively presented in the distribution on contingency table 1 above. There were more male (61%) than female (31%) with majority of the respondents’ skills within the active work age (76%). 56% of the participants had work experience of 6-10 years with those who had spent less than 5 years accounting for 26%. Majority of the participants worked at the secondary school level (67%) where

Table 2. Mean Rating on Extent Correlation between Educational Provisions and Development of Competitive Skills for Socio-Economic Engagement among youth

ITEMS	SA	A	D	SD	\bar{X}	Decision
i) Youth are educated on basic skills	63	27	89	106	2.17	C
ii) Skills gained through education do not encourage entrepreneurship among youth	76	114	36	59	2.73	NC
iii) Social and economic empowerment skills are acquired through educational provisions among youth	48	57	86	94	2.20	NC
iv) There are skills acquisition programmes in youth learning curriculum	155	63	41	26	3.22	C
v) Skills development programmes are appropriate provided through education curriculum in schools among youth	54	56	102	73	2.32	NC
Grand Mean = 2.53; Criterion mean = 2.50						
C= Correlated; NC=Not Correlated						

Table 3. Mean Rating on how Educational Provision create and develop competitive skills for socio-economic engagement among youths

ITEMS	SA	A	D	SD	\bar{X}	Decision
i) Competitive skills are developed and created to empower youth through educational provision	142	93	16	34	3.15	VHE
ii) Students participate in further training to gain employable and competitive skills after completion of school	67	35	84	99	2.73	VLE
iii) Skills obtained through educational provisions make the youth to be engaged in competitive jobs	61	38	101	77	2.24	VLE
iv) There is commitment to skills development among youth through educational provision	29	67	82	107	2.06	VLE
v) Required Practical skills and necessary knowledge for socio-economic engagements are provided through educational provision.	81	97	41	66	2.68	VHE
Grand Mean = 2.47; Criterion mean = 2.50						
VHE = very High Extent; VLE = Very Low Extent.						

Table 4. Mean Rating on educational investment, funding and enhanced development of competitive skills for socio-economic engagement among youth

ITEMS	SA	A	D	SD	X	Decision
i) Inadequate funding retards educational provisions for skills development	121	94	51	19	3.11	VHE
ii) There is sustained investment by education providers for development of competitive skills among youth	90	16	115	64	2.46	VLE
iii) Employable and competitive skills are adequately provided for socio-economic development of youth	49	44	109	83	2.21	VLE
iv) Facilities for educational development are functional for the delivery of sustained competitive skills	31	47	113	94	2.05	VLE
v) Poor funding of educational systems does not encourage the promotion of competitive skills through training.	133	58	36	58	2.93	VHE
Grand Mean = 2.55; Criterion mean = 2.50						
VLE = Very Low Extent; VHE = very High Extent						

still development is basic and fundamental to learner's socio-economic engagement.

Research Question 1

Do educational provisions significantly correlate with the development of competitive skills for socioeconomic engagement among youth?

The result from Table 2 shows that four items do not attain significant correlation given that the criterion mean score of 2.50 is greater than the mean score for items I, ii, iii, and v. This is also justified as the grand mean score of 2.53 is also greater than the scores for the four items. The interference that this result provides is that, the mean rating does not provide significant statistical correlation between educational provisions and the development of competitive skills among youth in the Niger Delta region. Takes educational provisions do not significantly correlate with the development of competitive skills among youth in Niger Delta region.

Research Question 2

To what extent do educational provisions create and develop competitive skills for socio-economic engagement?

The analysis of the extent to which educational provisions create and develop competitive skills for socio-economic engagement among youth is contained in Table 3. The result shows that only two items (I and v) shows very high extent while three items (ii, iii and iv) show a very low extent. The result shows statistical evident as the grand mean of 2.47 and criterion mean of 2.50 are greater than each of the mean score for the three items. Consequently, it is plausible to state that, educational provisions do not create and develop competitive skills for socio-economic engagement to a very low extent among youth in the Niger Delta region.

Research Question 3

How have educational investment and funding enhanced the development of competitive skills for socio-economic engagement among youth?

The result shown in Table 4 shows the extent to which educational investment and funding enhance the development of competitive skills for socio-economic engagement among youth. Two items (I & V) show very high extent in terms of the mean scores which are greater than the grand mean (2.55) and criterion mean (2.50). On the hand, three items (ii, iii, iv) had a lower mean score relative to the grand and criterion mean scores respectively. Thus, educational investment and funding have to a very low extent,

enhanced the development of competitive skills for socio-economic engagement among youth in the Niger Delta region.

7. Conclusion and Recommendations

Education that is development inclined must impact on basic skills that are geared towards socioeconomic development. Investment in education must be competitive skills driven in a global knowledge economy. Without innovative, creative and inventive skills gained through education, socioeconomic engagement may not respond to sustainable development needs of the region. Also, to reap the gains of innovation, policy makers need to understand how the way we innovate is changing and what this implies for education and training policies. Skills intelligence should be built to situate national strength, opportunities, weaknesses and threats across dimensions of skills strategies and also, evaluate educational policy alternatives for skills development. Finally, entities need to harness the potentials of technology to enhance community of young people as well-planned skills strategy helps economics and regions to advance economic development in a competitive way.

8. References

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Session 13: Pedagogy

Title: Essence of Internship Programme for Quality Improvement in Teacher Education
(Author: Yellappa P.)

Title: Moving beyond Computer Literacy: An Opportunity to Enhance Pre-Service Teachers' Self-Directed Learning
(Author: Roxanne Bailey)

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Title: Proposal of a New Teaching Model for an Engineering Class by Analogy with Double-Headed Cobra
(Authors: Salah Bousbia, Dhouha Arfaoui, Aymen Esselmi)

Essence of Internship Programme for Quality Improvement in Teacher Education

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Abstract

The quality of teacher education depends upon the quality of curricular programmes. Amongst “internship programme” is important component in teacher education. Internship in teaching is the best method of trained teacher in developing practical skills. During practice teaching the trainees are restricted to teach pedagogical subjects whereas in internship the trainee is required to work as full time teacher under the supervision of CoOperating teacher and the headmaster. Besides the intern teach like a regular teacher and perform school related tasks and assisting the teachers in organizing various school programmes. Introduction of internship in teacher education is an urgent need. The preparation of good teachers is a joint responsibility of the Co-operating schools and colleges of education. This recommendation was first made by the Dr.D.S.Kothari Commission (1964-66), fifty years ago. The state department of education must Co-operate in creating a conducive environment to such colleges of education and Co-operating schools.

1. Introduction

The term internship was borrowed from medical education. After completion of medical course the graduate is sent to a hospital, where he would work under the supervision of a senior doctor. Similarly, in the law profession also the student who completed law should practice with a senior advocate to become professional lawyer.

In the same way in teaching profession also the trained graduate required to undergo preparatory experience is sent as ‘Intern’ to a school, called CoOperating school and a teacher who monitor and guide the intern is called Co-Operating teacher. The main aim of internship programme is to give a proper training and make them effective and efficient teacher.

It is evident that no professional training is completed without practicum. It is a compulsory component of teacher education programme for developing teaching skills and competencies for prospective teachers.

2. Role of Colleges of Education

For effective conduct of internship programme the colleges of education organize orientation programme prior to internship to headmaster, Co-operating teachers and trainees, with MoU and prepare a detail out line for systematic execution. Apart from learning the skills related to school subjects, the Co-operating schools and colleges of education would expect a trainee to gain experiences related to school life. For example: Working with community, the colleges of education adapt some area of locality. Each teacher trainee is encouraged to select few areas of community work.

3. Areas of Working with Community

- Importing non-formal education to semiliterate and adults.
- Improving cleanliness of community.
- Educating the people about safe drinking water facilities.
- Develop awareness about protection of environment
- Plantation of trees in the community.
- Organize tournaments to youths in community.
- Organize blood donation camps and health awareness programmes.

4. Qualities of Co-operating Teacher

Always the colleges of education should establish a good relationship with Co-operating schools. Co-operating teachers are selected based on few criteria. Like he should have advanced knowledge of school subject and five years of teaching experience. He should have competence to work with interns to give constructive ideas and have the knowledge of recent trends in teacher education.

5. Responsibilities of Pupil Teacher

The trainee has to perform the following responsibilities. Example importing quality education, use teaching aids and teach effectively. The other responsibilities are, the intern has to perform

both academic and administrative activities as follows.

6. Academic Activities

- Observing the lessons of teachers and peers.
- Prepare time table and school calendar.
- Write lesson plans in advance
- Conduct remedial classes for dull students.
- Organization and participation in school activities.
- Conduct class test and value the papers.
- Attend invigilation work during tests and examination.
- Assisting the teachers in the organization of in service programmes.
- Guide the students to prepare teaching aids and improvised apparatus.

7. Administrative Activities

- Maintain school records.
- Maintenance of cleanliness of school premises.
- Supervise student behaviours during special days/celebrations
- Participate in purchasing of school supplies and
- Maintain accounts properly.

8. Administrative Activities

Organize varieties of Co-Curricular activities – viz literary activities, easy writing competitions, debate competition, quiz, cultural activities, field trips, excursion, and camps.

9. Phases of Internship

For systematic execution internship is classified into three phases, namely: Pre-internship, School internship and post internship

1. Pre-Internship: Pre-internship is college based activity which will commence in second semester. This phase should continue for atleast one month, which consisting.

- a. Lecture cum workshop.
- b. Observing demo lesson, questioning, and discussion of the lesson.
- c. Methods of teaching pedagogical subjects and general subjects.
- d. Teaching skills (Micro teaching) 6 skills will be demonstrated by teacher educators and 3 skills in each pedagogy will be practiced by trainees

- e. Simulated teaching one in each pedagogy
- f. Lesson designing 4 in each pedagogy
- g. Demonstration lesson 3 to 5 series should give in each pedagogy by respective method master
- h. Observing video lessons

2. School Internship: It is a school based programme which will commence in third semester and continue for 3 months for practice of all the above-mentioned components. In this phase the student teachers are attached to a supervisor and senior teacher in a co-operating school. During this period the interns perform the following responsibilities.

- Teach 20 lessons in each pedagogy. Six lessons should be supervised by method master, out of 20 lesson plans, minimum 10 lesson plans should fully corrected by method master.
- Criticism lesson should teach in front of method master.
- Maintenance of bulletin board on which articles and prospects exhibit.
- Conduct quiz, debate, participate in school exhibitions. Co-operating teacher assigns actual classroom teaching, supervising, practical work, test and examination work, organizing CCA and maintenance of school records.
- Achievement test should be administered in each pedagogy for 25 marks
- Innovative lesson should give in each pedagogy in front of method master
- Each trainee is required to observe minimum 80 lessons of peer group

3. Post Internship: In post internship phase, the trained graduate should undergo few months of internship. During this period the prospective teacher is attached to Cooperating School and he work as a regular teacher under supervision of co-operating teacher and the head master, who is responsible for give confidential report after assessing all his performance during internship.

10. Conclusion

Internship programme is one of the important components in teacher education through which the intern will equip necessary teaching skills, teaching competencies. Internship programme enable to developing the total personality of the prospective teacher in order to prepare him as a worthy, effective and efficient teacher.

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Moving beyond Computer Literacy: An Opportunity to Enhance Pre-Service Teachers' Self-Directed Learning

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Abstract

In the 21st century being computer literate is no longer a novelty; it is a necessity. Apart from being computer literate, individuals (and especially teachers) are required to cope with the everchanging world we live in and possess the ability to collaborate with colleagues and their learners. In this paper, I argue that using a computer literacy module as vehicle to enhance pre-service teachers' self-directedness serves a much greater cause than it would if the module was just focused on computers. Self-Directed learners take responsibility (with or without the help of others) for their own learning and in doing so develop into life-long learners. I therefore argue that if pre-service teachers are more self-directed, they can better cope with the challenges of the 21st century and stay up to date with computer trends (e.g. remain computer literate after my module). Making use of a one group pre-test post-test experimental design, the pre-service teachers in this module were asked to complete Cheng's Self-Directed Learning Instrument at the onset of the module and again at the end of the module. As this research was implemented in my classroom, the sample size was quite small (n=31); however, the aim of the research was not to generalize results, but to investigate the effect of intervention on these pre-service teachers' self directedness (as Scholarship of Teaching and Learning to improve my own practices). As an intervention, participants were asked to prepare for class by watching pre-recorded videos and working in pairs to pair problem solve during contact sessions – a blended learning approach was therefore taken in this module. From the comparison of pre-test and post-test scores, the results emanating from the research indicated that participants in this study had a practically significant increase in self directedness. Pre-service teachers are expected to become computer literate but also to possess 21st century skills. This study proved that a computer literacy module holds the potential to enhance pre-service teachers' self-directedness and in doing so equip them with more than just computer literacy.

Influence of East Asian Culture on Student-Centered Education

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Abstract

Student-centered education is necessary for the development of 21st-century competencies, but East Asian countries have difficulty in implementing the new pedagogy because it often contradicts with traditional culture. This study investigated how East Asian culture influenced student-centered education through qualitatively analyzing norms in a student-centered science classroom at a middle school in South Korea. This study found four themes about class norms, which reflect both principles of student-centered education and East Asian culture. This study also found diverse responses of students toward the class norms, which were supported, superficially accepted, or disagreed. The findings of this study imply that pedagogical innovation will be successful only when it is integrated with existing school culture.

1. Introduction

East Asian countries like China, Japan, Korea, and Taiwan share educational culture that is influenced by a Confucian philosophy. Recently, the countries have made a great effort to change pedagogy from teacher-directed instruction to student-centered learning in K-12 school. The pedagogical innovation is required to meet the needs of a knowledge society in which creativity, critical thinking, and collaboration skills are more important than rote memory skills. Despite the efforts to change pedagogy in K-12 school, student-centered education seems not to be successfully implemented in East Asian countries [1]. One of the reasons why pedagogical change is difficult is that student-centered education may not be consistent with the East Asian culture that promotes memorization and repetition rather than verbal exchange with peers [2]. The contradiction between pedagogy and culture leads to a gap between expected and implemented pedagogy in school [3]. On the other hand, the contradiction gives educators a motivation to create new student-centered pedagogy that can be well aligned with existing school culture [4]. This study aims to investigate the influence of East Asian culture on student-centered education. For this purpose, the current study investigated the norms of

a student-centered science class at a middle school, South Korea. The class norms, which refer to student behaviors expected in a classroom, well reflect the culture of a society as well as the beliefs of a teacher and students [5]. This study intended to explore class norms that enable student-centered education to be effectively carried out in East Asian culture and to investigate how students respond to the norms given by a teacher.

2. Literature reviews

In traditional East Asian culture, many students believe that knowledge is transmitted from a teacher or an authority [6]. They are often dependent on a teacher and easily conform to rules. Students also believe that learning begins with memorization and repetition and then develops into a deeper understanding. Students seldom ask questions or interact with peers until they sufficiently understand the learning material [2]. In addition, people believe that knowing is closely related to doing in Confucian culture. For young children who lack knowledge, teachers are likely to focus on changing their behaviors, expecting that children gradually understand the meaning of what they are doing [7]. The East Asian culture tends to contradict with a student-centered education that emphasizes constructive learning activities and social interaction [8]. In student-centered education, students are expected to generate knowledge, negotiate the meaning of their experience, self-regulate their learning process, and collaboratively solve a problem in authentic contexts. The student behaviors expected in student-centered education are different from the norms in traditional East Asian culture.

3. Research methods

In this study, we observed a master teacher's science class (n=36) at a middle school, South Korea, for three months. The teacher has developed student-centered learning activities based on the literature of constructive and collaborative learning. This study collected multiple data sources including audio/video records, field notes, and interviews with the teacher

and 10 students. The data were qualitatively analyzed according to the guideline of grounded theory.

4. Findings

4.1. Norms of student-centered education

This study found four themes about the norms of student-centered education, which reflected East Asian culture. First, students were expected to be dynamic in silence. The class norms to encourage constructive and interactive activities coexisted with the norms to prevent disruptive and disorderly conduct in a classroom. Second, students had autonomy within the boundary of activities designed by the teacher. For instance, students were allowed to ask any question to the teacher, but they could not ask a question before seeking for an answer by themselves and asking a question to peers. Third, the teacher-student relationship moved forward and backward between horizontal and vertical relationships. The teacher asked students to call him a “guide” in order to emphasize the horizontal relationship. At the same time, the teacher also played the role of an authority, particularly when controlling student behaviors that did not follow the class norms given by the teacher. Lastly, the class norms focused on the change of behaviors rather than minds. In order to encourage peer interaction, the teacher provided specific guidelines on turning the body toward a speaker, eye contact with peers, and responding to peers through gestures and verbal statements.

4.2. Student responses to class norms

The class norms were constantly negotiated among students, which led to diverse responses of students toward the norms. First, students supported the norms that were consistent with their experience in other classes. They stated the usefulness of the norms about keeping order in a classroom, using experiment tools and assigning roles to group members. Second, students have different perspectives to the norms of constructive and interactive learning activities. Some students perceived that the norms (e.g. raising a hand) encouraged their active participation, whereas others considered the norms unnecessary or unhelpful. Lastly, students conformed to a few norms without understanding why they should do. Although student behaviors gradually improved in regard to the class norms, students lacked understanding the purposes of some norms. For instance, students did not fully understand why they should ask a question to peers before asking it to the teacher, but they conformed to the norm rather than challenged it.

5. Conclusion

This study showed the influence of East Asian culture on the class norms of student-centered education. In addition, student responses to the norms were also influenced by the culture. As a result, the student-centered education in this study was different not only from traditional education in East Asian countries but also from student-centered education in Western countries. More research is necessary to develop a new pedagogical model that can effectively address the tensions between student-centered education and East Asian culture.

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Proposal of a New Teaching Model for an Engineering Class by Analogy with Double-Headed Cobra

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Abstract

This paper presents and examines an alternative model of teaching an Industrial Engineering (IE) course. The course proves challenging for teachers who frequently experience holes in their content knowledge, and for students whose knowledge and skills about the various subjects matters part of the module mismatch their expected level of competence. The model we propose has been labelled double-headed Cobra since it requires the course to be team-taught. Collaboratively, two teachers, each mastering a subject area, mainly product management and (applied) mathematics, deliver aspects of the course. The model has been proven to enhance teaching efficiency, and ultimately presents engineering students with a better learning experience and helps them attain better achievement.

1. Introduction

Industrial engineering module, a problem-based interdisciplinary area of study in nature and practice, draws from several disciplines such as mathematics, physics, and social sciences. In addition to basic engineering principles, learners need to assimilate, incorporate, and employ adequate sophisticated mathematical and statistical tools.

Though an integrated curriculum “provides opportunity for more relevant, less fragmented, and more stimulating experiences for learning” [12] as learners benefit from the decompartmentalization of knowledge, it creates challenges for:

- teachers who frequently experience holes in their content knowledge especially in areas that are not related to their areas of expertise.
- students whose knowledge and skills about the various subjects matters part of the aforementioned module mismatch their expected level of competence.

Thus, the expected level of achievement in the module cannot be met since the core teacher's negative perceptions about his/her efficiency level lead him/her to avoid fully explaining or detailing

complex notions, and students' lack of knowledge and motivation hinder their attainment.

The teaching method suggested in this paper represents what we value as an efficient way to tackle the previously mentioned learning/teaching issues. The double-headed cobra model consists in employing/implementing a team teaching method combining two teachers' experiences, and knowledge about the various multidisciplinary aspects of the module.

2. Literature Review

Industrial engineering (IE) module consists in a blending of various areas of studies; engineering, science, mathematics, and social sciences. Mathematical models in particular (queuing, simulation, to name a few) are an elementary part of the course since they help solve industrial problems and show the way industrial mechanisms interact. The complexity of these models foster learners' sense of intimidation and rejection of the course [6, 17].

An extensive body of research has dealt with the difficulties learners experience with the acquisition of a subject such as mathematics. Research suggests that the failure in assimilating mathematical concepts can be rendered to (a) an early exposition to a traditional method of classroom instruction advancing that educators employ the banking concept which consists in delivering courses in a narrative way with the aim of encouraging learners to store data [10] held to be subsequently used (b) a mismatch between ‘conceptual understanding’, ‘procedural fluency’, and problem solving skills (c) the lack of teacher's pedagogical content knowledge, that is the knowledge of mathematics (what) and of teaching mathematics (how) [9, 16, 15] and (d) the disparity between teacher's content knowledge and students' perception about the content [5] . Due to teachers' lack of proficiency, learners struggle with the acquisition of mathematical concepts, and ultimately fail a module such as IE.

Given the ineffectiveness of the traditional lecturing model of teaching, innovative pedagogical

models involving active learning [3], and employing case-based, problem-based, and project-based methodologies, have been introduced to the engineering classroom [6, 13, 4, 17]. The problem that has arisen applying such methodologies is that except for improving communication skills, understanding, and critical thinking, learners developed practical knowledge about one aspect of the course, the one needed to solve the problem. Essentially, these methodologies focus on teaching the process of solving problem. They do not necessarily ensure the development of other skills or an overall competence. In addition, introducing games and assimilation to teaching an engineering module has proven challenging. Though students developed awareness about the problem (what happened), they have not reached a deeper level of reasoning about it (why it happened) [7]. The question whether engineering students managed to assimilate the various aspects of the course is still questioned.

Another way of addressing the issue of improving and assessing teacher's ineffectiveness and engineering students' assimilation of sophisticated mathematical/ statistical concepts part of IE module or any other integrated module is by considering the team or collaborative teaching practice.

Team teaching, collaborative teaching, co-teaching represent a 'slightly' different content delivery methods. These methods require the presence of more than one instructor, each with a given expertise in a subject matter. Instructors, together or rotationally, synchronously or at a distance, plan, deliver or discuss aspects of the same course [12] Advantages of the method have been extensively reported in the literature. They consist in deepening learning since learners are presented with diverse views about the same subject or various disciplinary connections and various teaching styles [8].

The implementation of the method proves rather difficult. This can be rendered to problems of planning and coordinated instruction. Collaborative teaching necessitates an extensive preparation time, and regular meetings to adjust and discuss content and objectives. When delivering the course, co-instructors should share responsibilities (not compete over power) and should align their teaching styles, methodologies, and objectives in order to avoid conflict and reach matching learning outcomes.

Though team-teaching has gained a growing interest internationally, the method has never been used locally. Our aim is to locally implement and qualitatively assess a new teaching/ learning experience with the aim to raise the academic attainment of an engineering class.

3. Our approach

We begin this section by giving a representative approach diagram, then, detailing each step to clarify the first and the second teacher's roles. First, to best represent our method outline, we start by using the diagram (see Figure 1).

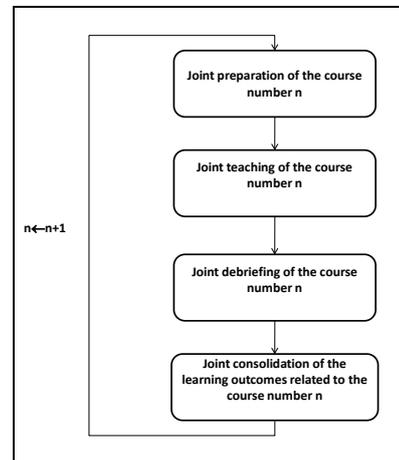


Figure 1. The proposed approach

Our approach is based on Deming wheel 4 steps that never stop in order to create a continuous improvement cycle. We assign n to a given stage (step) than increment 1 to the next one so that we create a continuous cycle. The Deming wheel is an illustration of a quality management method said PDCA (Plan-Do-Check-Act). We managed to take the four steps cycle as a source of inspiration and it proved practical:

- **Plan:**

Each teacher must prepare his/her part of the lesson in advance and ensure a full concertation and coordination with the other member by sharing knowledge, and explaining the course content, objectives, and steps to each other.

- **Do**

Each teacher presents his/her talk. Logically, the teacher of industrial engineering starts first. Subsequently, a session of discussions and reflections takes place. Following, the second teacher presents her/his talk trying to establish links with the first talk content. Of course, another session of discussions and reflections follows.

- **Check**

The two teachers discuss the strengths and the weaknesses of the talk. They compare the actual results, which are studied in the "DO" phase, against the expected results predetermined in the "PLAN"

phase. By focusing on the discrepancies in the results between what is expected and what is obtained, they can easily opt for an appropriate plan of execution.

• **Act**

The “Act” phase is based on collecting information. During this phase, if the group finds that the Check shows that the Plan executed in the Do phase reveals an improvement from the previous standard, it consequently becomes the current standard. But, if the Check proves the contrary, the current standard remains the same. In fact, this step always brings new methods of learning and thinking.

Figures 2 and 3 below simplify the concept.

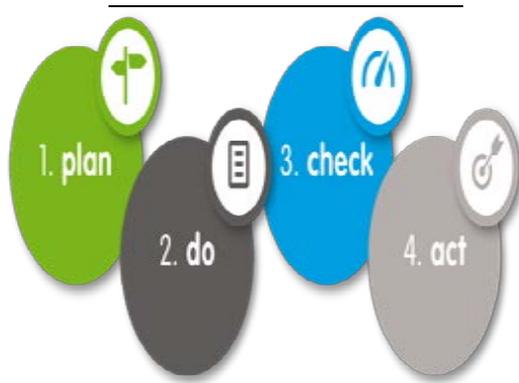


Figure 2. The PDCA approach

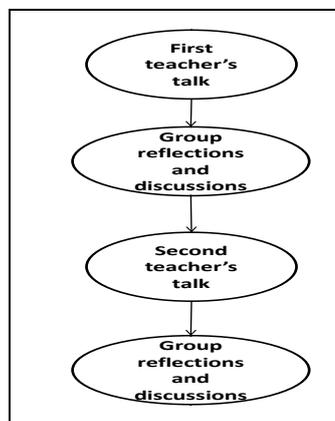


Figure 3. The Do step

4. Validation

For this first experience, we have experimented on three themes:

4.1. Explaining Statistical Process Control (SPC)

Setting the context: Two boxers are fighting in the ring (see Figure4).

Questions and discussion: One of the boxers is throwing a punch, what will the reaction of the opponent be? He will:

- either predict (a move) when seeing the punch coming, and consequently dodges it. This is how he avoids the punch.
- Or he will not predict as he does not see the punch coming, so, he will not dodge it. Ultimately, he does not avoid the punch and gets hit in the face (the punch leaves hematoma).

Conclusions: foreseeing can be applied in production. In fact, problems pertaining to quality should be foreseen before they occur and cause losses. There exists a powerful theoretical tool allowing to control production and predict quality problems which is Statistical Process Control (SPC). SPC is mainly based on statistical concepts and control charts.

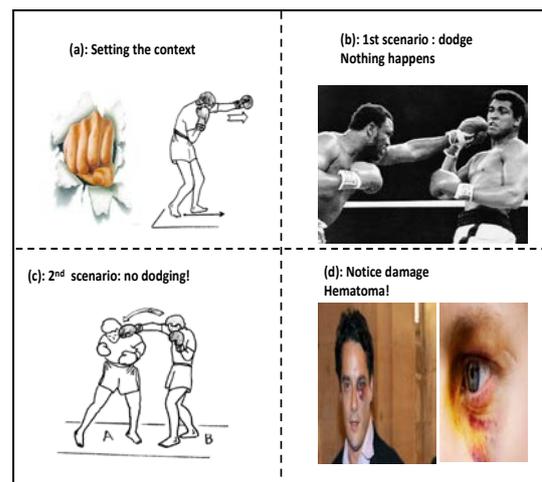


Figure 4. Explaining SPC tool

Theoretical context of SPC: Statistical process control (SPC) is a method of quality control in which statistical methods are employed. SPC is applied in order to monitor and control a process. Monitoring and controlling the process ensures that it operates at its full potential (see Figure5). At its full potential, the process can make as much conforming product as possible with a minimum (if not an elimination) of waste (rework or scrap) (see Equation1).

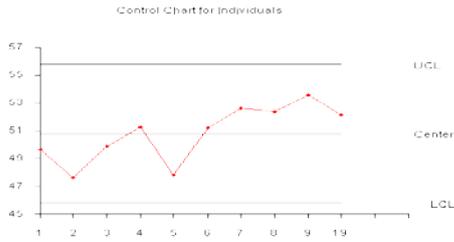


Figure 5. SPC is based on control charts

$$\begin{aligned}
 P_{pl} &= \frac{\bar{X} - LSL}{3s} & C_{pl} &= \frac{\hat{\mu} - LSL}{3\hat{\sigma}} & \bar{X} &= \frac{\sum X}{n} \\
 P_{pu} &= \frac{USL - \bar{X}}{3s} & C_{pu} &= \frac{USL - \hat{\mu}}{3\hat{\sigma}} & s &= \sqrt{\frac{\sum (X_i - \bar{X})^2}{N-1}} \\
 P_p &= \frac{USL - LSL}{6s} & C_p &= \frac{USL - LSL}{6\hat{\sigma}} & \hat{\sigma} &= \frac{\bar{R}}{d_2} \\
 & & & & \hat{\mu} &= \text{Estimated population mean}
 \end{aligned}$$

Equation 1. SPC is based on statistical formulas

4.2. Explaining Smoothing

Setting the context: Do you remember the story of the turtle and the rabbit?

Questions and discussion: Ask students to draw a line in the velocity-time graph showing each animal's motion. The rabbit adopts a variable velocity, and allows itself to take nap during the race, while the turtle adopts a more or less uniform velocity all along the race (see Figure6).

Conclusions: The turtle adopts a uniform velocity and the rabbit adopts a chaotic (random) one. At the end, the turtle wins.

Morale: avoid a sharp variation of velocity (or other) and adopt a smooth approach. There exists a powerful theoretical tool, for forecasting, enabling smoothing production or leveling demand, which is the Exponential Smoothing (ES). ES is mainly based on mathematical concepts

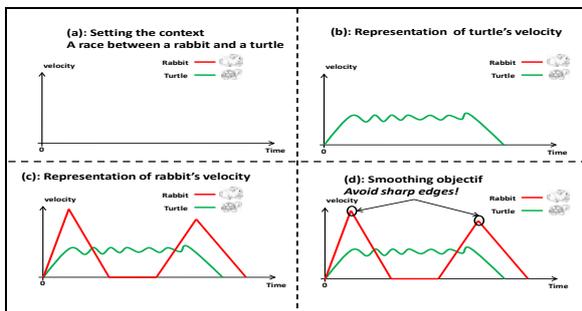


Figure 6. A funny explanation of smoothing concept

Theoretical context of exponential smoothing: Exponential smoothing is a class of smoothed time series method whose objective is short-term

forecasts. These methods are based on a fundamental hypothesis: each recent observation depends on past observations and on a random variation. This dependence is more or less stable in time. The three exponential methods are Single, double, and triple. They are used by management practitioners (in inventory management) and economists. For example the Single exponential Smoothing is expressed by this formula:

$$\hat{y}_t = \alpha y_t + (1 - \alpha) \hat{y}_{t-1}$$

4.3. Explaining Markov Chains

Setting the context: you are in the waiting room of a post office, a bank, an insurance company, etc. At first, the room is empty, and then it gradually gets filled with people (see Figure7).

Questions and discussions: ask students: how does the waiting room evolve? How do we manage priorities? What would happen if elderly people, people with special needs, disabilities, or emergency were there?

Conclusions: the waiting room case ideally illustrates the mechanism of a discrete state system. The same reasoning can be applied to production (manufacturing) system (material movement, rush order, order cancellation, etc). There exists a powerful theoretical tool that enables to determine the different status of a system or a queuing line, which are Markov Chains. They are mainly founded on mathematical and probabilistic concepts.



Figure 7. A funny explanation of Markov Chains concept

Theoretical context of Markov Chains: In probability theory and related fields, a Markov process, named after the Russian mathematician Andrey Markov, is a stochastic process that satisfies the Markov property (sometimes characterized as 'memorylessness'). Loosely speaking, a process satisfies the Markov property if one can make predictions for the future of the process based solely

on its present state just as well as one could knowing the process's full history, hence independently from such history; i.e., conditional on the present state of the system, its future and past states are independent. A diagram representing a two-state Markov process, with the states labeled E and A (see Figure8).

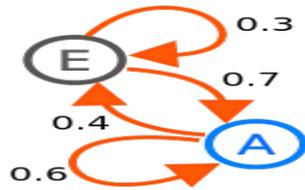


Figure 8. Markov process changing from one state to another state

Each number represents the probability of the Markov process changing from one state to another state, with the direction indicated by the arrow. For example, if the Markov process is in state A, then the probability changes to state E is 0.4, while the probability remains in state A is 0.6. A game of snakes and ladders or any other game whose moves are determined entirely by dice is a Markov chain, indeed, an absorbing Markov chain. This is in contrast to card games such as blackjack, where the cards represent a 'memory' of the past moves (see Figure9).

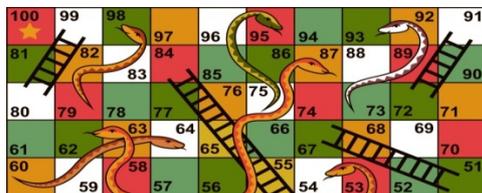


Figure 9. The game of snakes and ladders

4.4. Evaluation of the proposed approach: testimonies

Students were asked to evaluate the teaching method (a) and report about course attainment (b). A sample of students' testimonies is presented below:

Testimony n° 1:

- (a): I become very interested in the course because of the two teachers.
- (b): My understanding of the mathematical concepts becomes better.

Testimony n° 2:

- (a): I enjoyed the lectures delivered by both teachers and the way they facilitated the content.
- (b): I have better assimilated the concepts.

Testimony n° 3:

- (a): The lesson is less boring with two teachers in the classroom. I had fun with the examples.
- (b): The mathematical concept and statistical concepts are still difficult to grasp and to apply, but, the teachers helped and explained more.

Testimony n° 4:

- (a): I felt embarrassed to ask questions about the first part of the lesson with the first teacher, and I thought I would understand later with the second teacher. But, I did not.
- (b): The use of simplified examples helped me remember the concepts. I could not make progress with the maths.

Testimony n° 5:

- (a): I attend the first part of the course and quit the second.
- (b): The industrial engineering part is fairly simple to understand but the mathematical/statistical part is still very difficult.

5. Discussion

The testimonies helped us determine students' impressions about the course. They reported an overall positive reception of the new teaching method. The presence of two teachers made the course more interesting. Students also appreciated the use of simplified examples to facilitate content delivery. Still, a few students felt intimidated by the presence of two teachers and frustrated because they did not manage to assimilate the complex mathematical and statistical tools or concepts.

Concerning the course attainment, generally speaking, students reported a better performance in the industrial engineering course. The still persistent difficulty with mathematical concepts is not related to the inefficiency of the teaching method but can be rendered to a previous lack of proficiency in mathematics.

6. Conclusions and future perspectives

The collaborative teaching experience helped the two teachers share styles and knowledge, and improve their efficiencies as it helped students reach a better achievement in the course. Since it is newly implemented, the method requires more time and work to be done.

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Session 14: Global Issues in Education and Research

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Title: Exploring Student Approaches and Level of Visibility in a University Online Discussion Forums
(Author: Sello Mokoena)

Conditions for Learning in Higher Education and Work

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Abstract

Workers find themselves in changing sociocultural contexts as their workplaces are constantly influenced by the three main forces in today's society; demography, technology and globalization. Continuous developments and changes influence the learning needs of employees. Post-graduate courses at university levels have ambitions to meet these learning needs and considerable efforts are made to establish course contents that supports the needs that participants' face in their daily work practice. For post graduate courses to contribute to new competence demands in the workforce, it is essential that participants' learning benefits from post graduate education comes in to play in their workplaces. It has, however, been proven to be a challenge to share knowledge with colleagues when workers return from post graduate education. On this background the paper discusses what promotes and what hinders knowledge sharing at the workplace when employees return to their workplace after attending post-graduate education courses. In the LICE Conference presentation, we discuss what promotes and what hinders knowledge sharing by describing three rationales of knowledge sharing: (1) knowledge sharing and trust, (2) knowledge sharing and interest and (3) knowledge sharing and power. These three rationales of knowledge sharing are grounded in research findings from a three-year interview and observation study of participants in post-graduate courses for engineers at the Norwegian University of Science and Technology, NTNU.

Gender Wage Gap during the Economic Crisis: The Role of Fields of Study. Evidence from Catalonia Graduates

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Abstract

The existence of a gender wage gap in the labor market is generally assumed. Theories of the labor market explain the salary differences due to several causes related to the entry into the labor market, but they do not analyze deeply gender differences. Furthermore, there is not so much literature about a gender wage gap in the case of different fields of study. The main objective of this study is to carry out a preliminary analysis of gender wage gap among early graduates during the economic crisis to determine its main causes. For a quantitative analysis, we use data from the Employment Survey from the Quality Agency of the University System of Catalonia (AQU) (surveys, 2008 and 2014). The results allow us to conclude the following: average salaries decreased during the economic crisis; there are differences in salaries between men and women; these differences increased during the economic crisis. Furthermore, a deeper analysis shows that the differences in salaries depend, basically, on two factors: the previous gender wage gap, on the one hand, and the process of choosing the field of study by students, on the other.

1. Introduction

This study examines inequalities in the labour market higher education outcomes in Catalonia (Spain), focusing on early graduate careers, through descriptive analysis of data from three Surveys on Catalonia graduates' professional insertion from 2004, 2008, 2011 and published in 2008, 2011 and 2014.

Analyses of the impact of the economic recession on the labour market in Spain show a significant effect on the reduction of female participation rates on income and higher female unemployment ([1], [2], [3]).

Although, during the economic crisis, male unemployment rates increasing more than female unemployment rates, due especially to male employment concentration in the construction sector (with 28% of young males in 2007), the female rates continue to be higher than those of males. Furthermore, in Spain, young people are particularly

penalized (the youth unemployment rate rose from 22% in 2000 to 46% in 2012) [4]. Empirical studies also reveal a negative effect on the likelihood of forming a new household [1].

The aim of this paper is to study the relationship between gender and the wage levels of university graduates. We also introduce the relative importance of the field of study, the assigned salary in relation to the associated skills to each field of study, and to the proportion of women.

2. Theoretical framework

This section shows, firstly, some subjects associated with the literature about crises and gender labour supply. Then, we introduce some key aspects about gender inequalities, and consequently about the gender wage gap, at the transition period from higher education to entry into the labour market.

The literature on the gender effects of economic crises ([2], [5], [6], [7]) shows enduring gender inequalities. The studies highlight three general patterns:

a) intensification of female labour, both paid and unpaid, due to women's time normally being more flexible. The adjustment is particularly hard in a context of restrictive policies and cuts in social services during the economic crisis.

b) after a crisis, male employment recovers before female employment, which becomes more precarious.

c) a decline in progress towards the equality advances achieved before economic crisis is also observed. This is because in periods of crisis, equality policies are considered dispensable.

Some researchers are wondering how the present economic crisis may be altering the classical gendered behaviour pattern. The main factors behind this change might be the increase in the level of education of women, the increase in the participation of women in the labour market, and the mainstream gender policies established in the pre-crisis era [6] [7].

On the other hand, in the analysis of gender inequalities at the transition from higher education to the labour market, we can find some different perspectives. Some of them, from the point of view of Human Capital theory, suggest that inequalities are the

result of an origin-specific assessment of benefits and costs. These are associated with the education options, as well as probabilities of entering into favourable labour market positions and achieving economic success. That is, these rational choice models of educational inequality hypothesize that individuals are forward-looking decision makers who engage in a cost-benefit calculus when choosing their educational options ([8], [6], ([10], [11], ([12], [13]).

Thus, the theory offers a rational analysis that explains the link between sex composition and labour conditions and, as a result, assumes neither direct nor evaluative forms of discrimination. Its legitimacy less politically and socially contested, is based on self-expression preferences and the conception of education as a strictly economic investment.

Nevertheless, these theoretical arguments are not gender-free in that the perceptions of young boys and girls are primarily shaped by gender-role socialization, that is, they do not consider the enduring cultural force of gender-essentialist ideology in promoting gender-differentiated aspirations (female and male labelled options) and the consequent pressures associated with women's curricular choice processes.

Other researches consider the view that the choice of occupation is not gender neutral since it is derived from cultural gendered role sorting, strongly embedded within men's socialization patterns ([14], [15], [16], [17]). Educational and occupational positions are perceived to be intrinsically masculine or feminine, and these beliefs result in gender differentiated dispositions and expectations.

From this perspective, some theories have been suggested from the perspective of self-selection field of study and occupation process ([15], [16]).

The studies also show that the transition from education to a stable job is shorter for males than for women in European countries. Furthermore, they demonstrate that that has negative effects in women's future wages and women's professional careers ([18], [19],[20]). From a gender perspective, this might increase the possibility that women could have full-time care roles.

Consequently, labour market insertion during an economic crisis is clearly worse than at any other economic conjuncture, because unemployment is high [21]. These conditions allow employers to demand greater flexibility. Furthermore, cuts in the welfare system have different effects depending on gender, age or generation. The effects are, in general, deeper for women ([1], [2] , [3] ([5], [6] , [7] [22]).

3. Data and methodology

The empirical analysis used in this study has been based on databases from the four AQU Catalonia

Surveys on Graduate Labour Market Outcomes carried out in 2008 and 2014. A population of more of 25,000 graduates has been analyzed, with a female share of about 60 percent.

The survey contains questions regarding the graduates' socio-demographic features (gender, age), their fields of study, the transition from university to the labour market (waiting period till labour market entry, application forms) and their current employment situation (age, working time, job specification, industry).

Fields of study have been divided into seven groups:

- Arts and Humanities
- Philology
- Social Sciences
- Education and Communication
- Sciences
- Health
- Technology

We have used quantitative methodology, analyzing data through descriptive statistical tables, using SPSS.22 to analyze data.

4. Main results

Average monthly wage data and average annual wage data have been used; the annual data has been divided into eight wage levels, as shown in Figures 2 and 3, using data in both cases and for both sexes. In all cases, we use the salary data with regard to graduates, four years after obtaining their university degree.

The adjustment to the economic crisis has had a clear impact on the wages of workers in Spain and, consequently, also on that of university graduates. Figure 1 shows the monthly average wage of graduates who entered the labour market four years prior to each survey: from 2004 to 2008 and from 2010 to 2014. This is what we would call the average insertion wage. The average monthly wage of all graduates fell by 14.3% between 2008 and 2014. The fall in average wages of graduates is probably higher than the fall in average wages of all workers. This is because, in the case of graduates, this is their insertion salaries. Therefore, we are comparing insertion wages at two different moments. In any case, the impact was greater among women than among men. Indeed, women's average salary decreased by 17.8%, while that of men fell by around 10%. As a result, the gender pay gap increased from 15.2% in 2008 to 24.2% in 2014.

Figures 2 and 3 show the change in average annual wages during the economic crisis for different amount of wage A comparison of both graphs confirms a deep wage reduction between 2008 and 2014. Indeed, all bars corresponding to salary levels above the €24000

range have reduced their length in 2014 compared to 2008, whereas bars indicating wage levels below that figure have increased their length between the two periods.

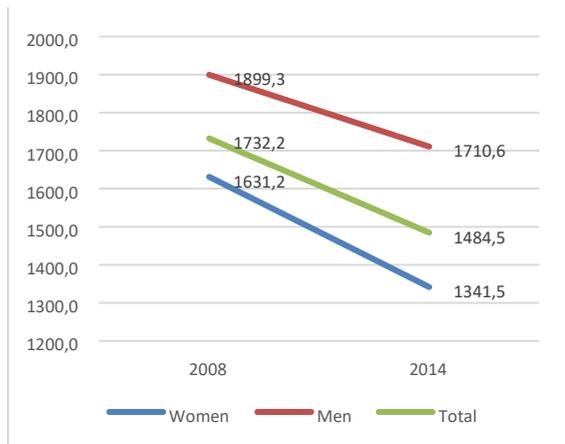


Figure 1. Average monthly wages, 2008-2014 (Source: AQU Catalonia and own elaboration.)

In summary, the percentage of people who received an average salary over €24000 in 2008 was 33%, while 6 years later it was only 23.5%, with a shift in the level of bars towards the left of the graph: a reduction of the length of the bars on the right hand side and an increase in the length of the ones of the left hand side.

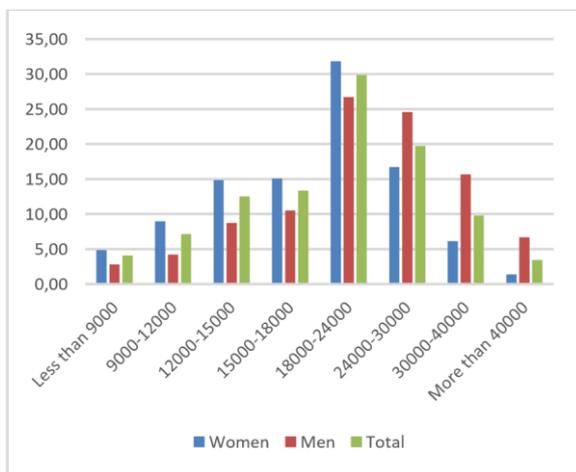


Figure 2. Percentage of people earning different levels of salary, 2008 (Source: AQU Catalonia and own elaboration.)

Comparing change by sex, we can see that women have experienced the same change but to a great extent than the corresponding percentages for men. Thus, while the percentage of men whose annual salary exceeded €24,000 went from 47% in 2008 to 35.5% in 2014, that of women on the same salary level went

from 24.3% to 15.6%. Obviously, the percentage bars of women at each wage level shifted in importance towards the left-hand side of the chart to a greater extent than those corresponding to men.

As a result, women, who already had lower average incomes before the economic crisis, have seen their incomes deteriorating, and their disadvantage in relation to the male wage level increasing. Thus, the economic crisis has harmed all the workers who have entered the labour market during this period, but especially women.

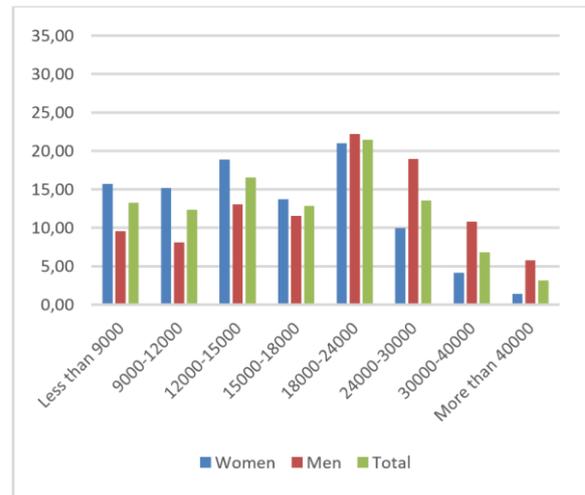


Figure 3. Percentage of people earning varying levels of salary, 2014 (Source: AQU Catalonia and own elaboration.)

The economic crisis has had a deep effect on the fall in insertion salaries and the opening of the gender wage gap. However, this is not the whole explanation of the phenomenon. The specialization in terms of fields of study and the level of salaries earned by employees in each field of study, allow us to determine largely the main causes of the wage differences between the sexes, as well as the change in the wages earned by sex and thus, the differences between sexes.

Graphs 4 and 5 show the choice of field of study by university graduates in 2004, who responded to the 2008 survey, and 2010, who responded to the 2014 survey. The bars indicate the percentages of graduates in each field of study by gender over the total in each sex. The most remarkable fact is the large difference in the percentage of women and men over the total in each case, in three areas: Education and Communication, Health and Technology.

Finally, Figure 6 shows the average monthly salary levels of graduates of each field of study, as well as how they changed during the analyzed period.

We can highlight two aspects of this graph: the decreasing change in average wages in all cases, and the wage differences between employees in the

different areas. There has been a fall in the average wage, following the general tendency observed at the beginning of this paper.

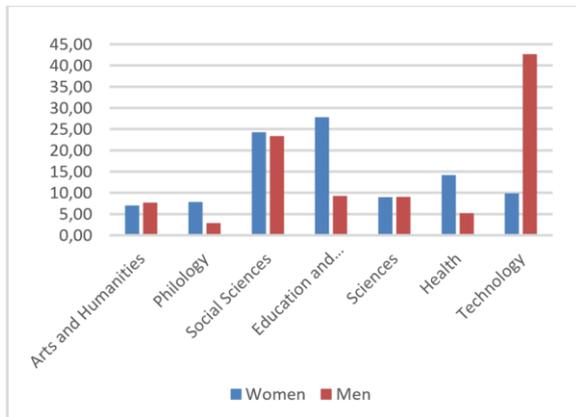


Figure 4. Graduates by field of study and sex, 2004-08 (% over the total) (Source: AQU Catalonia and own elaboration.)

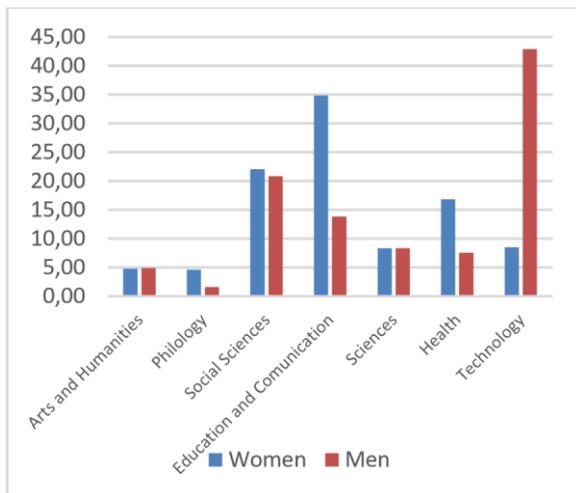


Figure 5. Graduates by field of study and sex, 2010-14 (% over the total) (Source: AQU Catalonia and own elaboration.)

However, the fall has been greater at the lower wage levels than in the higher wage levels; consequently, this change has led to an increase in the average wage differences between areas. Indeed, while the difference between the average salary of those employed in the Technology area and that of Arts and Humanities employees was 37.9% in 2008, this difference increased to 48.6% in 2014; In the case of Technology and Education and Communication, this difference increased from 26.4% to 37.6%.

Consequently, specialization in a field of study is a determinant of earnings. As we have noted earlier, men in particular have tended to specialize in

Technology as a field of study, with higher average wages, while a great percentage of women have been oriented to other areas (Health, Education and Communication, or Philology). This academic orientation clearly determines the wage differences between genders. The fact that some of the more "feminized" fields of study, such as Education and Communication or Health, are heavily dependent on the public budget, has determined that they have been subject to wage restraints due to the fiscal adjustment made during the economic crisis.

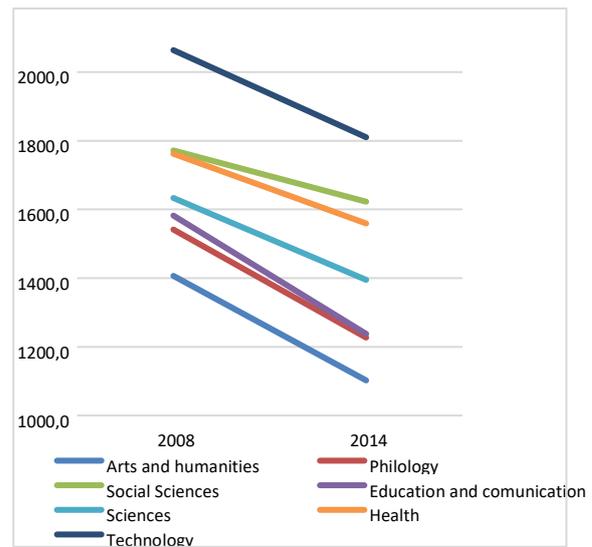


Figure 6. Average monthly salary during the crisis by fields of study (Source: AQU Catalonia and own elaboration.)

5. Conclusions

There are important salary differences among the fields of study in which university graduates specialize, so that graduates in Technology receive higher salaries than those specializing in other areas.

The crisis has had a negative impact on the salary of graduates in the insertion process: graduates who have entered the labour market during the period of economic recession, have seen their salary fall compared to that of their colleagues who entered the market six years earlier.

In addition, the economic crisis has deepened the salary differences between the different fields of study, especially between the Technology areas and the Health, Education and Communication areas, the latter being affected by the fiscal adjustment made during the economic crisis.

Consequently, the economic crisis has had a greater impact on the remuneration of female university graduates inserted during this period, in that their salaries have fallen more, in a way that has increased the gender wage gap. However, we note that

the gender wage gap is basically determined by a process prior to wage insertion. This is the process of choosing the field of study by the students. Since women tend to choose fields of study the remuneration of whose graduates is lower in the labour market, this becomes one of the main determinants of the gender wage gap.

Finally, we would suggest that policies oriented towards a reduction of gender stereotypes might lead to some reduction in the gender gap.

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Educational Empowerment or Secondary Victimization of Battered Women at Support Institutions: Approach of Specialists

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Abstract

Violence against women is a worldwide phenomenon. Unidentified and undefined by society, violence poses a threat to women's life, physical well-being, psychological integrity and freedom [28], [16]. In most of the cases women experience domestic violence. Domestic violence is named as hidden phenomenon. Its great latency manifests when violence victims are liable to suppress experienced domestic violence and its harm. Thus comprehensive help and prevention must help women to refuse the position of 'a victim' or to avoid their becoming victims. Educational assistance is usually provided for women at support institutions that are governmental organizations or NGOs. However, following questions have not been adequately discussed: what are the characteristic features of educational environment developed at those institutions; can education cause secondary victimization of battered women as a reverse effect and thus disempower rather than empower at support institutions? The above questions define the research problem of the paper.

1. Introduction

Since the 1970s, violence has been globally recognized as a significant social problem [17], [11], [9], and domestic violence is one of the most important problems in modern states [14] relevant to societies of all cultures, religions, or demographic characteristics [2]. Domestic violence is no longer a problem of society's health: globally it has been evaluated as a social and public security problem demanding complicated solutions and complex discussions [21], [18].

A man's violence against a woman in an intimate environment comprises the mostly spread type of improper behavior in the family (followed by domestic violence against young children) [9]. The most widely spread form of domestic violence against women is physical abuse. Women who have experienced domestic violence comprise a much higher number than women who have been assaulted

and robbed, raped by strangers, got in traffic accidents as a total. Realizing, how complex and sensitive the problem of domestic violence is, how complicated intervention into the family life and its conflicts is, it is important to note that the views of researchers and practitioners often differ [18].

It is a little ironic when most women seek independence, self-realization and responsibility for their own destiny, and battered women tend to be dependent, passive and seek for emotional and physical support. This kind of women finds it difficult to change in all respects and take responsibility for their own lives. To achieve positive changes in private lives of battered women, providing social, legal and psychological help is not sufficient. Helping women to reject the position of a „victim“, educational empowerment is needed as well [3].

The paper analyses educational empowerment of battered women. Empowerment is not the result of provided social, legal and other services. It does not take place with provision of service only. Engaged in the process of empowerment, women can themselves feel that they have control over their lives. Empowerment of women means not only access to resources, but most importantly, acquiring skills to more effectively solve the problem of violence in future.

Educational assistance is usually provided for women at support institutions that are governmental organizations or NGOs. However, following questions have not been adequately discussed: what are the characteristic features of educational environment developed at those institutions; can education cause secondary victimization of battered women as a reverse effect and thus disempower rather than empower at support institutions? The above questions define the research problem of the article.

In order to reveal what kind of education for battered women takes place at support institutions: empowering or disempowering, a qualitative study was conducted at five support institutions for battered women. The paper presents a part of research demonstrating educators' aims and knowledge that are provided to battered women, and features of

women, victims of domestic violence, indicating that changes caused by educational empowerment are taking place in their lives.

2. Theoretical framework

2.1. Battered woman as socially excluded group

Violence is an inseparable part of history of the humanity, and, unfortunately, a continuous phenomenon of everyday life. Therefore, it becomes a regular research object for researchers [19], [23]. Domestic violence includes a man's violence against his wife or partner, a wife's or partner's – against the man, parents' – against children, violent relations between the father and daughter, the stepfather and stepdaughter, and conversely, violence among brothers, sisters, grandparents and partners [Michailovič]. Domestic violence in a wide sense involves different forms of violence that is displayed between parents and children, spouses themselves and other family or domestic environment members. In addition, researchers [24], [25], [26] analyze violence against the elderly, which is a taboo in society, nevertheless, it is often used again persons who cannot take care of themselves and are dependent on others. Gangoli and Rew distinguish as domestic violence the violence of mothers-in-law against young wives of their sons, and Kurst-Swanger, Petcosky – violence against pets [8,16].

While evaluating the relevance of the problem of domestic violence against women, frequency and damaging consequences, this paper will concentrate on domestic intimate partners' violence against women. A woman who has experienced domestic violence in an intimate environment could be defined as the one who has suffered abuse (psychological, physical, sexual, economic, and also neglect).

Based on Boeckel, Blasco-Ros, Grassi-Oliveira, Martinez, Yamawaki, Dirsiene, Reikertiene, a victim suffering abuse from a spouse or partner develops the following characteristic features: loneliness, total isolation and separation, loss of self-confidence, and etc [4, 7, 27]. A woman faces the following cultural-psychological factors such as: stigmatization, powerlessness, degrading and ignoring. Therefore, victims of domestic violence are afraid and are embarrassed of publicity. Weak social links condition a woman's distancing from social values; she is little involved in community and social life. A very strong effect is made not only by emotional dependency, but a woman's helplessness occurs due to economic reasons as well [1]. Violence against a woman also determines her economic status as well – it has effect on both her educations and position in labour market. Sometimes the victim has nowhere to go and stays with her abuser.

Thus, a full complex of presented features demonstrates that women who have suffered domestic violence could be distinguished as a social divide group. The fundamental strategy for diminishing social divide is social inclusion. Social inclusion is directly related to empowerment, especially the educational one.

2.2. Educational empowerment of battered women

Empowerment of battered women as empowerment in general, can be understood as both a process and a result [19]. For example, a woman-victim could take up certain actions to ensure her security. Having evaluated her efforts, she could notice that to ensure her security, certain resources (financial means, residence and other) are needed. Then a battered woman will put efforts to obtain those resources and with progress assessment will set further goals. Within this scenario recurring steps of needs assessment and action planning takes place. Nonetheless, during this process, one could pose a question: to what extent does a woman-victim feels empowered (what is the result of each stage)? [6].

Kasturirangan notes that in seeking for empowerment of battered women, firstly it is necessary to emphasize empowerment as a process in which women themselves take part [15]. Empowerment cannot be treated as a result of social, legal and other services provided. Women involved into the process can feel that they can control their own lives. The process may differ depending on the individual features of each woman and the context. It is necessary that during the process there was access to all needed resources.

According to Cattaneo, Goodman, empowerment of women in one aspect does not ensure that they will be empowered in other aspects as well (career, motherhood, etc.) [6]. However, these aspects may impact each other.

Over the past 20 years a wide range of institutional support means for battered women have been developed. Although developed social programmes mention the term empowerment, it is sometimes identified with the provision of social, legal and psychological support, actions taken for the victim to ensure her security [15]. The methods of support are standardized, the partnership between the specialist and the woman is replaced by a defined support model regardless of unique characteristics of the victim, the environment and expectations [26]. The true meaning of empowerment is lost, instead an opposite process of the victim's disempowerment takes place [Kasturirangan].

Battered women are not a homogeneous group. However, institutions providing support to battered women operate by a standard manual of services. The latter most often corresponds to the mission carried

out by the organisation and does not meet unique circumstances of battered women and future objectives. Thus, in the process, the priority should be on the needs of a victim and not on the services of an institution [10].

The process of educational empowerment is “a two-way negotiations object“ under the supervision of an educator, rather it is one with the contribution of the learner. It is necessary to learn sharing power which could be achieved not simply by methods applied but also by relevant educational content. Empowering content helps ensuring creation of learner’s life, prepares her for life and independent decision-making.

Jucevičienė (2008) characterises empowering educational environment of this kind of learning by the following parameters:

- 1) Educational aim;
- 2) People needed for realisation of educational aim;
- 3) Learning abilities of learners;
- 4) Educational content relevant to educational aim;
- 5) Educational content as presented information, methods of its communication and means (material and virtual);
- 6) Physical space and its objects corresponding to educational aim and conditions of its realisation.

3. Research methodology

A qualitative research study was conducted in March, 2016 – January, 2017 in five support institutions for battered women in three Lithuanian cities: Vilnius, Kaunas and Klaipėda.

Partly structured interviews were conducted with ten employees from support institutions, five of which were managers and the rest were consultants, psychologists and social workers. The first six research participants were selected by the principle of convenience, improbability sampling, and the remaining four were selected by using “snow ball” method.

Research participant were asked structured questions, which were supplemented by specific questions, or by changing their sequence, depending on answers provided by a respondent. The questions were based on parameters describing empowering educational environment. Research participants were asked questions related to educational aim, educational content and results of educational empowerment. Principles of ethics were respected during the research: goodwill, respect to person’s dignity, fairness, confidentiality and right to get accurate information. The duration of interviews was from 19 minutes to one hour and 38 minutes.

Research data were analysed using content analysis and were divided into categories and subcategories and illustrated with supporting statements.

4. Results

Next, the paper presents the part of conducted research results analysis revealing the following: aims of educators, knowledge provided to battered women and features of women who are victims in intimate environments indicating that changes, caused by educational empowerment process, are taking place or not in their lives.

4.1. Educational aim

Following the answers provided by the respondents, they mostly seek for independence of battered women: “To be independent women. To be able to think freely...” (1) the independence of a battered woman can also manifest in her possibility to choose”. Next to a woman’s independence, the respondents name a woman’s striving to be responsible for her own life: “... we want ...responsibility, that they could be responsible for themselves and their children...” (1) “the aim is to understand that they can live differently. To value themselves, to live and have self-confidence.” (5)

The second of the most frequently listed aims by the respondents is: empowerment of battered women to solve the situation of violence in domestic environment: “I personally seek for this, to empower them to solve the situation. “ (5) our main aim is to empower women to be independent, make decisions for their own life, take responsibility to ensure their own and children’s well-being.“ As another aim of the educator, is prevention of domestic violence: ... certainly, prevention is carried out alongside with education, for them and in the environment in which they work, or live, or study, because they ask employers to be favorable during that period, or if they are studying, to be able to match family – work life, schooling of children, help from kindergartens, as the abusers become very active, become very good parents then...”

4.2. Educational content

The key knowledge that was emphasized by the respondents during interviews – identification of a real domestic violence situation: ... during the first meeting we are dealing with the question: explaining to them that they are being abused. We take them through this process of discovering it together, in particular, together, that this is not a conflict, this is violence, and they are physically abused “(7).

As the research participant state, it is very important to stress to women that having identified violence, they can look for ways to avoid it: „To find out in what situation they are, where they are, in what condition they are..“ (1). When a battered woman recognizes a violent situation, they stops blaming herself: „And when she can see and read that this can

really be experienced, then they have no doubts – yes, that was violence! As sometimes they think and blame themselves: me!“ (2). Battered women have to understand that violence in intimate environment will repeat again: „of course, during the conversation we already warn them, that this will not end. As they think this has happened only once or twice and will stop. We know from our experience that it will not.“(5).

Alongside with practical knowledge about domestic violence, the women get theoretical knowledge – what domestic violence is, what kinds of it exist, how dangerous it is: „What violence is, what of that, that it is not safe to be in a relationship like this, to bear with it“(8); how to identify different kinds of violence: „...to help, that what happens to you is psychological abuse, which is penal as well...“ (3). Another group of knowledge indicated by the respondents – security of battered women. It has to be emphasized to them that when a threat of violence occurs, they have to call police: „...we always encourage them to call police if something starts developing. This is a thing that we repeat over and over again, that the first your action is a call to the police. That they must come...“ (4). Among the key knowledge emphasized by the respondents is legal knowledge – “the woman has to know how the Law on Domestic Violence works. What will happen to that man...“ (6); what the rights of a battered woman is, if she decided to divorce or not to with the abuser.: „... women don’t know many things, they think that children support can be received only in the case of divorce..“ (2); „Most often it is better than may seem, our laws are not that bad, after all...“ (7). To be empowered to independently solve a domestic violence situation, battered women have to learn to find needed information themselves and to use it: „... to teach them to find information and to be able to use that information in life.“ (10).

As much important aspect for the respondents was developing economic independence in battered women: „... how to survive with little money, how to shop at a low cost, how to cook at a low cost...“ (9)

The respondents also distinguish the development of battered women’s awareness – the woman has to understand why she experiences certain feelings, why she feels like this when she is around the abuser, and so on: „...to expand that knowledge so that she knew why she had certain emotions, why she feels like this, why she cannot recall something, if she is viewing herself as an object, why she is experiencing those feelings, or why she gives that power to the abuser, that he is so powerful, if she is building her relationship in the right way, why she cannot build relationships with other people.“ (10).

4.3. Changes faced by Battered Women

The most often indicated features by the respondents about changes in battered women are the following: activeness, engagement, changes in appearance, self-confidence and the feeling of personal power.

Self-confidence – it is important to notice that after intervention, battered women feel stronger when they decide to solve the problem of domestic violence: “This most often can be sensed when a person tries to free herself from that abusive relationship, then their self-confidence starts growing, that there is somebody who will help, perhaps me, myself I can change my life and live a good life. Then yes, then everything turns into the positive direction...” (5), even if she decided to stay in the family, not to get a divorce: let’s say, she stays in the family, does not divorce, bet the woman stands her ground, her will, is able to say no in certain situations draws limits and expresses her opinion.” (8). A battered woman no longer admits blame for the violence that happened: “She realized that she was not to blame and everything can be solved” (1).

The sense of power – “she starts thinking: what feeling am I experiencing, or how is it going – there are indications that she is doing something... the woman starts recognizing why she is feeling like this, where those feelings are coming from, in what relationships, in dealing with which kind of people, and this already is the beginning of power, its recognition...” (10). A battered woman become more open: “no longer closed, she has what to say” (1); “One can tell from the look at her face, that a person has changed and is interacting in a different way, she is more open, one can tell that even from the way she enters the room, it is easy to sense.” (5). She starts interacting more: “...she socializes more, is no longer closed, and has what to say. It is so difficult to get into that contact when she would come at the beginning, still in a bad condition, difficult, and then we would go and invite, try to get things moving, and then later, she comes on her own initiative, even starts visiting too often, she wants to say something, to ask something...” (1). A battered woman also gets more active – “she gets a wish – perhaps you have something to read? Are there any events during the days off?...”(9). A battered woman gets a wish to participate: “She participates in activities,..., regained her strength, she would participate in support teams, and would help others..” (1); she gets a wish to help other women: “And we sometimes make our clients so super socially active, who consult others and bring other clients to us, one says I am working and I can see that this is your client, they become a sort of experts. Not only in a sense of problem identification, but also in a sense of solving it...” (9).

Another feature demonstrating changes in a battered woman, are the changes in her appearance:

„The woman starts changing, starts taking care of herself, pays attention to herself, cares about her looks.“ (8); Needs that were not present before, emerge – there were only kids and the husband, only silently, to cover up, that nobody could find out, bruises covered by powder and sunglasses. And later, “I“ emerges. “ (9)

The fact of a change in a battered woman reflects in a new attitude of her kin: „, And her two kids were on her side, one was on her side, and then those kids returned, returned to her. She just completely changed...“(2);

5. Discussion and Conclusions

The research has revealed that staff of support institutions seeks for the independence of battered women, which is illustrated by the possibility for a woman to choose, live the way she wants and take responsibility for this. An important feature is women’s self-study – battered women have to realize that neither she nor her children should endure domestic violence. The respondents indicated that their aim was to empower battered women, which is linked to becoming a master of her own life – rebuilding independence, self-confidence, control of her own life, also a women’s power to identify the phenomenon of domestic violence and to find sources of help. As Mears (2003) argues, the victim of abuse can become the agent of changes in her life. What is important is that a woman is able to take decisions herself. As it has already been mentioned, empowerment in particular makes a direct impact on her ability to control her own life, possibility to make influence on her surroundings, and personally or in cooperation to solve the problem of domestic violence. It is also important to take into consideration a fact that when a battered woman asks for help; she in principle is seeking to regain the possibility to control her life, which had been taken away from her by the abuser [29].

When discussing knowledge provided to battered women, the research showed that it has to be both theoretical (including the understanding of the concept of violence, dynamics of violence), and emerging from the need of a real life situation of a battered woman- the woman has to be able to identify abuse taking place in her intimate environment and to know ways how to avoid it. However, it is important to emphasize that what is appropriate and needed for one woman, may be of no relevance and need to another. Therefore, an individual package of knowledge has to be adapted to every woman in respect to her personality, the kind of violence she experienced, the context, needs and similar aspects. Certain elements of educational content may be common, but each unique case of a battered woman will bring changes in the contents it will have to be individualized, depending on the typology of the

battered woman and her educational abilities. Certainly, the difference will be not in the knowledge provided, but the ways and methods of presenting it.

The process of empowering battered women is related both to internal and external changes of the woman [5]. In order to evaluate the process of empowerment of battered women, one should respond to the following questions: Is there any direct influence made on the psychological condition of women? Does the woman really feel safer? Does she have more control over her life? Have conditions changed in her family, community, culture or country in a way to ensure a woman’s security? It is not easy to answer these questions, but these aspects in particular may be the key indicators of empowerment process efficiency [15].

The research has demonstrated that, as a result of support, internal changes of battered women became firstly visible: self-confidence, openness, activity, a need for communication. The mentality of battered women changes as well – she no longer admits blame for domestic violence. Battered women change externally – they start taking care of their appearance. Environment of the woman changes as well, the kin of battered women start to understand and support the victim. A sense of battered woman’s power manifests itself – the woman starts to identify her feelings and to evaluate the situation realistically. She develops a wish and ability to help other women, which, according to Hall (2000) is one of the most significant indicators of empowerment for battered women. Empowered women tend to share their achievements and interests. Certainly, the increase of a woman’s power depends on her individual abilities and her uniqueness.

Research results did not reveal the applied standardized models, giving priorities to institutional needs, their standard guideline; in addition, the dependence of battered women on encouragement from the organization, juxtaposition of personal opinion on solutions of the educator to that one of the victim’s, which in turn would condition the disempowerment of domestic violence victims, or even secondary victimization. The methods of support provided are not standardized, a partnership between the specialist and the woman is encouraged, and the attention is paid to unique characteristics of the victim, environment and expectations.

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Exploring Student Approaches and Level of Visibility in a University Online Discussion Forums

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Abstract

The introduction of technology and the internet has provided new methods for learning and teaching, with many institutions of higher learning adopting e-learning techniques. A popular e-learning technique adopted by open distance learning (ODL) institutions is the online asynchronous discussion forum which is a technology-based technique through which the transfer of tacit knowledge is facilitated by ensuring interaction between students and lecturers. However, different persons have different approaches and strategies towards their personal learning in online discussions forum. This paper explores student approaches towards learning in a University discussion forum site. The study involved analysis of the students' participation and engagement with tasks posted on a University discussion forum site. A grounded theory approach was used for data analysis. The findings revealed different types of interactions and highlighted different levels of individual participation and engagement in the online discussions. The results of this study highlighted that individuals engaged in various ways during the learning process in online discussions. The findings of this study could help e-tutors and lecturers of online discussion forums to look at individual roles more closely in order to understand and support personal learning in the online discussion process. Getting to know more about individual roles and dispositions would potentially benefit in distinguishing negative attitudes and learning approach.

Session 15: Ubiquitous Learning

Title: Online Annotation Tool to Enhance Cohesion in Writing
(Author: Suryani Atan)

Title: Virtual Andragogy: Designing and Facilitating Transformational Online Learning for Adult Students
(Authors: Kimberly Greene, Lynn Larsen)

Title: Vygotsky Social Development Theory as a Theoretical Framework for Understanding Access to and Utilization of Information Resources and Services to Online Learners in Resource Constraint Setting
(Authors: Gani Esther, Abdullahi I Musa, Abdulkareem Abubakar, Allahmagani Khali, Zaki Douglas Susan)

Title: Perception of University Students Towards the Role of Social Networking Sites in their Academics
(Authors: Hamid Ikram, Tayyaba M. Akram, Aisha Manzoor, Fatima Aziz)

Online Annotation Tool to Enhance Cohesion in Writing

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Abstract

This paper presentation aims to share research findings and experiences of schools who conducted a research project in collaboration with Technologies for Learning Branch, Educational Technology Division, Singapore Ministry of Education in 2016. The project aimed to investigate the effectiveness of using the annotation tools in the 10'M portal in improving students' ability to write cohesively. It was used in conjunction with a specially designed lesson package that focused on connecting ideas in composition writing. This study complemented the [3] Malay Language Syllabus that required students to be able to write cohesively at upper primary level. The study was implemented in 10 schools by 12 teachers to 300 Primary 4 students age 10 years old. This project was designed to address the lack of writing skills in students to connect their ideas in a cohesive manner as lamented by teachers. This anecdotal evidence were further affirmed by a discourse analysis of their students' compositions before intervention. Quantitative findings from the discourse analysis showed very little or non-existence of any discourse devices that connects ideas between sentences or between paragraphs. 10'M Portal is a portal developed and managed by ETD to support experimentations in the teaching and learning of the Malay Language with the use of ICT. The annotation tool available in the 10'M portal allows students to highlight and add comment or suggestion without modifying the original text itself. The tool can be thought of as a layer on top of the existing text and this annotation layer is usually visible to other users who share the same portal, therefore supporting collaborative learning among students. The tool allows students to identify cohesive devices used in a text, comment and suggest suitable cohesive devices, and also exchange ideas during online collaborative activities. It was observed that the tool has motivated students to make their thinking visible, engaged them during lessons, and enabled them to improve on their own compositions based on peers' feedback. The specially designed lesson package focused on cohesive devices such as 'additive', 'adversative', 'causal' and 'temporal'. The content was guided by Systemic Functional Linguistic [5] and an adapted cohesion model of Halliday and Hasan [4], Sanat [7], and Nik Safiah [6], to suit the needs of the Primary 4 Malay Language students. The lesson package included pedagogical structure that foregrounded scaffolding. After frontal teaching of concepts, a 4 steps structure would follow - identify, select, construct, write. Firstly, students would identify the cohesive devices in a given passage. Secondly, they would select suitable cohesive devices to fill in the blanks of a given passage. Thirdly, they would construct at least two sentences and link the ideas by using cohesive devices. Fourthly, the students would write compositions and conscientiously use the cohesive devices that they have learnt. The lesson design made learning more fun with ample scaffolding, individual and collaborative learning opportunity. Impact on pupils was captured through various means such as lesson observations and discourse analysis, showing positive behaviour and the ability to write cohesively and extensively. For example, findings from lesson observations showed that students were highly motivated in their learning. They were comfortable in using annotation tool for the purpose of identifying, editing and providing insights for individual work and also for collaboration among peers. In addition, they were observed to be

enthusiastic, engaged and diligent. Findings from the discourse analysis of students' compositions showed an increase in the number of correct use of cohesive devices. Their compositions were longer with more details and descriptions. Students were able to produce a more cohesive composition by connecting the ideas using suitable cohesive devices.

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Virtual Andragogy: Designing and Facilitating Transformational Online Learning for Adult Students

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Abstract

Adult learners bring vast amounts of experience to their formal learning opportunities and, in theory, should have the maturity to stay motivated, focused, and engaged throughout their studies. Yet, in an online environment, many of the specific ideals laid out by Malcolm Knowles, the father of Andragogy, (i.e., the art and science of teaching adults), can easily get lost. Focusing both design and facilitation on what we at Brandman University's School of Education define as Virtual Andragogy, requires an authentic paradigm shift in what is often considered best practices by those creating online learning and teaching such courses. This examination of a new framework for serving the twenty-first century needs of adult learners offers multiple small, but meaningful, andragogical changes designers and instructors can bring to their practice that have proven to be empowering for adult learners in measurable as well as immeasurable ways. Hard learned lessons of the value of Virtual Andragogy as a guiding philosophy for higher education professionals are deconstructed alongside quantitative data as well as qualitative feedback from adult students and Brandman faculty.

Adult online education is one of the fastest growing segments of the entire educational world; yet, to date, the existing literature of how best to design and facilitate such learning for those outside of the primary, secondary, and undergraduate population has been scattered and piecemeal. A perfunctory examination of published research over the past several years demonstrates a great lack of focus in even knowing where to begin start in understanding the instructional specific needs and issues of this demographic. One of the greatest challenges to a thorough exploration of what theories, tools, and practices could be identified as best practices for serving these adult students is that there is a lack of a clear theoretical framework. A model is needed, one that juxtaposes cogent knowledge of adult learners with the affordances of digital tools and virtual educational opportunities to craft a new framework that authentically enables course designers and instructors to meet the needs of both the individual adult student and the objectives of the field of study. Rather than trying to modify existing pedagogical truisms, a new paradigm, Virtual Andragogy, is proposed to meet this need. Building upon the work of Malcolm Knowles, Beverly and Etienne Wenger-Traynor, Albert Bandura, and Linda Polin, Virtual Andragogy offers all engaged in the process of online, adult learning, a shared paradigm and nomenclature for harnessing the strengths and mitigating the issues that often impede the affective, behavioral, and cognitive growth of today's twenty-first century adults seeking formal academic studies beyond the undergraduate level.

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Vygotsky Social Development Theory as a Theoretical Framework for Understanding Access to and Utilization of Information Resources and Services to Online Learners in Resource Constraint Setting

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Abstract

Online learning has become increasingly common in educational institutions. A critical component of online learning is the provision of information resources and services to online learners. While studies exist about information services for online learnings in developed economies, limited research exist in regard to information resource and services for online learning in resource constrain settings. Grounded in Vygotsky social development theory, this study investigates the use of information by the online learners. This study was framed in interpretative epistemology. A qualitative methodology and case study research design was adopted. Interviews were conducted with 11 online learners located in resource constrained setting in Africa—the National Open University of Nigerian, Kaduna study center. The study used thematic analysis process to identify 111 narratives. The narratives are organized into 5 major categories and further collapsed into three theoretical constructs explaining access and utilization of information resources and services by the online learners.

1. Introduction

Online learning is receiving lots of attention in higher education [1], [2], [3]. In developed countries, online learners have taken advantage of information resources and services offered by libraries for improved learning outcomes. Two critical issues are of recurring concern for online learners in resource constrained settings: the absolute nonuse, and the marginal use of information resources and information services offered by academic libraries in support of online learning [4]. The absolute nonuse and marginal use of information resources and services result in poor comprehension and poor learning outcomes [6], [5].

Although studies were conducted aimed at having a better understanding of information resources and services in an online learning environment; the problems of absolute nonuse and marginal use of information resources and services still remain [4], [8], [5].

Improving optimal access and utilization of information resources and services in online learning environments in resource constrain setting calls for a fresh perspective. A potentially useful perspective is to embed librarians as instructive participants in an online classroom with the intent of providing scaffolding information support services to online learners. Librarians as scaffolders in an online classroom offer the much-needed academic support services to online learners. In education and learning, the concept of scaffolding support services has been advocated by scholars for decades. For instance, Banduras and Vygotsky social learning theories have stressed the critical need for a scaffolding during the learning process [10].

This study raised four fundamental questions: How do online learners in resource constrain setting access information resources in an online environment? What pedagogical challenges do online learners encounter in accessing and using information resources in resource constrain setting? What typologies of professionals do online learners consult for support during online learning in resource constrain setting? How does Vygotsky theory explain the role of librarians as scaffolders in an online learning environment?

This study has conceptual, and pragmatic significance. Conceptually, findings of the study are translated into a theoretical framework depicting information access and use by online learners in resource constrained settings. Pragmatically, findings of the study are potentially useful to policy makers and donor agencies with interest in the area of higher education in resource constrained settings.

2. Theoretical framework

This section provides background on Vygotsky social learning - the theory adopted as a framework for the study. The section discussed an overview of the theory, followed by the construct of the theory. The section also provides an understanding of how the theory illuminate study on online information resources and services in online learning environment.

The basic concern and purpose of this theory is knowledge construction through social interaction. The theory emphasizes the importance of what the learner brings to any learning situation as an active meaning-maker and problem-solver [10]. The theory was built around some basic constructs. For the purpose of this study, all the three basic constructs were adopted: construct of MKO, construct of ZPD and construct of social interaction. These constructs are discussed below:

2.1. Knowledgeable Other (MKO)

The More Knowledgeable Other (MKO) construct is somewhat self-explanatory. It refers to anyone who has a better understanding or a higher ability level than the learner with respect to a particular task, process, or concept. The key to MKO is that they must have more knowledge about the topic or task being learned than the learner does. The MKO can raise the learner's competence through the Zone of Proximal Development (ZPD) [10].

2.2. Zone of Proximal Development (ZPD)

Vygotsky define the zone of proximal development as the distance between the actual development level and the level of potential development. In Vygotsky's theory, the level at which the learner can do or achieve a given task independently is identified by scholars as the learners' "level of actual development". It is at this level that a standard IQ test measures. More so, in Vygotsky's theory, what the learner can do in future after receiving help from MKO is known as the learners' "level of potential development". To further emphasize, the learner can only reach this level when he/she received assistance of the MKO [7], [24] meanwhile, in between the level of actual development and the level of potential development of the learner is the Zone of Proximal Development (ZPD). This refers to the level or zone at where the learner cannot successfully perform or perform with difficulties a given task unless he is assisted by MKO. According to Vygotsky [9], it is at this level that learning takes place.

2.3. Social Interaction

According to Vygotsky's theory, much important learning by the children occurs through social interaction with a skillful tutor or More Knowledgeable Other (MKO). The social interaction occurs within the Zone of Proximal Development.

Some scholars adopted Vygotsky's theory to investigate issues related to online learning, information seeking and information searching.

2.4. Previous studies that adopted Vygotsky Theory

Vygotsky's ideas have been widely applied in the field of education. Several scholars adopted Vygotsky theory to investigate online learning from different disciplines. This section discussed some of the previous studies that adopted Vygotsky Theory of social development.

Jalil et al. [12] conducted a study using Vygotsky theory to find out if tutors and students offer assisted performance within online discussion threads. The study asked the following research question: do tutors and students offer assisted performance within online discussion threads? What types of assistances are provided by both tutors and students? The study adopted qualitative research methodology and found out that, tutors remains the main source of learning support in terms of providing assistance to studies. It also ascertained that both tutors and students offer assistance, but it is more of simpler form of scaffolding and feedback [12].

A study by Paulus conducted a study on collaborative and cooperative approach to online learning in university of Tennessee, U.S.A. The study adopted Vygotsky's theory of social development [13]. Therefore, the study asked the following research questions: do small online groups take a collaborative or cooperative approach to completing assigned tasks when specifically asked to collaborate? Is there a difference in the approach used by groups completing different types of task? The study adopted qualitative methodology. Findings from the study revealed that despite instructions to the contrary, the vast majority of the discussion (61%) was not collaborative. Maintain also that synthesis groups exchanged more conceptual moves (62%) than non-conceptual moves (38%). This reveals an overall focus on collaboration.

Another study conducted by Tarman and Tarman [14] used Vygotsky theory of social development to study children's play and social interaction with the aim to discover the relevance of teachers' involvement in the process. The study asked the following questions: should teacher be involved in children play? How might play centers or classrooms be arranged and equipped? what are the types of teacher involvement? and what are the pros and cons of this involvement? And if the involvement is necessary, when and how it should happen? The study used qualitative methodology. Findings from the study revealed that early childhood teacher have important role to promote children Play; the best play time should last 30 to 60 minutes for pre-schooners and kindergarten age; teacher need provide large open space and materials that promote participation for block and dramatic play and teachers are in position to help children build new experience, extend and

enrich ideas for play as well as finding way to stimulates children's imaginative play.

3. Research Methodology

The study adopted interpretive epistemology using social constructionism research philosophical paradigm. In line with social constructionism epistemology the research adopts a qualitative methodological approach. Qualitative methodology refers to the method of inquiry employed to gather an in depth understanding of phenomenon and human behavior especially feelings or experience and the reason that governs behavior [16]. Qualitative methodology is known to be best suited for studies whose purpose is to learn from participants about their learning experience in their own settings and interpretations attach to what they experience during online learning [16]. The purpose of this study is to understand the constraint do online learner experience in identifying and accessing information resources during online learning in their own settings.

However, in this research, case study research design was adopted for the study. A case study research design selects a small geographical area or a very limited number of individuals as the subjects of study (Acker). Therefore, a case study research design is known to be best suited for studies whose purpose is to select limited number of individuals as a subject of the study [17], [18]. A total number of 11 participants were select out of 60 whom were selected through purposive technique particularly, criterion sampling. Purposive sampling involves selecting participants who are best able to help the researcher understand the problem and answer the research questions (Myer) [19]. Therefore, respondents for this study must meet the following criteria: (1) must be a student of NOUN Kaduna Center (2) Who enrolled in online education (3) in 300 and 400 level students (4) class of 2016/2017. The NOUN Kaduna Center was chosen because, through the educational subsidy that they provide, they are known as populist and community academic institutions meant for online learning.

3.1. Data collection

The data from this study was collected using in-depth interview. According to Yount [20], in-depth interview allows the researcher and participant to reconstruct the past, explain the present and envision the future. It also provides for in-depth understanding of the personal context within which the research phenomenon is located, and for very detailed subject coverage (Musa 2013). More so, it allows individuals to express their thoughts, feelings and opinions regarding the topic of the inquiry (Fontana and Frey [22]. The interview session began with administration

of informed consent form. The consent form solicited participants' permission to voluntarily participate in the interview and it sought authorization to record the conversations. More so, respondents were assured of privacy and confidentiality concerning their responses. The interview was conducted at NOUN Kaduna Center. Questions were asked include how do online learners access information resources during online learning? What constraint do online learner experience in identifying and accessing information resources during online learning? The total duration of all the initial interviews amounted to 20 hours of conversations. During the interviews the researchers used probing technique to solicit for in-depth information and/or to build on their responses. This provided the researchers with rich in-depth information. By the time 11 participants were interviewed, the data was saturated. Marshal et al. [25] explains data saturation as the point when there are no new categories, themes, or explanations emerging. The data were transcribed for analysis.

3.2. Data Analysis

In this study, the analysis of interview transcripts was based on inductive approach process through identifying patterns in the data by means of thematic codes. To accomplish these tasks, the researcher followed the three-phase procedure in thematic analysis as described by Miles and Huberman which includes: (a) data reduction, (b) data display, and (c) conclusion drawing and verification. Using these three coding steps, the narratives were read and re-read thoroughly and considered significant statements narrated by respondents to develop meaningful themes that reports about access and use of information resources during online learning [23]. The narratives were coded into 111 open codes (meaning derived directly) recoded in the spreadsheet. The 111 open codes were condensed into 13 lower categories and identified as classification subcategories. The classification sub-categories were then further collapsed into 7 emergent categories. The strategy for the data analysis is summarized in the table below as adopted in this study from Miles and Huberman [23].

3.3. Description of Emergent Categories

This section describes the seven (5) categories and eighteen (11) sub-categories that emerged from the three hundred and eleven (111) open codes. The categories, sub-categories and quotations were arranged properly. They are presented in this style to allow the reader an opportunity to draw on the

Table 1. Summary of data analysis

Data Reduction	Data Display	Conclusion Drawing and Verification
Initial read and re-read interview transcripts while searching for similarities and differences in themes by underlined using pen (open code). Recoded in plain-sheets of paper. The aim is to condense the data into a smaller and more manageable size.	Data display began by listing all the codes and creating meaning out of relevant text segment (open codes) Narratives coded into 111 open codes. Related open codes were identified and grouped together to form sub-categories. 13 sub-categories	18 number of sub-categories labels and narrowing down to final overarching themes or categories into 7 emergent categories (wider categories). The final categories were then narrowed and fitting wider categories into 3 theoretical constructs.

Source: Summary of data analysis adopted from Miles and Huberman [23] p.429

reflection of thought given to the participants' responses. The section is also organized based on questions asked in the process of data collection.

4. Findings

Data in form of phrases and sentences on how online learners access and use information resources and services were collected from 11 respondents. The responses provided multiple views on how online learners in NOUN Kaduna study centre access and utilize information resources and services.

4.1. How online learners access and utilize information resources

To uncover how the online learners access and use information resources, students from NOUN Kaduna study centre were asked to discuss how they access information. Three categories emerged in their evaluation on how they access information, which are subsequently discussed.

Virtual Class: This research sub category it is found that respondents are engaged access and use information through on-line discussion forum on research, academic advising, and group tutorial during in preparation for online examinations. The class on-line discussion focuses on important academic advising especially during course registration process, assignments and test. Other major ways to access and use information on the online discussion is on tutorials on various courses and how to answer questions on the tutor mark assessment. Some respondent recounted that *"we access information on our forum on research topics and steps to writing proposal"* other respondent revealed that *"through discussion with class mates about difficult topics, date of examination and join in studying past question papers and how to handle the Tutor Mark Assessment test (TMA) I get all the information needed."*

Research result shows that majority of the respondents have notices that engaging in the virtual

class at the very beginning of the semester saves them from making wrong choices of courses to register for. One respondent explained that *"during our virtual class discussion, we seek for advices from one other on how to register for courses especially on picking elective courses."* Other respondents in a similar manner indicated that *"we are engaged in registration at the beginning of each of the semester, we normally have online class discussion to each other on the registration process and total credit load expected during registration."*

Practicum: This sub category includes narratives related to how the online learners access and use information resources and services via the practical academic activities that the NOUN students are engaged in; which are industrial training, workshop and seminars. Students interviewed are engaged in a compulsory 6-month industrial training to any institution of one's choice. Some respondents elucidated that *"we are engaged in a 6 month compulsory training in various organization, there we are expected to record or document every activity of the organization that gives us the opportunity to gather a lot of information"* in addition others described that *"we have our industrial training whereby we are treated like staff of the organization because we have all the information but strictly under supervision from both the organization and the university"*

Another way the online learners access and use information is through workshop which is compulsory to be attended by the students annually. The workshop involves hands-on training done for the students based on various faculties. Some students narrated that *"before or during the workshop, all the information we needed is made available, we are engaged in workshop activities which is a short training process organized by various different faculties"* closely related to the workshop is the

seminar activities, the research showed that students are engaged in annual seminar series. Some respondents related that *“we attend annual seminars organized by the university for all students in the centre”* however other respondents indicated that *“the seminars are organized from time to time, they are of immense benefit to us, but they are not regular held”*.

4.2. Type of information resources they access and consult

In order to ascertain the type of information resources that are accessed and utilized by the online learners. The students from NOUN were asked to describe the information resources they access and use during online learning. From the 11 respondents, two categories of the type of information resources accessed emerged; which are **Soft copy and hard copy**.

Soft copy: This sub category it is the evaluation of the type on soft copies of information resources accessed by the online learners. Findings indicated that the respondents access soft copies of electronic course material (modules), database, and information on websites. Others are tutor mark assessment (TMA) resources, online reference resources, and examination guide. Some online learners narrated that *“the first thing we do immediately after registration is to download all our course materials or modules from our registration portal”*. Similarly, one respondent explained further that *“the NOUN website contains a lot of vital information we can use like the databases, reference resources and examination guides”* some other respondents noted that soft copies of information are easy to access and use as reported that *“we can use resources like statistics, handbooks and dictionaries very easy online”*.

Hard copy: These findings revealed that some respondents use hard copies of information such as textbooks, journals and other information resources like dictionaries. Most of these hard copies of information are mostly purchased by the students as personal properties. As one respondent observed, *“I bought some textbooks and a dictionary for my personal study”* this was confirmed by another respondents, *“for my private use, I just buy some recommended books in case of lack of electricity, I just use my books.”*

4.3. Challenges faced in accessing Information Resources

To uncover the challenges faced by the NOUN student in accessing information resources, the students were asked to describe the problems they encounter as online learners. The objective of this is to understand the common challenges that they face. From the responses gotten three categories of challenges emerged from the 11 respondents. They

are **Infrastructural challenges, Problem of information literacy, and Financial constrain** as discuss below.

Infrastructural challenges are the various challenges that that student of NOUN, Kaduna Center encure with the various facilities needed in accessing information resources electronically. Some of the challenges hinder student from making use of resources that are on the NOUN portal. Even when they resources are available, without the requisite skills and facilities to navigate the internet, the purpose of an on-line school would be defeated. The sub categories generated from respondent under this category included

Unreliable internet services refer to difficulty or constrain encounter while using the internet for browsing. Such constrain ranges from low bandwidth, peak hour that prevent users from accessing needed information or submitting their TMA's. Respondent views on this constrain was as follows, ‘most times accessing information is poor in my area due to unreliable internet services’, another said ‘responses or input of Virtual class discussion are usually slow in coming in due to slow bandwidth’. ‘I find it difficult to submit my TMA and download course materials during the day except at night when the network is good’ while another said the portal are usually busy during the day, I can only do my registration at night when the portal is free.

Epileptic electricity services are a challenge peculiar with developing countries, electricity supply is erratic not available twenty-four hour (24 hours) like other country were power supply is constant. Individuals, business and corporate institution have to depend on alternative power supply (generator) for various task. This challenge can be inconvenient, sometime involving additional cost of buying diesel. A respondent complaint, ‘some time I can't access information nor submit my TMA due to power outage, I have to wait for light since I can't afford a generator

Problem of information literacy refers to the inability of respondent to search and use information because the lack information literacy skills like the ability to access, evaluate, use and retrieve information resources.

Inadequate Knowledge of Retrieving Online Information: Some of the respondent narrated that ‘since most of the information resources (hardcopy) are not given to me before exams, I then to compress my TMAs as reading resources for my exams in the absence of course modules

Information Overload/Problem of evaluation skills

The third Challenge faced by Noun Student is the online learners lacked the skills to evaluate information resources online. In as much as there are so much information online the learners are finding it challenging to which information best suit their need. This in return affects their lifelong learning.

Financial constraint refers in this category respondent discussed two sub categories as challenges to accessing information resources. They challenge were the:

High cost of required text refers to expensive cost of running an On-line Course. Student of on-line course in NOUN Kaduna study centre lamented that aside from the school fees which is paid at the beginning of each semester, Student are expected to pay additional fees for required text base on the number of courses registered for and the course unit. Other fees are also paid for on the various academic activity student partake in like practicum, seminars, and other evt respondent narrated that 'in my group of ten only I had the facility to access Information resources, download, print as hard copies for my group discussion/ tutorial members because I am opportune to work in an office were those facilities are available, most of my course mate cannot afford additional cost of accessing information resources electronically'.

4.4. Professional that have assisted

To uncover professionals that assisted the NOUN students of Kaduna study centre, respondents were describe certain personnel of the NOUN Kaduna study center who assisted them. The objective is to understand the professionals who assisted the online learners of NOUN. Respondents were asked to describe the professionals that gave them assistance in the course of their study. Looking at the result, three categories of professionals that assisted emerged which are **ICT staff, Level coordinators and Course mate and Graduate colleagues** from the 11 respondents and are described.

ICT staff: one of the most common professionals that assisted the NOUN online learners are the ICT staff. The ICT include the director, Management Information System (MIS) staff, Network maintenance staff, and data officer. Some respondents communicated that "as most on our activities are done online, we get help regularly from the ICT staff especially on the issue of information resources download and online registration process." similarly another participant conversed that "due to the fact that we are far apart from our tutors, I gather all the information that I need from the ICT unit especially on examination date and course registration update"

Level coordinators: another professional that assisted the online learners are their various level coordinators. In this sub category the one respondent stated that "I depend mostly on my level coordinator for all important information in respect to TMA, registration and examination update." In the same vein other respondents narrated that "our level coordinator is very active in the sense that all information of benefit to us is channeled through him"

Course mate and Graduate colleagues: this sub category reflect that course mate and graduate colleagues are part of the professionals that assist the online learners. Most of the respondents noted due to contacts of all course mates including graduate students available online it is easier to assist each other. One respondent narrated that "*it is much easier to contact my course mates and graduates from the school in good time through their contact addresses and phone numbers*"

4.5. Experiences with professional librarians or NOUN Library, Kaduna Study Centre

To uncover the experiences that the online learners have had with the professional librarian or library. The respondents were asked to narrate the experiences of the librarian or library. The objective is to understand the common experiences of the online learners from the librarian or library. Responses from NOUN students stating their experience with Librarian at NOUN, Kaduna study Center elucidated various responses from 11 respondents which are sub categorized and discussed below. Librarian only provide past question paper, Colleagues and graduate students are more accessible, they are not aware of the services of the professional librarian, and to read and write exams Librarian only provide past question paper. This sub category includes narratives of respondent to their experiences with NOUN library. Their reason for visiting the library is to get access to previous question papers that would enable them practice for exams. 'The only reason I go to the library is to collect past question paper for my exams'.

Colleagues and graduate students are more accessible: in this sub category the respondents narrated that most times, it is easier to contact colleagues and graduate students for needed information than the librarian. This may be due to their frequent contact in participating in various academic activity like group discussion, tutorials seminars and virtual class. It is obvious that they are not aware of library on-line services.

They are not aware of the services offered in the librarian: in this sub category a respondent explained that they lacked proper orientation on the use of library, hence are not aware of the various services provided by the library. Since they do not know the various service offered by the library, they can't get the needed assistance to various services provided. "as my studies in done online, am not aware of the librarian or the library" in addition, other respondents narrated that the go to the library to read and write Exams. Reading is one of the activities done in any conventional library globally, this may explain why some respondent still see the library as a place for reading. The quite environment within the library attract student to study. Another respondent narrated how computers are kept in the library. There are a lot

of computers in the NOUN center library, I go there to read and sometime write my exams.

5. Discussion of Findings

The discussion of findings was arranged in line with the three theoretical constructs.

5.1. Social Interaction

Findings from this study revealed that online learners interacted and share knowledge through Virtual discussion. Virtual discussion focuses on important academic advising especially during course registration process, assignments and test. Further findings from the study also revealed that Students from NOUN engaged in on tutorials of various courses and discussed on how to answer questions on the tutor mark assessment. Another finding from this study revealed that NOUN students are engaged industrial training, workshop and seminars.

5.2. More Knowledgeable Other (MKO)

Three major aspects were identified as more knowledgeable others which are ICT staff, Level coordinators and course mates and graduate colleagues. Findings from the study revealed that ICT staff were in charge of managing all learner's information, maintaining the network and in charge of online examination. The professionals that really assisted the online learners as well are level coordinators, course mates and graduate colleagues.

5.3. Zone of Proximal Development (ZPD)

This study also identifies challenges faced in accessing Information resources by the online learners in NOUN, Kaduna study centre to include, Infrastructural challenges, Problem of information literacy, and Financial constrain, Unreliable internet services, problem of information literacy, Epileptic electricity service. For instance, the online learners depend greatly on the internet to access information, in some cases they face with the challenges of search skills thereby not knowing which information best suit a particular assignment,

5.4. Experiences with professional librarians or NOUN Library, Kaduna Study Centre

The only experience the online learners of the NOUN Kaduna study have had with a librarian is that Librarian only provide past question paper. The learners are not even aware of the services that a librarian can offer. For instance, the online learners prefer to access information from their colleagues and

graduate students than the librarian because the librarian is not accessible.

6. Future research

To improve academic performance of online learners, there is the need to conduct more research on access and utilization of information resources. In particular, since the library is the hub of knowledge a study is relevant showcasing what the library can offer to the online learners in NOUN Kaduna study centre. Generally based on the fact that this research focuses on NOUN Kaduna study centre only, it can be applied to other study centers in Nigeria

7. Conclusion

Vygotsky theory has shown that social interaction, more knowledgeable others and zone of proximal development aimed at improving learning. Ability to access and use information by online learners in a resources constraint society is vital in order to improve academic performance and acquit learners to lifelong learning.

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Perception of University Students Towards the Role of Social Networking Sites in their Academics

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Abstract

In this era of millennial, social networking sites (SNS) have evolved rapidly and universally. In Pakistan, there were times when social networking sites were considered as deeds of redundant and lazy youth. But now, social media is becoming a little more than just a sharing and communication tool; it is very influential in fact. This study was conducted to explore the perceptions of students about the role of social networking sites in their academic achievement. This inquiry was descriptive in nature to explore students' perceptions about to effect of social networking sites on their academic achievement. The study was conducted on 956 students (371 male, 584 female), and their perceptions were taken through questionnaire developed by the researchers. The data were analysed by using Independent Sample t-test, Correlation, and ANOVA tests. The findings revealed that students use social networking sites not only for entertainment, but also for communication with classmates and teachers. The students were not sure whether social networking sites helped in improving grades, but their grades were not negatively affected by the use of social media.

1. Introduction

Social networking sites although has been recognized as an important resource for education today, studies however show that students use social networking sites such as Facebook to kill time, to meet existing friends or to make new ones. What started out as a hobby for some computer literate people has become a social norm and a way of life for people from all over the world [2]. With the advancement in technology, especially with the arrival of smartphones the use of SNSs has been tremendously increased. Social Networking has become an activity that is done primarily on the Internet, with sites like MySpace, Facebook, Bebo, Friendster, and Xanga [3]. Social networking has a multitude of implications in the field of education. Some studies have shown that there are no

demographical barriers regarding use of social networking sites.

In many cases, the digital culture has influenced student skills and preferences in several key areas related to education [4]. Use of technology such as Internet is one of the most important factors that can influence educational performance of students positively or adversely. Kirschner & Karpinski have recognized no relation between computer use and academic achievement [5,17]. No significant relationship was found between time spent on the computer at home and GPA in a sample of adolescents [6]. Social networking sites engage students in online learning communities using technologies familiar to and accepted by their generation [7]. Incorporation of this pedagogical strategy could offer new opportunities to enhance academic instruction and student learning experiences [8]. ForkoshBaruch and Hershkovitz concluded that twitter can improve the grades of students and can be helpful in their academic career in different ways [9]. Shah et al. proposed that the Internet affects sits users and this impact is determined by the kind of its use [9, 10]. The students are positively affected by the informative use of Internet while having a drastic impact of recreational use of Internet on them. Though, there are negative perceptions about the possible effects of SNS on students' academic performance, some studies showed that students found it quite appropriate for a teacher to use Facebook, and for teachers and students to socialize by this means [11]. Students also believed that such tools could allow them to share knowledge in formal education contexts. Churchill's study showed that the use of weblogs or "blogs" in education facilitated a useful learning atmosphere [11, 12]. Roblyer has found that some researchers have swiftly comprehended that social networking sites should be integrated into the scholastic institutions, so that it can improve student teacher communication [11, 13]. Social learning theorists believe that the link between communication and human behaviour is, in a way that human behaviour itself is learned through interaction with and observation of others in a social context [14].

In another study, conducted by Keenan and Shirii, they explored how social networking sites encourage friendliness through the use of Facebook, Twitter and LinkedIn [13, 15]. The study concluded that numerous approaches could be used to encourage amiability among students, which leads to a positive effect from SNSs user's point of view. In a study conducted by Mazer concluded that Facebook networking site is used by students more frequently and also faculty members [14, 16]. According to Haq and Chand the Facebook use, in general, adversely affecting the academic performance of students but this adverse effect is observed greater in male students [15, 17]. The social interaction with the existing friends is found the most common use of the Facebook among students. Pempek et al., found that students spend approximately 30 minutes on Facebook throughout the day as part of their daily routine [18]. In the study of Kirschner and Karpinski, they found a significant negative relationship between Facebook use and academic performance [16,17,19]. Similar results were also reported by Boogart, Canales et al., and Junco [15, 18, 20, 21, 22].

The students, on a whole, gave a more scoring response to using online networks to write their class assignments and inclusion of college related student focused groups and social networks. According to Ahmed and Qazi, student manage their time efficiently and fulfil their study requirements effectively, hence the use of SNSs does not have an adverse impact on their academic Performance [21, 23]. A research conducted by Curran and Lenon concluded that Use of SNS does not have any impact on academic performance of students. According to this analysis, 11% of reported students claim to use social networks for education based reasons, while 45% of students said that they use social websites for class work, with English being the subject most studies [24]. The findings in these studies suggest that demographic variables are associated with differences in beliefs about social networking, attitudes toward social networking, and reasons for choosing and using specific social networks. Students that were involved in the extensive usage of SNS did not pay attention to their academic conditions in most cases. The quick rise in popularity of SNS began in the second half of the last decade partly because of their extensive usage by school and university students [25]. Furthermore, Kirschner and Karpinski claim that students tend to participate in such website activities while doing their homework so that it may have negative effect on their academic achievements by interrupting them from the learning process.

Kirschner and Karpinski, examining the ability for subjects to multitask and the negative effects of attempting to simultaneously process different streams of information, show that such behaviours lead to both increased study time to achieve parity and an increase of in mistakes while processing

information than those who are sequentially or serially processing the same information [17]. In laymen's terms, those who choose not to multitask and stick to one project or assignment at a time, have a higher success rate than those who don't. A session of the American Psychological Association entitled "Poke Me: How Social Networks Can Help and Harm our Kids" [24] features Dr. Larry Rosen's study of the effects of Facebook and education. Social media icon, Facebook, has changed our culture forever. Since its inception in 2004, Facebook has served as not only as a way to get connected and stay connected, but it has been a great way to waste serious amounts of time clicking from page to page, picture to picture [24]. Rosen found that middle school, high school, and college students who checked Facebook at least once during a 15-minute study period achieved lower grades.

2. Methodology

The present research study answered following three research questions.

Which is the most used Social Networking Site among students?

What is the effect of the use of Social Networking Sites on university students' academic achievement?

How demographic affected university students' use of the Social Networking Sites?

2.1. Research Design

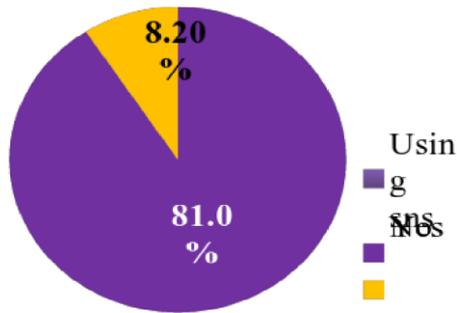
2.1.1. Sample. The population of the study consisted students of three universities of Punjab province (University of the Punjab, University of Lahore, University of Sargodha). The sample size comprised of 956 students. The samples were collected through stratified convenience sampling from the University of the Punjab, University of Sargodha and University of the Lahore.

2.1.2. Research instrument. The study employed the survey type of the descriptive research. The only instrument used to generate data for the study was a structured questionnaire. Instrument to take the perceptions of university students about use of social networking sites was developed by researchers. It was a Likert scale consisting of 35 statements with demographics.

3. Data Analysis and Findings

The data was analysed through the mean, standard deviation, percentages, correlation, t-test, and ANOVA.

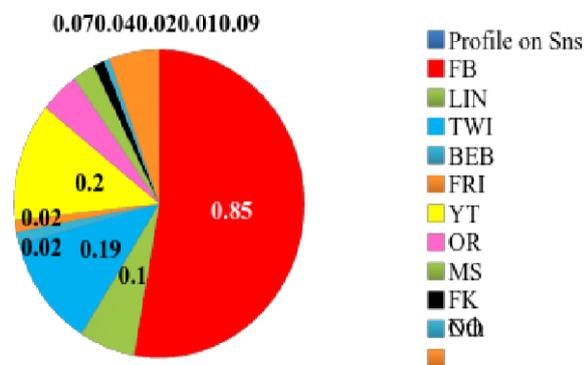
A) Comparing use of SNS among students



Almost majority of the students are using SNS, i.e.: 81.0% are using and 8.20% are not using.

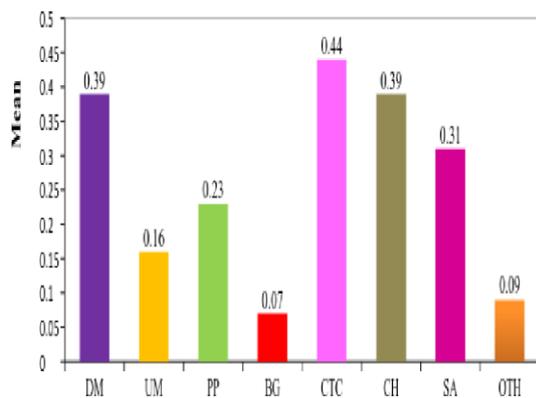
B) Comparing most used SNS

Mostly students used Facebook (85%)



C) Purpose of using SNS

It was assumed that social networking sites were just used for entertainment purposes only but the data from university students show that they use it for communication with class fellows and teachers not only for entertainment (CTC) i.e.: 0.44.



D) Role of SNS in academic achievement

24.3% students agree that it is improving their grades but 24.2% disagreed. 27.9% agreed that using SNS are hurting their grades

Table 1. Percentage of students said SNS improved my grades

Strongly agree	Agree	Undecided	Disagree	Strongly disagreed
10.2	24.3	15.6	24.2	8.7

Table 2. Percentage of Students said SNS Affected my Grades

Strongly agree	Agree	Undecided	Disagree	Strongly disagreed
14.2	27.9	13.5	18.6	8.7

The Correlation in the below figure shows that there is a significant relationship between perception of SNS and negative attitudes of students towards studies as this relationship is positive and moderate. According to student's perceptions, SNS negatively affect their academics.

Table 3. Relationship between perception of SNS and negative attitudes of students

Variable	N	r	p
Negative attitudes and use of SNS	901	0.31	0.00

E) Comparing the use of SNS among gender

The male and female students held similar views related to the use of SNS and its role in their studies. The mean for female is (96.67) and the mean for male is (96.20) and the value of t-test is 0.36. for academic performance while comparing gender was 0.50

Table 4. t-test for use of SNS on gender

Variables	N	Mean	df	t-test	Sign.
Female	541	96.67	906	0.36	0.71
Male	367	96.20			

Table 5. t-test for effect of use of SNS with academic performance on gender

Variables	N	Mean	df	t-test	Sign.
Female	540	16.14	905	0.50	0.61
Male	367	16.00			

F) Comparing students on using SNS class wise

There is no significant effect of semester scores of students on their use of SNS. Students use SNS regardless of the semester in which they are studying whether its first or last semester they use SNS. similarly, different faculties off these three universities have same amount of usage of SNS.

Table 6. One-way ANOVA for semester scores of students on their use of SNS

	Variables	N	M	df	F	p
1st semester	Ovill*	21	99.33	11	0.61	0.81
2nd semester		324	95.06			
3rd semester		59	98.47			
4th semester		330	97.70			
5th semester		7	92.71			
6th semester		98	94.62			
7th semester		6	93.66			
8th semester		19	95.68			
1prof		16	98.50			
2prof		14	100.21			
3prof		11	98.54			
4prof		3	100.00			

*Overall perception related to SNS

G) Comparing academic achievement of different facilities

According to Table 7, students of education are using more SNS.

Table 7. One-way ANOVA for use of SNS on academic achievement of students of different facilities

Groups	Variables	N	Mean	df	F	p
Education	PESAA*	11	99.43	1	1.4	0.1
Commerce		8	96.38	2	3	4
life sciences		12	92.34			
Sciences		6	96.54			
social sciences		11	93.59			
Economics and management sciences		72	97.69			
health sciences		65	99.65			
management sciences		78	93.54			
information technology		11	93.95			
allied sciences		23	100.68			
management and administrative sciences		19	95.04			
Sargodha arts		70	93.30			
Sargodha science		30	99.53			
Sargodha		66				

*Perception related to effect of SNS on the academic achievement of university students.

4. Conclusions and Discussion

Though the ultimate benefits of social networking tools for teaching and learning remain largely unknown this study demonstrates that students are receptive to possible uses of social networking sites. A large number of University students use social networking sites and among these Facebook is most commonly used social networking site, YouTube and twitter is in second place. Purpose of using these sites is not entirely entertainment but also educational, Students use these to communicate with teachers and class fellows, also for chatting and downloading music, they also respond that they have desire to share knowledge and learn from others. They are not sure about whether their grades affect by this use. There is no difference between perceptions of male and female students related to role of social networking sites. Different demographic factors do not affect the usage of SNS by students. Students use SNS in daily routine, this use do not affect their daily based educational work. They can maintain balance between use of SNS and their studies.

5. Implications

Lecturers and faculty members should engage students mostly through this media just like classroom discussion group that is now available in these social networking sites so that student will be indirectly carried away from using the non-academic aspect of SNS.

- An extensive research can be done to explore the effects of SNS on college students.
- A research can be done to find out to which degree students can negotiate between social academic uses of SNS.
- A research can be done to see whether the extensive use of SNS affects the student's confidence level.

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Appendix

Abbreviation for Statements

Sr#	Statement	Abbreviations
1	SNS provide knowledge to me.	SKM
2	I can maintain class performance by using SNS.	MCPS
3	I am competing well in my class while spending time on SNS	CWCSTS
4	I can maintain balance between my studies and usage of SNS.	MBSUS
5	I do participate in extracurricular activities.	PEA
6	I like to spend time with my friends rather using any SNS	STFS
7	I like to hang out with friends rather to just sit on computers to use SNS	HFCS
8	I discuss my assignment topics on SNS with my friends or teachers.	DATSFT
9	I spend more time using SNS rather than studying.	STSS
10	I feel satisfy after using SNS.	FSS
11	I submit my assignment on time while spending time on SNS	SASS
12	I use SNS because I cannot communicate with people directly	USCPD
13	I think SNS decreased face to face communication	TSDFC
14	I can maintain self-efficacy and self-control while spending time on SNS	MSSSS
15	I can make academic appointment with my supervisor/ lecturers through SNS	MASS
16	The SNS help in my academic performance because I can get announcements and information from the faculty.	SAAIF
17	The SNS help me to communicate with my friends about assignments and projects.	SCFAP
18	These SNS influenced my studies negatively, because they distract me from my studies.	SINDS
19	I think SNS are improving my grades	TSIG
20	I think SNS are hurting my grades.	TSHG
21	My grades suffer because of the amount of time I spend online	GSATSO
22	My grades can be improved if I could contact my professor through SNS	GICPS
23	I think SNS affect my study timings	SAST
24	SNS is an ongoing way how university students get interacted	SOWUI
25	SNS fulfills or satisfy students' needs and interests.	SFSNI
26	Through SNS application, I can freely create and participate in group discussion.	SACPGD
27	By using SNS application students will be able to analyze their own learning	SAAL
28	Applications provided by SNS can help me in posting and evaluating my work.	ASPEW
29	SNS facilitate me to share knowledge with others	AFSK
30	While doing assignments I can also play, chat and listen to songs.	APCLS

Abbreviations for M.C.Qs

Sr #	Statements	Abbreviations
1	Are you using any social networking sites	Using SNS
2	Do you have your profile on any of the following social networking services	Profile on SNS
3	If you are NOT using with any of social networking websites, what is the main reason why?	Reason for not using
4	You use social networking sites basically for?	Use of SNS for
5	How would you like to utilize social networking tools	Utilization of SNS
6	What kind of communities do you subscribe on social networking sites?	Communities

Abbreviations for M.C.Qs options

Sr.#	M.C.Qs options	Abbreviations
1	Facebook	FB
2	LinkedIn	LIN
3	Twitter	TWI
4	Bebo	BEB
5	Freindster	FRI
6	Youtube	YT
7	Orkut	OR
8	My space	MS
9	Flickr	FK
10	Any other	OTH
A	I don't have time	IDT
B	It is not interesting for me	INI
C	I do not want any publicity	INP
D	It is against my religion	IAR
E	Other	OTH
F	It is just wastage of time	IJT
1	Downloading music/video	DM
2	Uploading music/video	UM
3	Posting photos	PP
4	Blogging	BG
5	Communication with teachers/class fellows	CMC
6	Chatting	CH
7	Submitting assignments	SA
8	Any other	OTH
A	Desire to share knowledge with others.	DK
B	Downloading and uploading files through internet.	DU
C	Like to learn from others.	LLF
D	Knowledge and skills to share with others.	KSS
E	Experience of using online discussion tools.	EOD
F	Experience of internet navigation.	EIN
G	Enough reading and writing skills to communicate with others easily.	ER
H	Prefer to work with online group	PO
1	Educational	EDU
2	Entertainment	ENT
3	Informational	INF
4	Any other	OTH

Abbreviations for Demographic factors

Sr#	Demographic factors	Abbreviation
1	Female	F
2	Male	M
3	Morning	M
4	Self-support	S
5	Day's Scholars	D
6	Hostelries	H
7	Physics	PHY
8	Chemistry	CHE
9	Biology	BIO
10	Computer	COM
11	Arts	ARTS
12	Maths	MAT
13	Zoology	ZOO
14	Botany	BOT
15	Double Maths	D.M
16	Statistics	STAT
17	Psychology	PSY
18	Commerce	COM
19	Other	OTHE
20	Business	BUSS
21	Political science	POLI
22	Journalism	JOUR
23	Economics	ECO
24	Laptop	LAP
25	Desktop	DESK
26	Palmtop	PALM
27	Cell phone	CELL
28	Friends	FRIE
29	Teacher	TEAC
30	Family members	FAMI
31	TV	TV
32	Newspaper	NEWS

List of sample of the items from class performance

Sr#	Factors	Abbreviation	Scale Items
1	Class performance	CP	I can maintain class performance by using SNS. I am competing well in my class while spending time on SNS. I can maintain balance between my studies and usage of SNS. I submit my assignment on time while spending time on SNS. These SNS influenced my studies negatively, because they distract me from my studies.
2	Priority of spending time	PRIS	I like to spend time with my friends rather using any SNS. I like to hang out with friends rather to just sit on computers to use SNS. I spend more time using SNS rather than studying.
3	Personal interest	PIN	I feel satisfy after using SNS. I can maintain self-efficacy and self-control while spending time on SNS. SNS fulfills or satisfy students' needs and interests.
4	Communication	COMM	I do participate in extracurricular activities. I use SNS because I cannot communicate with people directly. I think SNS decreased face to face communication The SNS help me to communicate with my friends about assignments and projects.
5	Utilization of SNS	UTI	SNS is an ongoing way how university students get interacted I discuss my assignment topics on SNS with my friends or teachers. I can make academic appointment with my supervisor/ lecturers through SNS. The SNS help in my academic performance because I can get announcements and information from the faculty. SNS provide knowledge to me. Through SNS application, I can freely create and participate in group discussion. While doing assignments I can also play, chat and listen to songs. Applications provided by SNS can help me in posting and evaluat work.
6	Effect of SNS on grades	EFG	By using SNS application students will be able to analyze their ov I think SNS are helping my grades. I think SNS are hurting my grades. My grades suffer because of the amount of time I spend online. My grades can be improved if I could contact my professor through SNS. I think SNS affect my study timings.

Session 16: Curriculum, Research and Development

Title: Engaging Stakeholders for Syllabus Revision
(Authors: Raabia Hirani, Naveed Yousuf, Shehzad Jeeva)

Title: Case: Cultural Management Redesigned
(Authors: Anmari Viljamaa, Esa Leikkari)

Title: Neighborhood Matters! Evidence from Michigan Public Schools
(Authors: Evan Linskey, Kaustav Misra)

Title: Expansion of the Public Relations Students' Creativity through Project-Based Learning
(Author: Elizaveta Osipovskaya)

Engaging Stakeholders for Syllabus Revision

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Abstract

Students and teachers are key stakeholders of syllabus development and revision. However, the magnanimous feat of involving a large number of both is difficult even when the student and teacher body are confined to a limited geographical area, for example, in case of a university. Hence, often, no students and only a limited number of teachers are involved in the process and these participants are expected to be mediators for students and the rest of the teachers. The difficulty in involving a wider representation of teachers and students increases many folds in case of the revision of the syllabi of a national examination board with teacher and students spread across the country. Despite this challenge, this paper explores a method for engaging these and other key stakeholders in the syllabus revision process which is being implemented by a national examination board in Pakistan. This paper also explores the effects of this engagement on addressing the aims of the syllabus revision. Pakistan's first private autonomous examination body for secondary (SSC) and higher secondary (HSSC) school certifications, Aga Khan University Examination Board (AKU-EB), recently revised its syllabus review and revision process. One of the key features of the revised process is the greater engagement of all the identified key stakeholders at different stages of the review process. The stakeholders include students, teachers, content and examination specialists, teacher trainers and higher education educators. The objective, mode and level of engagement of each stakeholder also differ depending on the aims of the syllabus review process relevant to each stakeholder. The review process begins by taking on board a large population of two key stakeholders. This is done by inviting all the students and teachers of all the AKU-EB affiliated schools from across Pakistan to participate in a targeted needs assessment survey to ensure maximum representation. Thereafter, a focused group of diverse stakeholders – including at least one curriculum and examination expert, one SSC teacher, one HSSC teacher and one teacher from a non-AKU-EB affiliated school – come together to form the syllabus review panel. This panel is guided by the experiences of its participants as well as the feedback of students and teachers from across Pakistan. Finally, the syllabi are reviewed by carefully selected higher education faculty members who ensure that the syllabus has provisions for adequate content and higher-order thinking skills to effectively prepare students for higher education.

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Case: Cultural Management Redesigned

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Abstract

This case describes the process of redesigning a Degree Programme in Cultural Management in a University of Applied Sciences in Finland. Participatory methods are used with staff and stakeholders. The new curriculum emphasizes value added and students' autonomy as future professionals.

1. Introduction

The Degree Programme for Cultural Management in Seinäjoki faced in the early spring of 2017 an unprecedented challenge. Due to cutbacks in funding, the Ministry of Education set a cap at the size of the programme. This in turn forced a complete rethinking of the programme that had previously offered three distinct specialisations: event management, media management and visual management. Now, with the reduced number of places, a single unified subject had to be discovered, defined, described and turned into a working curriculum.

2. All or nothing

The teaching staff of the degree were from the beginning committed to the renewal of the curriculum. The cap on the number of graduates – only 35 henceforth – meant that a comprehensive rethinking was inevitable. There was, however, considerable uncertainty as to what direction the change should take. The existing 240-credit curriculum consisted of 100 ECTS of common studies, 60 ECTS of practical training and 80 ECTS worth of specialization studies [1]. The change from three specialisations to a unified degree programme meant either cutting away two specialisations or changing the entire programme.

The simplest solution, terminating two of the existing three specialisations, was quickly discarded. Although the specialisations were theoretically only 80 ECTS each, a considerable share of the common studies as well relied on the presence of three groups with distinct professional orientations. For example,

in first year production modules individuals specializing in event, media or visual management would typically take responsibility for production work corresponding to their specialty. To continue with the same structure with only one specialization would cripple the programme.

It was strongly felt that a radical 'starting from scratch' was preferable to a weak compromise.

As a first step, an internal evaluation of the existing programme was carried out. First, the efficiency of the programme was analysed in terms of how much input was required for the achieved ECTS output under the current curriculum. Second, student and employer feedback from the past few years was collected and analysed to pinpoint critical issues. Third, teaching staff from each specialization discussed future requirements in their respective fields with the aim of forecasting investments in both equipment and staff. In the discussion it quickly became apparent that giving up any of the specialisations as separate professional fields would be a painful amputation for the teaching staff involved. Based on the results of the internal evaluation, however, the decision was made to attempt a full-scale rethinking of the curriculum.

But how was this to be done? Envisioning a single future from three distinct histories is no easy task. Present day cultural management education in the University of Seinäjoki draws on three distinct traditions. Event management builds on traditions of performing arts and socio-cultural work. Media management is based on short film production work, which traditionally assumes a good understanding of all facets of audiovisual production from lighting to audio editing. Visual management comes from the tradition of graphic design with some infusion of design management.

Clearly, the first thing to accomplish was to find a shared vision of the future. Without it there was little hope of producing anything but a truncated version of the present programme.

3. The future workshop

A future workshop was organized in February to kick-start the work on the new curriculum. A day was booked and the whole teaching staff taken to different location to start the process. Some staff members from the business studies programme were included in the group in order to dilute the tendency to assume traditional group roles and to add a fresh perspective; for a group very familiar with their own curriculum, it can be difficult to see its' hidden assumptions and their consequences.

A short presentation of megatrends was heard first, to set the tone for the day. After that, a number of possible working environments for future graduates of the programme were named in a group discussion. The idea was to focus on the year 2030, when the first graduates from the new programme, due to start in the fall of 2018, might be looking for their second or third job. The workshop participants were then divided into groups of four. Each group was presented with a sample graduate prepared in advance, i.e. a short description with name, age, a picture and a personal motto to give the 'person' some texture. Each group was also given a place of employment from the preceding discussion and the task of describing the work the graduate would do in the company or organization in 2030. To help keep the discussion future-oriented, each group was also given a megatrend card naming a trend to consider in formulating the job description.

Next, the groups were combined to carry out a retroactive analysis of the skills and abilities the sample graduates had to have possessed in order to get the jobs they held. The resulting competences were then grouped into a common circle, with core competencies in the center and less crucial skills on the outer rim.

As a result of the workshop, the teaching staff held a more coherent understanding of what the aim of the new curriculum was to be. It was agreed that in the skillset of the future graduates' particular emphasis should be placed not only on traditional producer skills but also on understanding of both (secondary) financial and (primary) human value added.

4. Towards an open structure

After the workshop, a first draft of the aims and structure of the new programme was written out and then tested with key stakeholder groups. A working life round table was organized in which the draft was discussed. Working life representatives were selected from amongst the organisations with whom students and staff of the programme had worked previously. Some new areas of employment were also represented, e.g. a brand agency that asked to participate in the process. The round table produced a

renewed understanding of the different needs various organisations have of cultural management graduates.

At around the same time a student round table was organized with current students of the programme. Already at an earlier phase student feedback had been considered; now the students were asked to discuss a draft curriculum and programme description.

Both round tables affirmed that there is some shift towards increasing emphasis on business skills: cultural management graduates are increasingly expected to handle, in addition to production planning and implementation, also service design, financial planning, content and audience development and brand management. At the same time there is a need to maintain a level of familiarity, comfort and enjoyment of cultural substance. One might have an excellent grasp of production processes, but it is not sufficient alone. A cultural management professional should possess an in-depth understanding of how value is produced in creation, co-creation and consumption of cultural artefacts; they are valuable and valued only through their use.

The working life representatives emphasized somewhat the attitudes and meta-skills expected from students and graduates. In the student round table learning of practical skills (e.g. use of specialist software etc.) was emphasized.

Following the round tables writing of the curriculum moved into the next phase. Course names and key learning outcomes were defined. As part of the process, present students inputs were again sought in determining their views on alternative workshops to be included in the curriculum. In this, the Innoduel online tool [2] was utilized. The tool requires that a respondent always chooses one out of two alternative answers. Possible answers are ranked according to their win rate. Users can also insert their own preferred options.

Based on the results and earlier round tables, it was decided to leave a part of the curriculum open. Rather than name all the workshop courses in the curriculum, the degree programme staff elected to leave 40 credits for programme to be determined annually. Thus, new developments in media, technology and the cultural field in general could be accommodated.

5. Find the value

At the time of writing this, the curriculum remains a work in progress. The structure of the programme is completed, but the learning outcomes are still in discussion. A second-round table with both students and working life representatives is planned for early November. The curriculum is due to be finalized in December 2017.

One thing is already strikingly clear: the new curriculum has a much greater emphasis on building up the students' ability to analyse, refine and communicate the value added they themselves are

able to provide to external parties. Each student is repeatedly brought to reflect upon their current skillset, consider their capacity for adding value to different productions and organisations, and revise their plans for further learning based on the results of their reflections. In the final two years of studies, considerable attention is given to students' portfolios and career plans. Whatever the details of their curriculum in the University, much of their working life will happen under conditions of rapid change and unpredictability. The most important skill of a future graduate is likely to be the ability to find and communicate value to add. Hence, the biggest challenge for the teaching staff provide an environment in which adding value – and knowing when you do – becomes a second nature.

Next to this, deciding course content seems easy. In fact, it appears that a complete redesign of the curriculum is only the beginning of a much more challenging process. To implement the new curriculum, a new, more student-centered teaching approach must be accepted, shared and adopted.

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Neighborhood Matters! Evidence from Michigan Public Schools

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Abstract

Discussion about improving public school performance is not a new debate. Questioning internal factors like teacher quality, gender ratio, class size, and students' socioeconomic backgrounds to improve school performance are well researched, but looking at it from community perspectives is a recently developed interest. Following Misra, Grimes and Rogers [1] we are also trying to understand the importance of the community where public schools operate. We randomly select three key community attributes: number of religious institutions, availability of higher education and number of liquor licenses to understand how these external factors influence public school performance. Again, similar to Misra, Grimes and Rogers [2] this paper uses Geographical Information Systems (GIS) to develop the community around a public school. We then employed regression analysis to evaluate the relationship between the community attributes and standardized test scores. The results from this paper will provide Michigan policy makers and education administrators a different perspective to deal with statewide public schools performance.

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Expansion Of The Public Relations Students' Creativity Through Project-Based Learning

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Abstract

The article deals with the issue of the teaching practices in the spheres of Public Relation and design, namely enhancing the students' ability to communicate through digital and visual media. The objective of the study is to design a curriculum based on the knowledge of digital design tools and PR vehicles. This paper uses a project-based learning (PBL) methodology in higher education because it is one of the most practical ways to teach students PR theory, software and design principles. The expected outcome of this article is the reformation of a classroom structure and re-orientation of a teacher and students roles by implementing PBL into the educational programme. The benefit of the proposed curriculum is training of a multimedia specialist, who is competent in production print and digital publications and nimble enough to respond to a constantly changing and evolving PR industry.

1. Introduction

The paper focuses on the need of an interdisciplinary programme to be established at RUDN University, Russia in order to produce Public Relations graduates who have a behind-the-scene look at working for companies and can see how their skills fit into it. In this profession students are not likely to stay firmly rooted, their career paths always demand additional qualifications. Today's PR professionals should possess excellent communication skills and also be adepts in using hard skills. It is evident that such an ambitious purpose can hardly be reached without re-conceptualizing of a curriculum. One way of doing this is to apply a project-based learning strategy, which puts greater emphasis on its cross-disciplinary approach.

2. Must-have skills for a career in PR

Today it is considered that a good career in PR demands to be an all-rounder with skills in everything from research and communication to

creativity and technology fluency. Here, it is useful to think about two types of professionals, researchers suggest to use letter «T» to describe them. The vertical stroke of the «T» is a depth of skill, such an I-shaped person thinks narrow and drills deep into a particular field. The horizontal stroke of the «T» is the disposition for linkages between different disciplines. We believe that today's PR professionals could be identified as T-shaped people, because they should have broader skills and knowledge to get standout ideas for projects.

It was decided that the best procedure to facilitate PR students' acquisition of diversified repertoire of skills and to identify skills gaps that the university doesn't fill is to make a research. The survey was conducted among PR practitioners to find out what is the better way of filling that void. The object of our research was to determine hard skills that are a hot commodity and to enhance the current curriculum of Communication design at RUDN University. The target audience of the research were PR-managers in Moscow. Respondents were asked to answer two questions: 1) What kind of hard skills are rare and essential in the modern workforce? 2) How to organize employment-related preparation?

In response to Question 1, the majority of those surveyed indicated that Business English and English for Specific Purposes are highly required for a job. A PR practitioner should know how to write grammatically correct texts in English to reach varied public and communicate efficiently with colleagues, journalists and clients in multiple countries. The respondents also suggested social media skills, because students ought to be capable of choosing the exact platform for a particular message and to know how to use its fullest potential. Aside from that, software knowledge and web design are considered to be highly significant. Graduates should also be able to work in the key design applications: Adobe PhotoShop, Adobe Illustrator, Sketch, Adobe InDesign.

When the respondents were questioned on employment-related preparation, the majority commented that technologies are evolving so fast that by the time one becomes an expert at something, it is time to learn something new. Therefore, students

should be agile, easily adapt to the rapidly-changing demands of modern work. Teachers ought to offer the opportunity to study new software. Besides employers reported a shortage of candidates who know how to collaborate in a team, rather than to work as a solitary inventor. It was also suggested to establish joint working between some advertising and PR agencies and RUDN University

2. Defining features of project-based learning

As expected, our experiments have demonstrated the need to start up the programme, which will cultivate in students a set of dispositions that should serve them well in PR field. Thus, we were encouraged to design teaching activities by integrating project-based learning in the Communication design course at RUDN University.

Project Based Learning is a systematic teaching method that engages students in learning important knowledge and developing 21st century competencies through an extended, student-influenced inquiry process structured around complex, authentic questions and carefully designed products and learning tasks [1].

Implementation of PBL model helps students to ask hard questions, conduct research, defend their arguments with reliable evidence, collaborate with a group on an extended out-of-class project, and manage time effectively. It helps them to be better problem solvers and nimble enough to respond to a fast-changing, complex world.

The Partnership for 21st Century Skills summed up the most essential capabilities as the «4 C's»: critical thinking, collaboration, communication, and creativity. These naturally come into play during projects.

- Critical thinking: students are able to analyze, evaluate sources of information, draw appropriate conclusions based on evidence and apply innovative strategies.

- Collaboration: students work effectively and respectfully with diverse groups to accomplish a common goal. They share responsibility for completing tasks.

- Communication: students can organize their thoughts, data, and findings, and share these effectively through a variety of media. They communicate well both orally and in writing.

- Creativity: students exhibit qualities such as richness of imagery, flexibility, humour and originality [2].

3. Incorporating PBL into Communication design course

Project based learning has many applications in the field of teaching Public Relations students at the university. This model was chosen because it is one of the most practical ways to teach students software, design elements.

Public Relations students at RUDN University are assigned to study Communication design course throughout their academic instruction during 1.5 year in their 3rd and 4th years.

The main goal of the course is to create a profound understanding of design principles as an approach for generating creative ideas through studying the most effective ways of delivering visual information to the target audience.

In order to achieve this goal, we should evolve 4 essential capabilities in students:

- Critical thinking: making connections between disciplines and analyzing the structure of advertising texts or presentation speeches, including how specific sentences, paragraphs relate to each other. Writing from the reader's point of view.

- Collaboration: engaging effectively in a range of collaborative discussions with diverse partners. Allocating the responsibilities and roles among colleagues in a team.

- Communication: knowing how to convey ideas to different audience through varied multimedia platforms.

- Creativity: having conceptual thinking for creating and visualising ideas with a help of the graphic design software: Adobe PhotoShop, Adobe Illustrator, Sketch, Adobe InDesign and Adobe After Effects.

Now we are going to proceed to the course structure. The 1st course is entitled Graphic design basics in Adobe PhotoShop. It is taught to the 3rd year students and focuses on how to crop, resize, retouch, and enhance photography. They study authentic technique for adding texture and halftoning to work. The general topic is compositions and Photo collages. The students learn how to rearrange images, organize elements on canvas and put everything together into a beautiful design. At the end of the course they are able to make a bold and bright geometric collage. During the semester students are asked to create posters to announce workshops, webinars and online courses. According to the assignment, it should be posted in public places and on social media. Assessment is based on a set of criteria and includes fitness for purpose, quality of illustrations, layout and design, creativity.

At the end of the semester students also gain knowledge of how to create videos in Adobe After Effects with a use of motion graphics and animations. The students are given the task to create square-shaped videos for Instagram and Facebook

with a political, scientific and humorous content. The objective of the assignment is to drive significant engagement, to show viewers something they would not see every day and to evoke emotions from them. More than that, the students are required to create a minimalist animation inspired by their favorite movie using basic geometric shapes.

The second course is named Graphic design basics in Adobe Illustrator. It is aimed at teaching vector graphics, icons, infographic. The students expand their skills in pattern design, learn how to manipulate font into an interesting lettering piece and play with a texture. They are asked to create horizontal, vertical or sectional timelines that tells the story of great people throughout time or a company with the product evolution. More than that, the students learn to create an infographic resume.

During the course, the students study graphic design trends in creating leaflets, brochures: pixel art, bold colors, bright pastel gradients over the imagery, geometric shapes and pattern, modular or card-based layout, handcrafted letters. One of the assignments is to make a tri-fold leaflet to promote courses of Philological Faculty of RUDN University. The students are divided into groups and write leaflet design requirements for another group. It includes target audience, objective, key message, format, imagery, font, style, color, information about the course (structure, duration of tuition, career opportunities, etc.) and links to good examples of leaflets on Behance.net. Then groups exchange guidelines, create a project according to the requirements and receive feedback from «clients».

At the end of the 3rd year the students are taught to design Slidedocs [3]. The vehicle was invented by Nancy Duarte, an American communication expert. It is a document created in PowerPoint that integrates graphics and words in digestible chunks of information. Slidedocs are used as print materials not for a slide projector. The result is a content that can be read more quickly than an ordinary document. While learning this topic, the students get a task to convert a newspaper article on a business topic or a financial news into a visually rich and easily consumable slidedoc.

One more topic connected with presentation software is Prezi, an interactive online whiteboard that allows creating interactive presentations in a nonlinear way. Students are obliged to take part in a presentation battle and prepare a pitch deck for investors about a startup company. At the end of the contest the investors (assigned students) make a decision about whose presentation is truly absorbing and who receives funding for the new business venture.

The third course is titled Graphic design basics in Adobe InDesign. It is intended for the 4th year students and emphasizes differences between print publications and digital documents. The students

produce documents that contain interactivity, including videos, audios, images, links, slideshows, responsive buttons and bookmarks. One of the tasks is to re-create a magazine spread; the students learn to set up a file, work with images and a text and export a finished file as PDF.

Another assignment connected with the creation of a backgrounder (interactive PDF) is about a marketing forum with facts and stories related to key speakers. On the cover of a backgrounder the students put speakers' images and make them as buttons to bring a user to pages with more detailed information. They also ought to put hyperlinks to another page or a paragraph within document and to an external web page.

Another topic is the creation of dynamic ePubs (Electronic Publication), an electronic book standard that can be downloaded and read on smartphones, tablets or laptops. It adds flair and zest, but most importantly it also enhances a user experience through imagery, typography, color, layout, motion graphics. The students are given an assignment to create an electronic brochure that includes short videos demonstrating the main selling points of some product.

During the semester the students also learn to design a web template in Sketch, create buttons and menu bars.

At the end of the term the students get an assignment to plan and design a TEDx event in RUDN University. They should write a comprehensive guide that embraces theme, speakers, branding (TEDx logo, visual design of print and digital publications, event website), and a promotional plan.

This final project is presented by students and assessed by a Design teacher and a PR teacher. The assessment criteria include: the presentation skills, professional knowledge, design (of a presentation and print materials), team work (which is a peer evaluation by filling in a form).

4. Conclusion

Our work has led us to conclude that today the difference between PR in higher education and a real job is more blurred than ever. The best way to create a fundamental link between these fields is project-based learning. The presented curriculum proposes a systematic teaching method, where students learn Public Relation theory, design and production of marketing publications simultaneously. We are looking forward to continue to establish strong relationship with PR practitioners in order to stay updated with the latest vehicles in industry, and always to renew the curriculum. To further our research, we intend to conduct a SWOT analysis among students to evaluate both positive and reverse impact of the course.

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Session 17: Learning / Teaching Methodologies and Assessment

Title: Real Life Teaching for Real Life Students a Continuation of Advanced Concepts for a Better Future

(Author: Amie Canter)

Title: Activities Useful for Improving Consciousness in Classes of AI Technology Based on Blended Classes

(Author: Isao Miyaji)

Title: Value-Added Modelling in Primary and Secondary School: An Integrative Review of 674 Publications

(Authors: Jessica Levy, Ulrich Keller, Martin Brunner, Antoine Fischbach)

Title: iBook for Academic Writing: Learners' Predilection on Course Content

(Author: Farah Diana Farid, Adelina Asmawi)

Real Life Teaching for Real Life Students a Continuation of Advanced Concepts for a Better Future

Amie Canter

Advanced Concepts for a Better Future™

Abstract

The three goals that teachers have been directed to strive for are: 1) Develop better ways to engage students. 2) Reduce behavioral challenges. 3) Increase test scores. These goals however are not what teachers had in mind when they decided to become teachers. As teachers, we have bigger dreams for ourselves and for our students. These dreams include delivering compassionate teaching methods that will produce happy students with a love of learning. How can we get back on track? How do we make change to what is expected of teachers? The first step to recovering as a nation is being able to admit that there is a problem with the current curriculum provided to students. This problem can be solved by understanding that students are individuals that strive for personal goals. Our curriculum can change to accommodate the needs of today's generation of students. To get there, we must then be willing to put in the work required to unite for the greater good of the young minds of this country. Now I'm sure you're probably thinking, "How do we come to an agreement of the best methods to reach a solution?" In this paper, I will identify some key issues with our current curriculum and offer up ideas on how we can not only create goal oriented students that see themselves in the future, but suggest how we can raise a new generation of teachers driven to promote accelerated teaching methods. Now I'll admit, the first goal of developing the best instructional methods to engage students is one that all teachers are probably in agreement with. Teachers have a more productive classroom with active learning when all students are engaged and excited to learn. However, teachers feel pressured to constantly maintain absolute control of their room. Creating an environment that is both educational and fun is possible though. The classroom doesn't have to be silent all of the time. Students shouldn't have to constantly be seated and immobile. As long as you create an engaging lesson that has students participating and learning, you are doing the right thing. Administrators must first be supportive of this in order for teachers to feel encouraged and let loose of the reins a little. What does it mean to engage your class though? How do we measure how much students have learned? In order for teachers to feel confident and generate an animated and exciting lesson for their class, they must first have a learning goal in mind. What do you, as the teacher, want your students to learn from this lesson? Goal oriented lessons are the best method to produce positive results in how students not only engage in lessons but how they perform when asked to show what they know. So how do we measure how much students have learned? The answer is both complex and simple. Teachers must remember that students are individual learners that have their own personal goals, strengths, and weaknesses. Not all students test successfully using the same testing methods. You must first know your students as individuals and provide a method of testing that will produce true results of their knowledge. Yes, this can be challenging when you have a large class, but it is possible! Next, I will address the different ways you can approach assessments and how this change will build a happier environment where all students feel included. Developing assessments that produce accurate results of student learning is a constant challenge in education. How can we as teachers do something about this in the classroom? We can take control of this by being more flexible in our testing methods. Every test doesn't have to be paper and pencil. Tests can be oral, computer generated, written or discussion based. Tests don't always have to be obvious to students either. For many students, testing can be a stressful event that alters the

outcome of their results. Assessing students secretly during lessons is a great way to measure student learning and relieves students of the pressure of testing. Always remember the most important rule with anything you do in the classroom, know your students as individuals and create an environment based on their personal needs. If you stick to that rule, you will have an awesome classroom where your students can truly thrive. Goal number two on our list is to reduce behavioral challenges. Now we can look at this goal from two angles, but let's stick to how teachers perceive and pursue this goal. A classroom that has less behavioral challenges tends to come from an environment that is upbeat, engaging, and lessons are based on student interest. If we look at it from a student's perspective, you can easily understand why. Think about it for a minute, would you want to be trapped in a classroom all day, every day, and do the same mundane tasks? The answer is simple, you wouldn't. Then why would we suppress our students to such a regiment? We can come together as educators and put a stop to the current trends in education. Students should be allowed to have fun while learning new things. When students are having fun, they aren't going to act out or disrupt the class because they want the learning to continue! In addition to delivering lessons that are fun, animated, and student centered, teachers should always have positive incentives in place. We as adults work hard to get rewarded. Students should get rewarded when they work hard, too. Giving students positive feedback always produces much better results than constant negative feedback. Keep your behavioral management geared toward lifting students up, not bring them down. Think about how you react when you get criticized. Even as mature adults it can be hard to swallow. Now look it at from a child's perspective, it's even harder for them to suppress urges to react negatively. Overall, if you develop a happy, student centered classroom, you won't only see happy students, but you will be one happy teacher. The next goal on our state's agenda is to increase test scores. There is so much pressure put on teachers when it comes to testing. All students are expected to perform to a set standard, and if they don't, the teachers are blamed. Why is it that we expect students to perform the same way? Why is it so hard to accept that students are individuals that have different strengths and weaknesses? We must learn to accept that not all students perform well in the provided testing environment. Why is it that students must first have a 504 Plan or IEP in order to receive alternative testing and/or testing environments? Students that need these special accommodations are then treated as if they are different from their peers. Students shouldn't feel embarrassed or ashamed because they are being placed in another classroom to complete their test. Individualism amongst all students should be embraced and all students should be given the opportunity to participate in alternative testing when the traditional method doesn't calculate their true potential. Let's put a stop to traditional testing methods that diminish the strengths that each student has. All students have the ability to learn and be successful people. We need to change the way we develop, deliver, and assess learning goals. Try to think about it from the student's perspective. It is really stressful to prepare for state exams, it's even harder on them to complete them, and then there's the anxiety associated with not meeting the standards. When a student feels like a failure, this changes their hopes and dreams. Let's turn away from these traditional testing methods that tear down students and begin promoting their personal goals through instructional methods that drive their future to success. To establish a classroom that will build accelerated learners, you must first look back at my first white paper, "Advanced Concepts for a Better Future". It will provide you with insight on how to begin your school year and institute new methods of instruction that will inspire your students to become goal oriented thinkers. Remember our ultimate goal as teachers is to build independent and successful adults that will make a positive impact on the world. As a teacher, you may feel that you are just a stepping stone along the way, but what you do with your students will have an impact on their future. Whether or not this is a positive or negative impact is up to you. Do you want to be remembered as the teacher that did the minimum required, or do you want to be the teacher that introduced them to their career? The choice is yours. In the end, remember why you became a teacher. Harness that memory and take control of your classroom by promoting the individual needs of your students. Each student has strengths, weakness, hopes, dreams, and desires for a life where they make a positive

impact on the world. Your new mission as a teacher is to go above and beyond the standards set by your state. You must lead the way by creating an engaging, exciting, and happy classroom environment that will be successful from day one. Don't be discouraged by the number of students you have or the limited amount of resources available. You can do this! With the support of your fellow teachers, parents, and community, you can establish an accelerated classroom that will be an integral part of a better future.

Activities Useful for Improving Consciousness in Classes of AI Technology Based on Blended Classes

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Abstract

Target subject is a module called 'AI Technology', which applied the ideas of blended learning. Firstly, lecture-style teaching was conducted with presentation slides in order to explain the contents of a textbook. Secondly, students were required to do exercises and quizzes. By using the last eight weeks, they were asked to create presentation slides outside a class to introduce the up-to-date topics on artificial intelligence. These slides were mutually evaluated among them so that they developed their own slides based on the feedback before the tenth week of the course for the second round of mutual evaluations. Improving consciousness of a module is meaningful. To know the reasons is more significant. For such occasions activities useful for improving consciousness of a module in 'AI Technology' are found. Then it is compared with my previous research outcome of the module, 'Artificial Intelligence'. This paper reports their results.

1. Introduction

Learning styles differ according to students: in other words, there is no perfect medium to fit all. Applying multiple media in the classroom, therefore, allows to support the various types of learning and to deepen students' understanding of course contents [1] [3]. Several studies point out the recent trend that e-learning is applied to the classrooms in Japanese higher education [6]. Arakawa et al. [2] proposed an educational approach for students to repeatedly participate in a cycle of preparation, participation and review of a module by providing exercises for acquiring knowledge necessary for understanding the subjects on programming. They concluded that this approach was effective for the development of their logical thinking techniques.

My previous research also proved the fact that e-learning supports students' learning activities including course preparation and review [4]. In the academic year 2004, I gave lectures on artificial intelligence with presentation slides and gave quizzes in the last ten minutes of each class at a selective module called 'Artificial Intelligence' for the third year students in the Department of Information Science at A University. Outside the classroom,

students were able to learn the course contents with the lecture slides and exercises through an e-learning system. In this way, it was aimed to enhance the understanding of the subject by autonomous learning [5]. It was reported that they were also encouraged to record the course contents in lecture notebooks provided by the author [7].

In this study, I will report contents of a module called 'AI Technology', which also applied the ideas of blended learning and was similar to contents of 'Artificial Intelligence'. After listening to a 60-minute lecture, students were required to do an exercise for 20 minutes and a quiz for 10 minutes in each class. Quizzes were based on the contents that students have previously learnt. Furthermore, they were asked to submit lecture notebooks just after the mid-term and final exams. As a final task, they created presentation slides for introducing the latest topics on AI technology. The slides were evaluated by the course participants and the feedback was returned to each of them for the development of the slides. After resubmission, the slides were again assessed by students [8].

Course contents of 'Artificial Intelligence' and 'AI Technology' resemble except the final tasks. In the former module, students were required to submit reports on designing a learning support system whereas the latter asked them to create presentation slides for introducing the latest topics on AI. Although the previous studies mentioned above examined learning effects of students by using multiple media, the difference between the effects depending on various usages of the same medium is not yet investigated. This research, therefore, attempts to identify activities useful for improving consciousness as the difference of learning effects depending on the different tasks by statistically comparing the levels of understanding technical terms and consciousness towards competency.

2. Course Design and Contents

Target subject is a selective module called 'AI Technology', targeted for third year students at the Department of Information Science in A University. It consisted of 90-minute lessons for fifteen weeks.

The number of student participants of this module was 36.

A lesson consisted of an explanation of a quiz given at the previous week as review, a 60-minute lecture with presentation slides, a 20-minute exercise and a quiz. Exercises aimed to stabilize students' understanding of the contents of a lecture by answering questions on the lecture notebooks. The course instructor observed the students and answered questions individually. If necessary, he explained the ideas and solutions of the questions on a blackboard. Students also answered a few quizzes for the last 10 minutes by using a textbook [9] or other resource for reference.

Students were encouraged to use lecture notebooks for course preparation and review. It aimed

to enhance students' understanding of the course contents by answering 196 questions in 37 pages. In this way, the cycle of (1) lectures, (2) exercises, (3) quizzes and (4) lecture notebooks was repeated to develop the students' understanding of the course.

As a final task, students created presentation slides for introducing the latest topics on AI by using and expanding the knowledge on this field during the last part of this program. Firstly, handouts of how to make slides and what to include in them were given to students. Secondly, they downloaded six slides as a framework for creating their own presentation slides. After they submitted them, they registered online and downloaded others' slides for mutual

Table 1. Lesson Plan of 'AI Technology'

Time	Lecture Contents	Lecture							e-learning					
		No. of slides	Text	No. of pages in the text	Documents distributed	Sheet of Exercise	Short test	Answer slide of short test	Survey of technical terms	Awareness survey	Downloading files	Slides to introduce on AI	Observation	Evaluation sheets
1	Lesson plan, Understanding survey of technical terms, Awareness survey, 1.1 What is Artificial Intelligence?, 1.2 Research field of Artificial Intelligence, 1.3 History of Artificial Intelligence, 1.4 The Fifth Generation Computer.	18	Chapter 1	10	Lesson plan, Lecture notebook No.1	Exercise 1	Short test 1		Pre-understanding survey of technical terms	Pre-awareness survey	Evaluation sheet			Survey of technical terms and awareness
2	2.1 Knowledge bases, 2.2 Semantic networks, 2.3 Frame theory, 2.4 Production rule, 2.5 Predicate logics	25	Chapter 2	10	Lecture notebook No.2	Exercise 2	Short test 2	Short test 1						
3	2.6 Reasoning, 3.1 What is an expert system?, 3.2 Structure of an expert system, 3.3 Kind of expert systems, 3.4 Production system.	39	Chapter 3	17.5	Lecture notebook No.3	Exercise 3	Short test 3	Short test 2						
4	3.5 AI language, 3.6 Knowledge engineer, 3.7 Certainty factor, 3.8 Explanation function, 3.9 Choice of rules, 3.10 Knowledge acquisition, 4.1 What is fuzzy?	11	Chapter 3	4.5		Exercise 4	Short test 4	Short test 3						
5	4.2 Fuzzy set, 4.3 Fuzzy operation, 4.4 Agreement degree, 4.5 Fuzzy reasoning	19	Chapter 4	10	Lecture notebook No.4, explanation sheet of final task	Exercise 5	Short test 5	Short test 4			Framework slide to introduce the latest topics on AI			
6	4.6 Fuzzy control, 5.1 Neural network and neuro computer, 5.2 Characteristic of neuro computers, 5.3 Structure of brains, 5.4 Principle of neuro computers, 5.5 Structure of neuro computers	23	Chapter 5	9.1	Lecture notebook No.5	Exercise 6	Short test 6	Short test 5						
7	Midterm examination						Examination sheet							
8	5.6 Neuro chip, 5.7 Application of neuro computers, 7.1 Treatment method of natural languages, 7.2 Context-free grammar, 7.3 Augmented transition network grammar, 7.4 Semantic networks	16	Chapter 7	8.5	Lecture notebook No.6	Exercise 7	Short test 7	Short test 6						
9	7.5 Case grammar, 7.6 CD theory, 7.7 Montague grammar, 7.8 Analysis of Japanese, 7.9 Structure of natural language processing system, 7.10 Application of natural language processing system	25	Chapter 7	10.5		Exercise 8	Short test 8	Short test 7			Registration of complete slide to introduce	Submission of complete slide to introduce	Observation slides to introduce	
10	8.1 The present conditions of machine translation system, 8.2 Translation method of machine translation, 8.3 Problems of machine translation system, 9.1 The history of robots	18	Chapter 8	9	Lecture notebook No.7	Exercise 9	Short test 9	Short test 8						
11	9.2 Intelligence robot capability, 9.3 Various robots	21	Chapter 9	13.6	Lecture notebook No.8	Exercise 10	Short test 10	Short test 9						Self-evaluation and other evaluation
12	10.1 A merit and problems of sound recognition, 10.2 Method of voice inputting, 10.3 Speech understanding, 10.4 Application of speech recognition technology, 10.5 Voice syntheses	15	Chapter 10	4.6	Lecture notebook No.9	Exercise 11	Short test 11	Short test 10			Registration of other evaluation		Observation on other evaluation	
13	12.1 Artificial life, 12.2 Intellectual agents, 12.3 Genetic algorithm, 12.4 Games	14	Chapter 12	6.8	Lecture notebook No.10	Exercise 12	Short test 12	Short test 11			Registration of revised slide to introduce	Submission of revised slide to introduce	Observation revised slides to introduce	
14	12.5 Quantum computer, 12.6 Data mining	9	Chapter 12	4.6		Exercise 13	Short test 13	Short test 12			Registration of other reevaluation			Self-reevaluation and other reevaluation
15	Understanding survey of technical terms, Awareness survey, Class questionnaire						Short test 13		Post-survey of technical terms	Post-awareness survey			Observation on other reevaluation	Other reevaluation, survey of technical terms and awareness

learning. In this way, they were able to broaden the knowledge relating to AI technology and AI itself. Furthermore, they observed and evaluated others' slides so that they could improve their own slides according to the feedback. Through such interactions among students, the module successfully established the students' understanding of the course subject.

3. Analysis results

In the survey on the students' consciousness-raising after taking the program, effective activities for developing their consciousness were also asked. The results were analyzed by cross tabulation in terms of consciousness and activities. Based on the table from the cross tabulation, consciousness and activities were analyzed by cluster analysis. Furthermore, χ^2 -test is conducted by using the cross tabulation tables by the clusters. If the result was significant, residual analysis was also carried out in order to explain the cluster of activities effective for developing the cluster of consciousness. By comparing the first round of mutual evaluations of presentation slides with the second round, learning effects of interactions among students and between the instructor and students were also demonstrated.

This study also investigated the different learning effects between the two modules, 'AI Technology' and 'Artificial Intelligence'. Effective activities for consciousness-raising were also comparatively analyzed to identify the different reasons of how students improve their consciousness.

In this paper, numbers in brackets signify item numbers of consciousness whereas numbers without brackets signify item numbers of activity.

3.1. Activities Effective for Consciousness-Raising in 'AI Technology'

At the post-course questionnaire, students were required to choose effective activities for raising their consciousness (see Table 2) from 33 activities (see Table 3). The total number of activities selected was 3,834, 106.5 per student. The relationship between consciousness towards competence and activities was shown on a 45 × 33 table of cross tabulation.

3.2. Categorizing Consciousness by Cluster Analysis Using the Number of Activities Effective for Consciousness-Raising

A table of cross tabulation consists of 45 items of consciousness towards competence as rows and 33 activities as columns by counting the number of activities effective for consciousness-raising. Based on this table, items of consciousness as cases and activities as variables were analyzed by cluster analysis by means of Ward's method. Dividing the dendrogram at the dissimilarity 7, consciousness was

categorized into three clusters (Clusters I-III). The horizontal axis signifies dissimilarity whereas the vertical axis is consciousness.

Cluster I consists of 18 items of consciousness including (38), (39), (40), (41), (44), (45), (42), (43), (37), (31), (32), (30), (7), (8), (1), (2), (4) and (3). The average frequency of effective activities selected for 18 types of consciousness was 87.5, slightly higher than the total mean. The frequencies of (37), (3), (32), (2), (4) and (1) were relatively high. Cluster I, thus, is 'consciousness towards understanding computers and knowledge of AI'.

Cluster II consists of 19 items including (14), (15), (12), (13), (28), (29), (22), (27), (33), (34), (24), (25), (26), (9), (21), (10), (11), (5) and (6). The average frequency of effective activities selected for these types of consciousness was 87.2, slightly higher than the total mean. The frequencies of (33), (34), (22), (27), (5), (21), (26), (28) and (6) were relatively high. Cluster II indicates 'consciousness towards competence to set up and undertake a task on schedule'.

Table 2. Number of effective activities chosen for consciousness

Awareness	Total
(1) Interest in and curiosity about computers	90
(2) Understanding of computers	94
(3) Computer operation skills	97
(4) Computer usage methods and broadening of situations	91
(5) Ability to set challenges, ability to discover problems	94
(6) Ability to plan, to do things in a planned manner	90
(7) Cultivation of understanding of knowledge learned	86
(8) Ability to study by oneself, ability to learn	85
(9) Ability to gather information, ability to conduct research	84
(10) Ability to sort through related information or data	86
(11) Ability to analyse information	83
(12) Ability to express thoughts in writing	75
(13) Ability to express thoughts through media other than writing	73
(14) Ability to talk to and explain to others comprehensively	72
(15) Ability to make presentations	67
(16) Ability to listen to others and to ask questions to others	74
(17) Communication ability	73
(18) Ability to appropriately self-evaluate one's thoughts	71
(19) Ability to appropriately evaluate other people's thoughts	71
(20) Ability to correct and improve on one's own thoughts	79
(21) Ability to pursue matters deeply, ability to explore matters	93
(22) Ability to execute, ability to practice, ability to put into action	97
(23) Ability to cooperate and to learn concertedly	79
(24) Sense of accomplishment, sense of satisfaction	87
(25) Sense of fulfilment, sense of achievement	88
(26) Ability to solve problems	92
(27) Ability to construct and create knowledge	94
(28) Ability to think, consider and come up with ideas by oneself	90
(29) Creativity/ability to create	84
(30) Interest in and curiosity about this field	88
(31) Interest about the artificial intelligence	87
(32) Learning will about the artificial intelligence	94
(33) Will to work on a final task	104
(34) Ability to accomplish a final task till the last	103
(35) Ability to understand the thought of the person	81
(36) Ability to understand the introduction slide of other people	75
(37) Knowledge about the artificial intelligence	104
(38) Knowledge about knowledge and the reasoning	83
(39) Knowledge of the expert system	83
(40) Knowledge of the fuzzy	82
(41) Knowledge of the neuro computer	83
(42) Knowledge of the natural language processing	83
(43) Knowledge of the machine translation	81
(44) Knowledge of the intelligent robot	81
(45) Knowledge of the sound recognition	83
Average	3834

Table 3. Number of effective activities chosen for raising their consciousness

Activity	Total
01. Listening to lectures	749
02. Getting an image of the whole lecture	233
03. Asking friends questions about lecture topics	95
04. Asking a teacher questions about lecture topics	17
05. Preparing	116
06. Reviewing	178
07. Studying using the textbook	78
08 Taking a quiz	122
09. Listening to the answer of quiz	155
10. Answering to the exercise during class	14
11. Examining the content of lecture notebooks	87
12. Summarizing the lecture notebook	363
13. Studying for the exam using the notebook	47
14. Studying for the middle exam	35
15. Studying for the final exam	133
16. Using Word	79
17. Using Excel	79
18. Using PowerPoint	96
19. Asking using e-mail	0
20. Writing on the bulletin board	2
21. Reading the bulletin board	2
22. Evaluating the improved force and consciousness	21
23. Evaluating recognition rate of technical terms	8
24. Listening to about final task creating slides for introducing the topics	41
25. Asking a teacher about final task creating slides for introducing the topics	6
26 Asking questions to friends about final task creating slides for introducing the topics	52
27 Determining the content of the slides for introducing the topics	102
28. Examining the contents of slides for introducing the topics	229
29. Creating a topic introduction slide by summarizing the contents examined	315
30. Evaluating yourself about slides for introducing the topics	120
31 Reading explanation of other's slides for introducing the topics	122
32 Evaluating others' topics for introducing the topics	135
33. Other	3
Average	3834

Cluster III consists of 8 items of consciousness including (35), (36), (19), (18), (20), (17), (23) and (16). The average frequency of effective activities selected for these types of consciousness was 75.4, slightly lower than the total mean. The frequencies of all items were almost the same. Cluster III is 'consciousness towards competence to mutually evaluate, develop and understand a task'.

3.3. Categorizing Activities by Cluster Analysis Using the Number of Activities Effective for Consciousness-Raising

Based on a table of cross tabulation used in 3.2, activities as cases and items of consciousness as variables were analyzed by cluster analysis by means

of Ward's method. Dividing the dendrogram at the dissimilarity 2, activities were categorized into three clusters (Clusters 1-3). The horizontal axis signifies dissimilarity whereas the vertical axis is activity.

Cluster 1 consists of 29 activities including 19, 21, 20, 25, 33, 23, 10, 4, 22, 13, 14, 24, 3, 26, 16, 18, 17, 31, 32, 7, 11, 9, 15, 8, 6, 5, 27, 2 and 30. Particularly, frequencies of 2, 6, 9, 32 and 15 were high. Cluster 1, therefore, is 'activities to grasp an image, listen to a solution, learn and evaluate'. Cluster 2 consists of 3 activities including 28, 29 and 12. All frequencies were high so that this cluster is 'activities of note-taking and creating presentation slides for introducing a topic'. Cluster 3 has only one activity 1, 'to listen to a lecture' so that it is 'an activity to listen to a lecture'.

3.4. Results of Analyses: Activities Effective for Consciousness-Raising

A table of cross tabulation about consciousness and activities consists of 45 rows and 33 columns. Frequencies of cells in each cluster mentioned in the previous section were aggregated (see Table 4 on the upper left). This table was used as a 3x3 contingency table for χ^2 -test. As a result, the deviation was significant ($\chi^2(4)=301.1$, $p<.001$). Table 4 on the lower left shows the result of residual analysis. Cells showing positive residual (with * on significance probability of Table 4) signify particularly effective activities.

The cells showing significance identify the activities effective for raising students' consciousness towards competence. For example, it was found that Activity Cluster 1, 'activities to grasp an image, listen to a solution, learn and evaluate', is useful for developing Consciousness Cluster III, 'consciousness towards competence to mutually evaluate, develop and understand a task'. Activity Cluster 2, 'activities of note-taking and creating

Table 4. χ^2 -test and Residual Analysis of the Table of Cross Tabulation about Consciousness and Activity Clusters

Cluster of Activity \ Cluster of Consciousness	Observed frequency			Total	Expected frequency		
	1. Activities to grasp an image, listen to a solution, learn and evaluate	2. Activities of note-taking and creating presentation slides for introducing a topic	3. An activity to listen to a lecture		1. Activities to grasp an image, listen to a solution, learn and evaluate	2. Activities of note-taking and creating presentation slides for introducing a topic	3. An activity to listen to a lecture
I. Consciousness towards understanding computers and knowledge of AI	843	277	455	1575	894.7	372.6	307.7
II. Consciousness towards competence to set up and undertake a task on schedule	880	562	214	1656	940.7	391.8	323.5
III. Consciousness towards competence to mutually evaluate, develop and understand a task	455	68	80	603	342.5	142.7	117.8
Total	2178	907	749	3834	2178.0	907.0	749.0
	Adjusted residual				Significance probability		
I. Consciousness towards understanding computers and knowledge of AI	-3.4	-7.4	12.2				***
II. Consciousness towards competence to set up and undertake a task on schedule	-4.0	13.1	-9.0			***	
III. Consciousness towards competence to mutually evaluate, develop and understand a task	10.1	-7.8	-4.2		***		

*** p<.001

presentation slides for introducing a topic', is effective for enhancing Consciousness Cluster II, 'consciousness towards competence to set up and undertake a task on schedule'. Finally, Activity Cluster 3, 'an activity to listen to a lecture', is useful for raising Consciousness Cluster I, 'consciousness towards understanding computers and knowledge of AI'.

3.5. Comparison of Effective Activities for Consciousness-Raising between 'AI Technology' and 'Artificial Intelligence'

In order to compare the activities effective for students' consciousness-raising between 'AI Technology' and 'Artificial Intelligence', this section utilized 30 items of general consciousness. The number of effective activities in both modules was 33 and 34 respectively. 25 items shown in Table 5 on the left were analyzed as the common activities. 30 items of consciousness and 25 items of activities were analyzed by cross tabulation and the results were added according to each cell in order to create a table of cross tabulation of these two modules. Cluster analyses were applied like in 3.2 and 3.3 and both consciousness and activities were categorized into three clusters.

Table 5. Effective Activities for Raising Consciousness in Both Modules

No	Activities in AI Technology	Selected number	Activities in Artificial Intelligence	Selected number
1	01. Listening to lectures	749	01. Listening to lectures	50
2	02. Getting an image of the whole lecture	233	02. Getting an image of the whole lecture	11
3	03. Asking friends questions about lecture topics	95	03. Asking friends questions about lecture topics	8
4	04. Asking a teacher questions about lecture topics	17	04. Asking a teacher questions about lecture topics	5
5	05. Preparing	116	05. Preparing	11
6	06. Reviewing	178	06. Reviewing	15
7	07. Studying using the textbook	78	07. Studying using the textbook	0
8	08. Taking a quiz.	122	08. Taking a quiz.	5
9	09. Listening to the answer of quiz	155	09. Learning through lecture slides	17
			10. Evaluating about learning through lecture slides	11
10	10. Answering to the exercise during class	14	11. Learning through exercise problems	17
			12. Evaluating about learning through exercise problems	9
10	11. Examining the content of lecture notebooks	87	16. Examining the content of lecture notebooks	23
11	12. Summarizing the lecture notebook	363	17. Summarizing the lecture notebook	68
12	13. Studying for the exam using the notebook	47	18. Studying for the exam using the notebook	21
13	14. Studying for the middle exam	35	23. Studying for the middle exam	33
14	15. Studying for the final exam	133	24. Studying for the final exam	34
			25. Seeing the results of the middle exam	7
15	16. Using Word	79	15. Using Word	24
16	17. Using Excel	79	14. Using Excel	18
	18. Using PowerPoint	95		
17	19. Asking using e-mail	0	13. Asking using e-mail	5
	20. Writing on the bulletin board	2		
	21. Reading the bulletin board	2		
			19. Listening to academic lectures	22
			20. Listening to the academic lecture and write a report.	15
			21. Rewriting the report by elaborating it.	3
			22. Completing the report. In case of	17
18	22. Evaluating the improved force and consciousness	21	33. Evaluating the improved force and consciousness	26
	23. Evaluating recognition rate of technical terms	8		
19	24. Listening to about final task creating slides for introducing the topics	41	26. Asking questions about the concept of learning support system.	6
20	25. Asking a teacher about final task creating slides for introducing the topics	6	27. Asking the teacher about the learning support system.	12
21	26. Asking questions to friends about final task creating slides for introducing the topics	52	28. Asking questions to friends about the learning support system	16
22	27. Determining the content of the slides for introducing the topics	102	29. Determining the contents of the learning support system to be conceived	11
23	28. Examining the contents of slides for introducing the topics	229	30. Examining the contents of the learning support system	15
24	29. Creating a topic introduction slide by summarizing the contents examined	315	31. Conceiving the contents studied as a learning support system	19
	30. Evaluating yourself about slides for introducing the topics	120		
			32. Summarizing the learning support system in a report	19
	31. Reading explanation of other's slides for introducing the topics	122		
	32. Evaluating others' topics for introducing the topics	135		
25	33. Other	3	34. Other	2
	Total	3834	Total	581

3.5.1. Effective Activities for Consciousness-Raising from the Tables of Cross Tabulations of AI Technology and Artificial Intelligence. Based on the tables of cross tabulation mentioned above, frequencies of the cells according to the clusters were

aggregated to create a 3x3 table of cross tabulation. It was also analyzed by χ^2 -test as a contingency table. The results showed that the deviations of frequencies were significant ($\chi^2(4)=319, p<.001$). Next, residual analysis is conducted. These significant cells identify

the activities effective for consciousness-raising towards competence.

The results revealed (1) that Activity Cluster 1, 'activities of review and exam preparation', was useful for raising Consciousness Cluster II, 'consciousness towards competence of cooperating, communicating and listening', and Cluster III, 'consciousness towards interest and understanding of computers'; (2) that Activity Cluster 2, 'activities to research and organize information' was effective for Consciousness Cluster I, 'consciousness towards the competence of setting up, learning and undertaking a task' and (3) that Activity Cluster 3, 'an activity to listen to lectures' was useful for Consciousness Cluster III.

3.5.2. Effective Activities for Consciousness-Raising in the Module 'AI Technology'. Based on the table of cross tabulation concerning the module of 'AI Technology', frequencies of the cells according to the clusters were aggregated to create a 3×3 table of cross tabulation. It was also analyzed by χ^2 -test as a contingency table. The results showed that the deviations of frequencies were significant ($\chi^2(4)=417$, $p<.001$). Next, residual analysis is conducted. These significant cells identify the activities effective for consciousness-raising towards competence. The difference from the table of two modules was that Activity Cluster 1, 'activities of review and exam preparation' was not effective for Consciousness Cluster III, 'consciousness towards interest and understanding of computers'.

3.5.3. Effective Activities for Consciousness-Raising in the Module 'Artificial Intelligence'. Based on the table of cross tabulation concerning the module of 'Artificial Intelligence', frequencies of the cells according to the clusters were aggregated to create a 3×3 table of cross tabulation. It was also analyzed by χ^2 -test as a contingency table. The results showed that the deviations of frequencies were significant ($\chi^2(4)=193$, $p<.001$). Next, residual analysis is conducted. These significant cells identify the activities effective for consciousness-raising towards competence. The commonality between the results of both modules was that the significant cells were identical whereas the difference was that the significance levels of Activity Cluster 1 and 3 in 'Artificial Intelligence' were low (5%).

4. Conclusion

The research findings were as follows; (1) In 'AI Technology', Activity Cluster 1, 'activities to grasp an image, listen to a solution, learn and evaluate', is useful for developing Consciousness Cluster III, 'consciousness towards competence to mutually evaluate, develop and understand a task'. Activity Cluster 2, 'activities of note-taking and creating presentation slides for introducing a topic', is effective for enhancing Consciousness Cluster II,

'consciousness towards competence to set up and undertake a task on schedule'. Activity Cluster 3, 'an activity to listen to a lecture', is useful for raising Consciousness Cluster I, 'consciousness towards understanding computers and knowledge of AI'.

(2) Activities effective for students' consciousness-raising in both modules were identical except their significance levels.

5. Acknowledgement

This work was supported by JSPS KAKENHI Grant Number JP25350364. The author would like to express appreciation to the students who were surveyed and who helped collect educational information.

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Value-Added Modelling in Primary and Secondary School: An Integrative Review of 674 Publications

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Abstract

Value-added (VA) modelling aims to quantify the effect of pedagogical actions on students' achievement, independent of students' backgrounds [1]; in other words, VA strives to model the added value of teaching. VA is typically used for teacher and/or school accountability [2]. Although, VA models have gained popularity in recent years a substantial increase of publications is to be observed over the last decade, there is no consensus on how to calculate VA, nor is there a consensus whether and which covariates should be included in the statistical models [3]. The aim of the present study is to conduct a to date non-existent integrative review on VA modelling in primary and secondary education. Starting with an exhaustive literature research in the ERIC, Scopus, PsycINFO, and Psyn dex databases, we reviewed and thoroughly classified 674 VA publications from 32 different countries. Half of the studies investigated VA models at teacher level; the remaining looked at school or principal level. 370 studies used empirical data to calculate VA models. Most of these studies explained their covariates, but approximately 25% did not specify the model. Most studies used prior achievement as a covariate, but cognitive and/or motivational student data were almost never taken into consideration. Moreover, most of the studies did not adjust for methodological issues such as missing data or measurement error. To conclude, given the high relevance of VA - it is primarily used for high-stakes decisions - more transparency, rigor and consensus are needed, especially concerning methodological details

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iBook for Academic Writing: Learners' Predilection on Course Content

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Abstract

This study presents the result of undergraduate students' course content predilection for an Academic Writing iBook, in a Malaysian university. Nowadays, many undergraduate students are struggling especially in academic writing course and other soft skills required in higher education institutes. This resulted to increased dropout rates due to the problems of low student achievement, boredom and alienation in classroom [1]. These are true among the undergraduate students in this study. Therefore, in the present study, an iBook for Academic Writing has been identified to maximize students' engagement and learning potential in the classroom. Under the circumstances, the researcher considered that a needs analysis on the students' predilection would benefit the students, lecturers and university. To this end, the researcher conducted a Focus Group Interview with three students through a case study method. The respondents were interviewed on their preferences, interests and expectation on the course content for an Academic Writing iBook. The uniqueness of a focus group is its ability to generate data based on the synergy of the group interaction. Consequently, it gave the respondents the opportunity to listen to the views of others and consider their own views accordingly [2]. Findings indicated that students would prefer to receive more engaging learning, more interactive resources, step-by-step guidance and a platform for group interaction between students and lecturers in an Academic Writing iBook. Findings also indicated that students would prefer using Academic Writing iBook to obtain course content in an interactive manner through multimedia, charts, pictures and social platform.

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Session 18: Higher Education

Title: The Transition that International Students Experience when Studying at a UK University
(Author: Catherine Monaghan)

Title: Higher Education Dropout: A Case Study in the North of Portugal
(Author: Joana Fernandes)

Title: Impact of Technology Adoption on Higher Education Learning Environment:
Evidences from MENA Region
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Title: Pressure of Infrastructural Deficit on Accreditation of Higher Education
Programmes in Public Universities in Niger Delta, Nigeria
(Author: Jonathan E. Oghenekohwo)

The Transition that International Students Experience when Studying at a UK University

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Abstract

The aim of this research is to understand the transitions international students experience while studying at a UK university and how to assist and support them during this adjustment period. In addition, it is hoped that through gaining a better insight in to this transition and adjustment process, Higher Education Institutions will be better placed to deliver the best possible support for international students.

1. Introduction

The impact of globalisation expands much further than the fields of business and enterprise, it affects the cultural foundation of society and educational organizations [1]. Higher Education institutions are becoming more involved in preparing and receiving students to study abroad. The Higher Education Academy [8] points out that a key emphasis in Higher Education is to prepare graduates to become universal citizens and professionals in today's multifaceted world. Institutions are embracing this activity and according to Jones [5] the policy-based response to this, by many organisations, is internationalisation. In essence, it is the universities that provide academic structures which are 'world class' that command the most international respect.

This can take the form of student and faculty exchange programmes, internationalising the curriculum, cultural studies and internships. Internationalisation of Higher Education must be embedded in the culture of each University, and where the ethos is catalysed by the experience of each individual, transparency and purpose in order to obtain its numerous objectives [2]. The view held by the International Association of Universities [6] is that the overall experience contributes to the personal, professional and educational development of international students and staff involved with the programme. Higher Education Institutions in the UK have witnessed growth in the enrolment of international students and the student's experience should be to encounter a high-quality learning experience which is culturally inclusive. Students experiences can differ greatly and various different aspects such as acceptance by host students; academic support; different types of assessment can all affect

the student and in turn have an impact on their ability to achieve and settle within the host academic culture [4].

Campbell [3] applauds the knowledge background, global perspectives, economic growth, diversity and energy that international students can bring when studying in a different country other than their own. This enrichment brought to host universities is recognised and encouraged by Abella [1]. The international student, however, faces acculturation challenges. In addition, teaching practices and methods of assessment at the host university are often unfamiliar. Further challenges can include cultural conflicts, communication difficulties, financial tensions, lack of assimilation with home students and loneliness [7]. It is recognized that while considerable resources are channelled towards the recruitment of international students, how the organization addresses the individual needs, concerns and modifications required by the student to studying in a partner university remains blurred. Therefore, exploring the transition that international students experience when studying abroad and on transition back to their home country is timely.

2. Research Aim

The aim of this research is to understand the international student's experiences and perspectives during their transition to studying at a host university and on return back to their home country.

3. Research Method

This study employed a qualitative approach as the guiding methodological framework to assist in describing the unique experience of the international students transition to studying in a host university. The present study is grounded in Schlossberg's Transition Theory. Semi structured interviews with 14 MSc international students were adopted to collect the data. Interviews were transcribed verbatim and thematic analysis obtained. To assist with the data analysis, the computer package NVivo was used. Pilot interviews were conducted. Full ethical approval was granted by the School Research Ethics Committee.

4. Conclusion

Without doubt, international students are challenged with ways of adapting culturally and socially to the new host country. Often the level to which the student adjusts is pivotal in assisting their settling in period and also in minimising any associated stress. By gaining a greater insight in to this transition, Higher Education Institutions may be in a firmer position when implementing and strengthening robust services to facilitate a more seamless adaption process for the international student.

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Higher Education Dropout: A Case Study in the North of Portugal

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Abstract

This paper focuses in the impact of education for the individuals and for the nation and how the dropout students have a considerable impact in regional and national development and so prevention measures should be developed and implemented. The paper is supported on the human capital theory, a concept that has a basic premise that the individuals that belong to a society are a form of capital in which the society can invest in the same way has they invest in physical capital [6].

1. Introduction

The human capital theory analysis the effects of education in economy in general and in the individuals' earnings in particular [4]. For a country to develop it is important to have an educated and qualified population [2]. However, Portugal in 2015 was in the top five countries of the OECD (Organisation for Economic Co-operation and Development) with the highest percentage of adults (54.9%), with ages ranging from 25 to 64 years, that did not complete secondary education while the OECD average is 23.5% [3]. Portugal also belongs to the top three countries of the OECD with the lowest percentage (23%) of adult population with a higher education degree, almost 40% below the 36% of the OECD average [3]. There is also an increasing tendency in the number of young people that do not study or work. Two major reasons can explain this, one is associated with the economic crisis and the other explanation has to be of structural nature, such has the lack of interest or motivation of many young ones regarding school and training [5]. It is relevant to understand students' motivations and expectations in order to prevent dropout and also to increase the success rate in concluding their grades. To do so, a study was conducted in a Portuguese higher education institution (ESACT – School of Public Management, Communication and Tourism from the Polytechnic Institute of Bragança) developed in collaboration with the 3rd year undergraduate students to understand how they feel about their attendance, their future, and also how are they now regarding the prospect of abandoning school. In this study we understand

dropout according to Tinto and Cullen definition (1973), as those persons who never receive a degree from any institution of higher education.

2. Research objectives

The main objective to the research was to plan and develop measures to prevent dropout. In order to achieve that we established other objectives, namely we intended to understand the students, who they are and how are they perceiving their academic path and their motivational level and finally we intended to also find some preventing measures to help students successfully finish their degrees.

3. Methodology

The methodology followed was based in a qualitative and a quantitative approach. We decided to start using a qualitative method supported by in-depth interviews from students of all the years and all the degrees lectured in the ESACT and 22 interviews were conducted. The analysis was made using the qualitative software Nvivo 11.0. Following the qualitative analysis and according to the results obtained, a quantitative analysis was then conducted. Here we studied the determinants of students' propensity to drop out of university using variables related to the educational qualifications of parents, student's expectations and parent's expectation, degree of motivation, among others [1]. An on-line questionnaire was implemented and about 1,000 answers were gathered. From both analysis it was clear that the main reasons students thought about dropping out were for financial reasons, lack of motivation and a disappointment with the degree chosen. Even though Becker [1] identified students that are ill-prepared to obtain an academic degree as more likely to dropout, we also had some students stating not being prepared for the degree, but it was clear to them that even knowing that some degrees and some subjects are difficult the majority though that with effort they could pass. The students stressed that the fact that it was hard to live on their own for the first time, associated with homesickness and difficulty

in knowing other students and feel supported was the part that they taught could more easily be changed and would do the difference.

4. Discussion and results

The results obtained, allowed us to believe that a better and more personal contact with the students could make them feel less alone and more motivated to attend classes. As such, a pilot support system is being prepared and is going to be launched collecting a group of volunteers to be the big brother of the new students, and so the third-year students will sponsor the freshmen. With this we intend to reduce the dropout rate since, in theory, we will overcome some of the major reasons that lead to lack of motivation. Alongside we will monitor the students in the middle of the year in order to help in an early stage student that are facing the possibility of dropping out.

5. References

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Impact of Technology Adoption on Higher Education Learning Environment: Evidences from MENA Region

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Abstract

Focusing on the emerging economy in the Middle East and North Africa (MENA) region, this paper seeks to understand the adoption and management of technological innovations within the higher education sector and its impact on the learning environment. The adopted conceptual model highlighted that the adoption decision is based on a combination of perceived attributes of the educational technology, inter-organization factors and consumer factors. The model is testified drawing on the results of empirical work conducted among three top ranked universities in Egypt. It should be noted that Egypt is selected as it presented the larger educational sector in the MENA region in terms of capacity and structure. The research model has been tested with Structural Equation Modelling (SEM). Attributes of the innovation, institutional factors and market orientation policy were found to have a significant effect on technology adoption. The findings lead to managerial implications focusing on managing students' expectations and enhancing the learning environment within the HEIs in the MENA region.

1. Introduction

The importance of the higher education sector in the MENA region cannot be underestimated as aside from being a sizable industry, it also prepares future decision makers who will shape the economy and the international role of the region [17]. That is why it is extremely important to study different aspects on education management especially how Higher Education Institutions (HEIs) in the MENA region are working on satisfying the needs of their stakeholders in general and students in specific. Managing students' expectations is proved to be one of the main factors that influence students' satisfaction especially when it is relating to the learning environment. Based on the literature review, the learning environment could be enhanced through different approaches one of them is the adoption of education technology tools as a means of interaction within the HEIs [27].

In spite of this fact, few studies had focused on the adoption of technology tools within (MENA) higher education sector. This research attempts to explore the antecedents of technology tools adoption by students in the higher education sector. The adopted conceptual model highlighted that the adoption decision is based on a combination of perceived attributes of the educational technology, inter-organization factors and consumer factors. The model is testified drawing on the results of empirical work conducted among three top ranked universities in Egypt. It should be noted that Egypt was selected as a context of the research, as it presented the larger educational sector in the MENA region in terms of capacity and structure. The findings lead to managerial implications focusing on managing students' expectations and enhancing the learning environment within the HEIs in the MENA region.

2. Education Technology Tools in Higher Education

Technological innovations are now considered crucial for the survival and growth of organizations especially in developing countries [2], [13]. This is the case in the HEIs especially since choosing the education service by the potential consumers namely the students is associated with higher risk [26], [31]. In order to reduce the perceived risk, most of the HEIs utilize technological innovations to enhance service performance and learning environment [23]. Higher Education technology normally "comprises the new application methods and tools that enhance the educational system" [32]. Adoption of these technology driven tools is extremely beneficial for delivering the learning material as they provide room for an interactive teaching method that is both flexible and efficient. Education technology applications such as blackboard, moodle, clud, edmodo etc, have altered the educational landscape by transforming it into a more mobile and continuous process. These applications increase connectivity between students and their professors. Students are able to share their knowledge, which improves their

skills [39]. In addition, using innovative technologies within educational institutes stimulates engagement and participation of students to share questions and feedback, which ultimately improves the quality of education that they receive [11]. Hence, this enables the HEI to manage the students' expectations and enhance the learning environment. However, in several emerging markets within the MENA region, this is not always the case. In spite of the visible benefits of education technology tools in higher education, there are still a number of challenges facing the adoption within the higher education institutions.

3. Adopted Conceptual Framework

The adopted conceptual framework highlighted that the adoption decision of the education technology is based on a combination of perceived attributes of the educational technology, inter-organization factors and consumer factors [22]. This model was tested on a B2B context focusing on the adoption of the faculty and administrators to the technological innovations. The model was adopted since it represents an integration of different frameworks that are modified and tested within the higher education industry in the MENA region.

The adopted framework was modified to focus on the factors that affect the students' willingness to utilize technology in higher education. These elements have been divided in three main categories; innovation attributes, university factors and consumer characteristics. The framework encompasses elements that have been empirically proven to have an impact on innovation adoption [3], [35]. Some attributes that have been mentioned in the literature review were eliminated from this paper because past empirical studies have proven their irrelevance to the Higher Education service. To illustrate, trialability was excluded from the innovation attributes because it has shown mixed results in past empirical results [7], [20], [32]. Moreover, gender, age and income have been excluded from consumer characteristics because empirical work in the past has shown that they don't have a direct impact on the adoption of technology within the Egyptian Higher Education [32]. The first set of independent variables in the model represents the perceived characteristics of the education technology tools. These characteristics are relative advantages, compatibility, complexity and observability. The positive relation between these characteristics and the adoption of innovation was empirically tested in different industries [34], [20], [7], [16], [21] as well as in the higher education sector [22], [32], [4]. In this research, it is assumed that if students find that the education technology

tools that is used in their university enhance the learning experience (relative advantage), consistent with their needs (compatibility), simple to use (complexity), enhance the social interaction and the sharing of ideas (observability), they will be willing change the currently used methods and adopt the new technology.

The second set of independent variables is relating to the university-based factors that influence the adoption of technology in higher education, which are: top management support, faculty and staff IT knowledge and market orientation policy. These three factors were seen to be particularly relevant to the context of this study, which is the adoption of the students to the education technology tools. That is to say that it was found in the literature that it is important to start by assessing the diffusion speed of innovative technologies within the university in order to evaluate the learning environment [27].

The last set of independent variables is focusing on personality traits as the most influential attribute of consumer characteristics when it comes to technology adoption. The used personality traits are based on the comprehensive technology readiness index (TRI) [25]. The model stick to three main influential dimensions namely, optimism, customer innovativeness, and need for interaction that have proven to be stable and reliable as independent variables [28], [38], [9], [30].

4. Higher Education Sector in MENA

The Higher Education industry in Egypt constitutes an intriguing context for empirical research as a representing case from the MENA region. Egypt has been selected because of the growing trend in its market that aims to reform the Higher Education service to encompass private, public and foreign institutions. That is to say that Egypt represent a justified sample of the MENA region due to its capacity and reform program.

The players in the Egyptian higher education market are public, foreign, and private universities. It should be noted that there is a growing gap between the different universities when it comes to adoption of technological innovations and offering quality education [29]. Hence, in Egypt foreign and private universities are more likely to adopt educational technology as a tool to enhance the learning environment. This discrepancy can be attributed to the differences in the resources within the universities in Egypt [33]. This fact is worth investigation and comparison for the sake of understanding the factors influencing students' adoption of educational technology and their impact on the learning

environment within the Egyptian Higher Education market.

5. Methodology

This research follows a quantitative approach whereby a wide scale survey has been used to test the proposed model. The empirical study was conducted among Egyptian students enrolled in public, private and foreign universities to represent the whole higher education market with its diversities in Egypt. Data were collected using drop and collect questionnaires from each of the three designated universities over a period of two months. Over this period of data collection, 300 usable questionnaires were generated. The sample consisted of undergraduate students from three different universities in Egypt. The key constructs were measured using established scales that have been tested in previous researches. The wording of the items has been modified to fit the current context. New items were added when needed. All elements were measured on a five-point Likert scale, from 1: “strongly agree” to 5: “strongly disagree”. When using a positivist perspective and examining a group of hypotheses in a structural equation model, a significant fundamental theory is essential [12]. Accordingly, all hypotheses are well established in existing studies and researches the research model has been tested with Structural equation modelling (SEM) using LISREL 8.7. SEM was used for various reasons. First, using SEM technique provides highly competent estimation techniques as it is composed of several separate multiple regression equations estimated concurrently where frameworks could be represented by a summated scale [19]. Also, SEM differentiates between unobserved theoretical constructs and imperfect empirical measures and it is covariance-based rather than variance-based [36].

A confirmatory factor analysis (CFA) was first conducted. The model fit is assessed in terms of four indices: comparative fit index (CFI), goodness-of-fit index (GFI), root mean square error of approximation (RMSEA) and the consistent Akaike information criterion (CAIC). A model is considered to be satisfactory if $CFI > 0.95$, $GFI > 0.90$ and $RMSEA < 0.06$ [19]. CAIC has no cut-off values; instead, a smaller value implies better fit. The results of the CFA indicate a good model fit ($\chi^2=394$; $CFI=0.97$; $GFI=0.91$; $RMSEA=0.056$; $CAIC = 1.726.49$). In addition to the model fit, reliability, convergent validity and discriminant validity of the scales were all tested. Reliability was examined on the basis of CR and AVE. A scale is said to be reliable if $CR > 0.70$ and $AVE > 0.50$ [19]. The CRs and AVEs of all scales turned out to be more than the cut-off values.

Convergent validity is tested by construct and indicator reliability. Fornell and Larcker [15] indicate that adequate convergent validity measures should contain less than 50% error variance, that is, an average variance extracted higher than 50%. As a result, evidence of convergent validity is supported for all the constructs as the loadings are significant and higher than 0.7. Discriminant validity is the extent to which an item does not relate to the measures of other constructs. Discriminant validity is achieved if the square root of the AVE is greater than the correlation coefficients [19]. Discriminant validity was measured using several approaches suggested within the literature. One way is that if the Chi-square is significant, this would suggest that correlation is not one and hence would imply that constructs are distinct [1], [36]. This process would be repeated for each pair of constructs within the measurement model for exogenous constructs. Suggest support for discriminant validity. The average variance extracted for each construct is greater than the recommended threshold of 0.5 [15]. Overall, the evidence of a good model fit, reliability, convergent validity, and discriminant validity indicates that the measurement model was appropriate for testing the structural model.

6. Results Analysis

The explanatory power of structural model has been evaluated in addition to the review of the measurement model. There were ten factors included in the final model. These factors represented the research model's three independent variables. In line with expectations, the core attributes indicated good exploratory power. The variance in the outcome variable has been reasonably explained by the model with 75% of the variance in the technology adoption variable. Table (1) shows the means, standard deviation (SD), composite reliability (CR) and Average Variance extracted (AVE) of the estimated factors.

Based on the model's complete standardized solution, all the innovation characteristics have been found significant. The estimated results shown in table (2) indicate that the relative advantage of the innovation and the compatibility of the innovation have a slightly higher coefficient value (0.191 and 0.22) in comparison with the complexity and observability characteristics (0.11 and 0.096). Hence, the complexity and observability should be interpreted with care.

Table 1. Estimated Factor Correlation Matrix from the measurement model

Correlation Matrix														
	Mean	SD	CR	AVE	1	2	3	4	5	6	7	8	9	10
1. RELADV	5.5102	1.46865	0.893	0.677	1									
2. COMPX	5.1520	1.64678	0.676	0.511	0.50	1								
3. COMPT	5.9169	1.18567	0.753	0.603	0.40	0.49	1							
4. OBSERV	5.6724	1.25520	0.726	0.570	0.24	0.44	0.53	1						
5. STIT	4.7252	2.02709	0.768	0.543	0.03	0.28	0.21	0.17	1					
6. MKTOR	3.9498	1.72176	0.771	0.628	0.11	0.42	0.18	0.13	0.69	1				
7. MGTSUP	4.3386	1.75946	0.866	0.763	0.12	0.34	0.23	0.15	0.78	0.89	1			
8. OPTM	5.8918	1.22413	0.716	0.560	0.22	0.26	0.35	0.41	0.07	0.00	-0.03	1		
9. CSTINV	4.5799	1.39599	0.750	0.607	0.13	0.26	0.33	0.20	0.02	0.22	0.11	0.36	1	
10. NDINT	5.4890	1.30518	0.755	0.607	0.08	0.30	0.31	0.33	-0.03	0.05	-0.05	0.58	0.21	1

RELADV=relative advantage, COMPX=complexity, COMPT=compatibility, OBSERV=observability, STIT=staff IT knowledge, MKTOR=market orientation, MGTSUP=management support, OPTM=optimism,CSTINV=innovativeness, NDINT=need for interaction; Value on Diagonal is the square root of AVE.

The direction of the relation between the innovation characteristics and the Innovation adoption is positive with the exception of complexity. The negative relation between complexity and technology adoption indicates that the more difficult using

WEBCT/blackboard is perceived by students, the less likely they are to use it. This is in line with previous research results. Therefore H1, H2, H3 and H4 are all supported according to the results shown above.

Table 2. T-statistics and standardized path coefficients for hypothesized paths in the structural model

Hypothesis	Construct	Coeff.	T-sat	Significant/ Not Significant
H1	Relative Advantage → tech adoption	0.191	1.71***	√
H2	Compatibility → tech adoption	0.22	2.2**	√
H3	Complexity → tech adoption	-0.11	-1.22***	√
H4	Observability → tech adoption	0.096	1.14***	√
H5	Staff IT knowledge → tech adoption	0.069	0.58	-
H6	Market Orientation → tech adoption	0.64	2.18**	√
H7	Top Management Support → tech adoption	1.31	4.14*	√
H8	Consumer Characteristics → tech adoption			-
	H8a Optimism	0.059	0.61	
	H8b Customer Innovation	0.034	0.44	
	H8c Need for interaction	0.061	0.68	

This table shows the t-statistics and standardized path coefficients for hypothesized paths in the structural model. *, **, *** indicates significance at the 0.01, 0.05, and 0.1 levels respectively, √ indicates that hypothesis is supported and - indicates that hypothesis is not supported

Concerning the university characteristics, a strong significant support was found to the positive effect of market orientation and top management support on the adoption of the technology in the higher education market. Top management support shows a stronger significant influence compared to market

orientation (1.31 and 0.64). On the other hand, faculty and staff IT knowledge turned out to be insignificant (t=0.58). This hypothesis is thus not supported. This result might be due to the context of the empirical study, which is education institutions, and hence the applicants did not examine the

possibility of having staff without IT knowledge, as it should be a default in any higher education institute. As a result, H6 and H7 are supported, whereas H5 is rejected.

As for consumer characteristics, we found that their influence on technology adoption is not significant and thus hypothesis H8a, H8b and H8c are all not supported. That is to say that it is clear from table 2 that optimism, customer innovation and need for interaction have no significant impact on the adoption of the technology in the higher education market and hence these hypotheses will be rejected. This might indicate that consumers' characteristics may be more relevant when different levels of adoption are being studied rather than for only adoption vs. non-adoption decision as is the case in this research. It might indicate that these characteristics become more important when there is room to study the different levels of WEBCT/blackboard use that students can undertake based on their very characteristics such as those proposed here.

Finally, since the majority of the attributes relating to innovation and university characteristics have a significant impact on technology adoption in the Higher Education market, we consider the proposed conceptual model to be useful in explaining the adoption of technology in the higher education market in Egypt.

7. Conclusion and Managerial Implications

This research fills a gap in the MENA higher education literature by providing an empirical construct for the adoption of innovative technologies in higher education stemming from the positive transformational impact that these innovations have on students and educational institutions. The main contribution of this paper is its empirical evidence. It helped determine the antecedents of technology adoption within the Higher Education service in the MENA region. The attributes that can influence students' adoption of technological innovation in MENA higher education have been the focus of this study. The paper also gave an overview of how the adoption of technological innovations can result in the transformation of students.

The Higher Education service has been transformed by technology especially as technological innovations continue to grow. After having examined the different factors that affect the adoption of technology innovation in Higher Education service it is important to highlight how this technological adoption can be integrated with the

Higher Education institution policy in order to maximize its benefits.

Based on the analysis of the factors that facilitate the adoption of technology particularly in the MENA Higher Education sector, a set of policy recommendations can be extracted to help with the management of these technological innovations. As shown in the analysis, there is a strong explanatory power of the innovation's perceived attributes and university characteristics including, market orientation and top management support on the technology adoption in the higher education. This indicates that when more students understand the benefits of using technologies like WEBCT/blackboard for enhancing their learning, they will become more eager to adopt them [22]. Therefore, it is recommended that the universities provide orientations for students to help them gain a better understanding of the added value that they will gain from using these technologies. However, it is worth noting that when the technological innovation in question is considered to be of high complexity by students, they would become less likely to adopt it. Therefore, higher education institutions should provide training sessions to the students in order to explain the various features of the technology and to make it easier for them to use.

Further findings show that the higher the management support is for utilizing new technologies in delivering education and the more market oriented the education institution is, the higher the chances are for students to adopt the technological innovation. It can hence be concluded that university policies towards adopting innovative tools for delivering education have a substantial effect on the students' adoption rate of these technologies. According to Berthon et al [5], when using new technologies, customers often become in control of these tools and shape how they should be used and sometimes the usage scope exceeds that of the intended developer's purpose. Accordingly, it is necessary for students to have easy access to innovative educational technologies because students can transform these tools to further their educational benefits and learning development.

Hence, it is recommended that universities' top management issue policies that foster an innovation-stimulating culture that is open to raising awareness about new technologies as well as experimenting with them in order to maximize the gains and benefits. "New technology can help us do old things in a better way" [24]. According to Johannessen, having easy access to information can "precipitate customer-induced innovation" [24]. That is to say that the true transformational impact that innovative technologies have on students and universities lies in

their ability to facilitate communication and share information and that is why universities' managements should ensure their adoption.

Any research has its own limitations. The research has addressed a very specific context, which might have made the findings harder to generalize on a wider scope. Accordingly, future studies can involve a cross-cultural analysis by utilizing the framework addressed in this paper to other countries in MENA region. Creating a comparison between the research findings in Egypt and other countries will reveal if the same set of elements are considered equally important and whether the structure can be generalized across several countries. Future contributions can attempt modifying the framework used in this paper to encompass the educational institution and the students' angles. This would help to clarify which attributes have an influence on the initial trigger for the universities' adoption of innovative technologies.

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Pressure of Infrastructural Deficit on Accreditation of Higher Education Programmes in Public Universities in Niger Delta, Nigeria

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Abstract

Most public universities in the Niger Delta region of Nigeria are under pressure of infrastructural deficit. This is evident in the dearth of soft and hardware infrastructure respectively. Concomitant outcomes are that, these universities cannot and perhaps, compete globally in terms of demonstrable competence in innovations, cutting edge research, academic performance and attainment of international outlook. Concerns are that, infrastructural deficit retards governance and accreditation of higher education programmes with attendant, low academic output and systems failure, culminating in low global academic performance rating. The study aims to establish the nature of infrastructural deficit, its impact on the accreditation of programmes and quality assurance, and the measures to be taken to correct such deficit. This study ascertained the dimensions of infrastructural deficit, its impact on universities governance, management, accreditation of programmes,, industrial collaboration in research academic leadership and performance.

1. Introduction

This research is concerned with the pressure of infrastructural deficit on the accreditation of higher education programmes in the Niger delta. There are series of debate on the context of infrastructure, yet, the consensus focuses on infrastructure as components of interrelated systems providing services essential to enable, sustain and enhance societal better functioning and living conditions. Infrastructural deficit has adversely impacted on academic competitive ability. It is regrettable that this essential requirement is always in deficit and where it available, it is obsolete in servicing higher education programmes accreditation and other strategic needs of academic community. Infrastructure is said to be a key measure of a country's position in global academic ranking. It is the second to be assessed by the world economic forum when determining the competitiveness of a

nation higher education programmes followed by other variants of governance, management, finance and sustainability of such infrastructure in the development of new academic programmes. In order to ascertain the institutional capacity and programmes of higher education institutions, it becomes very essential to find out how to revert the deficit in infrastructure as might have been occasioned by poor investment and lack of leadership to drive investment in higher education infrastructure.

2. Statement of the Problem

Presently, most public owned higher education institutions in the Niger delta region are characterized by decay infrastructure which inhibits programmes accreditation, institutions strategic management efficiency, system administration, academic leadership, research and innovations. The consequence of these are that, higher education programmes are under-pressure of sustained funding, retention of qualified academics that are poised to perform high quality research for the development of innovations and finally to ensure excellence in academic outputs.

3. Methodology and Results

This research adopted the descriptive survey method. Population of about 2,000 and sample 500 were drawn randomly from both academic and administrative staff in higher education institutions in the Niger Delta region. Results showed the dimensions of infrastructural deficit and its impact on the accreditation of higher education programmes, governance, management, academic leadership, performance and systems efficiency.

4. Conclusion and Recommendations

Pressures posed by infrastructural deficit on the accreditation of higher education programmes are empirically evident to the detriment of the vision and

mission statements of higher education institutions in the Niger delta region. In order to meet the development needs of the Niger Delta region there is urgent demand for greater investment in higher education programmes of accreditation standards for global competitiveness.

Session 19: ICT Development and Diffusion

Title: Effectiveness of Digitalization System in Education in Palestine
(Author: Falasteen Naser)

Title: Online Education: Employer Perspective - Case Studies of Finland, Russia and Sweden
(Author: Victoria Kompanets, Juha Väätänen)

Title: The Potential of the Adaptive Collaborative Learning in the University Program: Applying the Cloud Services into the Adaptive Learning Systems
(Authors: Mayumi Hori, Masakazu Ohashi)

Title: Physics Teachers Perception of Factors Influencing Teachers Adoption and Integration of Information and Communication Technology (ICT) in Physics Teaching
(Author: Patience C. Agommuoh)

Effectiveness of Digitalization System in Education in Palestine

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Abstract

This paper summarizes the experiment of digitalization of education in some schools in various governorates in Palestine, it explains the concept, provides an overview of the implementation of the system until the end of the second semester of 2016/2017 and it represents the effects of the digitalization system on education in the second semester of 2016/2017. In addition, it shows suggestions and recommendations and challenges for the development of the digitization system to improve its performance in the future. Methods: It is an experimental design approach. Several tools were used in data collection; such as focus groups, interviews, and class room observations and experimental design groups. The experiment group and control group were selected randomly from the fifth grade and were consisted (21 students, 23 students) respectively. The experiment group and control group were selected randomly from the fifth grade and were consisted (23 students, 21 students) respectively. The effectiveness of using the digitalization system was tested by t test. Results: The effectiveness of the digitalization system was divided in two sections. First, the educational achievement of students in Arabic and geography subjects was significant during semester. Second, the behavioral achievement was effective during the classroom such as low levels of boredom, fear, anxiety and tension were noticed. Conclusion: The digitalization system in education in Palestine was effective during the first period of implementation.

1. Introduction

Nowadays, technology using is preferred by all of us, since you can get what you want in less time and effort and nobody ever expect our world without technology especially children who are in their first years of life, since they daily use technology in playing phones, tablets and computers. Despite the side effects of using technology, it can be used effectively to create educated generations by using the available tools in an appropriate way to get all helpful information. It was hugely noticed that the interest of students moves far away from the educational aspects, and the boredom of the educational process that depends on the teacher completely is no more noticed. Moreover, student's achievement level was

decreased. Here, the role of the educational system is to use these tools which are preferred by students since this system is the basic field that build society. In the developed countries, such as Tehran. The use of ICT (Information and communication technology) system in the schools of the developing countries among students who haven't the accessibility to use technology in their homes is considered as a chance for learning new skills (1). Digital education in India is interesting among the stuff who implements the system and it is effective for the students. The challenge in this system is that the Indian people do not have the required internet band width especially in the rural areas (2). In Palestine, there are many technological tools in schools such as (computers, interactive boards, LCD projectors, etc.) which are used as explanation tools to improve students' comprehension and understanding. After viewing the Japanese experiment (3) and other countries experiments regarding digitalization of education, in September 2015, a formal decision was made by the Palestinian Council of Ministers concerning the digitalization of the educational system as a national project led by the Ministry of Education with cooperation of the public and private Palestinian sectors, in September 2015. In July of 2016, a Palestinian staff consisting of employees and engineers from the Ministry of Education, attended a workshop which was under the assistance of directors and supervisors from Intel Semiconductor manufacturing company, Microsoft Corporation Technology company, in Jordan to view and benefit from the digitalization of educational experiments in other countries and to suggest a digitalization educational system to be implemented in Palestinian schools. In September 2016, the municipalities with the Ministry of Local Government, Paltel Company, AMIDEAST organization, Coca-Cola Company, and other donors started to present financial tender to prepare the pilot of schools for the new system. The system started to be implemented on pilot schools on the fifth and sixth grades, classes of thirty-seven students, in public schools which had the digitalized structure in the second semester and on the first of 2017 after the teachers had been trained. A national team for digitalization of education in Palestine consisting of specialized engineers and supervisors from the Ministry of education was created for this

mission. The team was responsible for teachers' training to improve the technological capabilities. The training is divided to technical training, educational training, and classroom management training. In addition, the team was responsible of following up the infrastructure and internet network of the system and providing digital content of the Palestinian curriculum and how the teachers could benefit from the Palestinian education portal, which contains thousands of learning blocks, videos and educational materials which are accessible to teachers easily. The Palestinian digitalization system consists of the following devices, the charging and storage unit, the educational 2-in-1 Detachable Tablets, PC Interactive Projectors = ,2-in-1 Detachable Teacher Notebook, Mobile Server Access point (the needed access point was content access point which Israeli authority refused to pass it from the boarders. Although there were many challenges in implementing the system, there were initial positive effects that were obvious in the digitalized schools, some schools out of the pilot were joined to the digitalization system family so the number of digitalized schools increased to seventy-five schools in different Palestinian directorates at the end of the second semester of 2016/2017.

2. Methodology

The experimental design approach consists of two groups the experimental group which consist of 21 students and the control group which consists of 23 students, both groups were selected randomly from the fifth grade. Also, 21 students for the experimental group and 23 students for the control group were selected from the sixth grade. The focus groups were conducted in two groups, the first focus group was consisted from seven teachers who uses the system for one and half hour. The second focus group was consisted of the headmaster and six teachers who uses the system for two hours. The interviews were conducted in the Ministry of Education with the supervisors, engineers and trainers to provide feedback needed information and necessary documents during the implementation of the system. Class room observations noted the behavior and interaction of students and difficulties in using the system from different schools.

3. Results and Data analysis

The effectiveness of the application of the system was divided in two sections, the behavioral and the educational achievement of students. The behavioral section is effective for several causes. First, boredom decreased in the class room. Second, excitement increased due to using of tablets. Third, fear, anxiety and tension decreased. Also, the quite medium and high level of concentration appeared since the teacher

can look at the students' screen on the interactive board at any time. In addition, the interaction increased in the classroom especially within students who were inactive and had weak personalities. Moreover, the frequency of absence during the semester and the number of times students leave the classroom during the class period decreased during the implementation of the system.

The second section was the educational achievement of students which increased during the implementation of the digitalization system especially among students who had low level of achievement. Also, the confidence of the students' themselves was higher when using the tablets and the understanding in the class improved by using different types of digital methods (pictures, videos, interactive work sheets, etc.). In addition, the investment of class period was evident as resulted from the high understanding and concentration levels of students. There were some challenges during the interviews and focus groups. Firstly, a big budget will be needed by the State and the donors in the future to cover all the schools which must be taken in consideration. Secondly, teachers' training faced difficulties especially among aged teachers who didn't use technology techniques which require more training for them. In addition, students couldn't take their tablets to their home to do the homework; also, the curriculum was not web based. Moreover, there was a lack in the interactive materials that are needed to apply the digitalization system. Also, there were problems in the network and sometimes the Wi-Fi was going to fall over. Finally, the needed access point was refused to be passed form the borders (i.e., Education Content Access Point, which is an easy-to-use device specifically designed to store, manage, and distribute digital content where connectivity is low, doesn't exist, or there are some problems in internet connection). The SPSS analysis of the students' marks showed that the digitalization system was effective to improve the educational achievement; there were no low scores after implementing the digitalization system in both subjects (Arabic, Geography). Also, the educational achievement in both subjects is higher in the second semester where the digitalization system was implemented in comparison with the first semester by using paired sample T test there were strong evidence of significant difference between the first semester and the second semester for Arabic and Geography (p-values = 0.002, 0.000 respectively). There was a significant difference in students' marks in the Arabic subject during the class period where the digitalization system was implemented in comparison with the traditional class by using ANOVA test (p-value=0.005). On the other hand, there were no significant differences in Geography subject in the class period which implemented the digitalization system in comparison with traditional one by using ANOVA test (p-value =

0.05). The explanation of the non-significance difference in Geography class may be the age of the teacher and being non- familiar with the digitalization system.

4. Recommendations

The recommendations based on the present study that supports the evidence that digitalization system could be an effective education and attractive system at the same time. Generally, the implementation of this system in all schools in Palestine needs a huge funding to cover the cost and the expenses for providing system tools and teacher trainings. Also, this research suggests making interactive platform to make it easier for teachers to benefit from the videos and interactive exercises. And finally, since digitalization system in Palestine is in the initial steps, the implementation of this system on other stages of education in schools is recommended to increase school achievements and improve students' behavior.

5. Conclusion

To conclude, the digitalization system with its special characteristics, which make it more effective, attractive, usable and understandable being compared to the traditional education system is considered an effective way to ease learning process and encourage students to improve their achievements. In addition, it is beneficial to focus on the interactive medium of education. It has also changed the learning process to concentrate on students instead of teachers. The value added by this research removes the gap of lacking in local researches. Also, this research explains the suitable infrastructure of implementing the digitalization system in Palestinian schools.

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Online Education: Employer Perspective - Case Studies of Finland, Russia and Sweden

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Abstract

Online education and learning received noticeable attention as this sector develops at an accelerating pace. Labour market-relevant planning and development of online education offerings requires understanding of the attitudes of business representatives to e-learning. This study investigates employers' perceptions of online education. It contributes to exploration of the position of online education in comparison with the traditional one and reveals the factors, which influence employers' attitude to online education. The study is exploratory by nature and is based on interviews with industrial company managers in Finland, Sweden and Russia. Results show that respondents have concerns about the quality of online education. Though many employers recognize the potential for education of current employees. The defining factor in evaluating online education is course specialisation, rather than brand or provider's name. To satisfy employers' needs, online education should be more specialized and responsive to the current knowledge demands.

1. Introduction

Online education sector develops at an accelerating rate and addresses the need for education of those who don't have access to traditional education, working professionals, who seek for further development, as well as students all around the world. Many universities strive to develop own online courses, modules and even the whole programmes. However, there is an essential role of companies as employers, as well as customers, in further development of online education. Unacceptance of online educated job candidates is potentially a serious challenge [1]. In the particular case of Engineering education, needs and feedback of industrial companies are especially crucial. On the other hand, some researchers assume that in future companies, as potential consumers of e-learning, would support online education due to its cost-effectiveness and flexibility [2], [3]. This study explores the contemporary attitudes and acceptance or

unacceptance of industrial companies with regard to Engineering online education.

The study investigates employers' perceptions of online education and aims to answer the following questions:

- What is the position of online education in comparison with the traditional one?
- What are the factors, which influence employers' attitudes to online education?

The study is exploratory and is based on interviews with eight industrial company managers in Finland, Sweden and Russia. Understanding of the attitudes of business representatives to e-learning is a key to labour market-relevant planning and development of online education offerings.

2. Literature review

2.1. Definition and types of online education

Online education (or e-learning) is a type of distance learning delivered via the internet. The most crucial feature of online education which differentiates it from traditional education is that students can be physically located in any part of the world, and education is provided by organization in a virtual environment [2], [4].

Classification of online education types can be based on several criteria. Keegan [4], Kaplan and Haenlein [2] used two dimensions: time dependency and number of students. Time dependency, or mode of communication, reflects whether the course requires any synchronous interactions or not. Asynchronous online courses provide greater flexibility because students can adopt their studies to own timetable and go through the study materials and course tasks at own pace [2], [5]. Number of participants can be limited, like in case of small private online courses (SPOCs), or unlimited, like in case of massive open online courses (MOOCs). Another dimension is availability of online courses:

courses can be open to anyone or limited to the certain group of students, e.g. students of one institution. In addition to fully online courses, elements of e-learning are embedded into traditional education and represent hybrid or blended learning, which is suitable for disciplines and subjects of various complexity [6]. This paper uses term online education to describe both fully online courses or degree programmes as well as elements of e-learning in education.

2.2. Employers as stakeholders of online education

Engagement of different stakeholder groups in online learning development can bring significant benefits to the quality of education [7], [8]. Depending on the purpose of activities, such as development of course content and activities, software development, or overall promotion of e-learning, stakeholder groups can be different. The most common stakeholders are students, teaching and research staff, education institutions, content and technology providers, authorities and accreditation agencies and employers [9], [8]. An emerging interest in contemporary research is related to online education perception by employers [3], [10], [11], [12]. Most of the prior studies show that companies are rather moderate if not negative in evaluation of online education [13], [14].

As an explanation of such resistance, the concerns about the following issues are emphasised:

- rigourousness;
- personal communication;
- academic honesty;
- ease of getting a degree;
- commitment [3].

Tabatabaei et al. [10] found the following characteristics of online education as relevant future employability:

- reputation;
- course grade;
- work experience;
- quantity of online courses;
- preference of traditional education;
- and spread of online education.

The paper further investigates these factors in the context of Engineering education and relevant industrial employers.

3. Method

To respond to the above-mentioned questions, interviews with eight company representatives from Finland, Sweden and Russia were conducted. Respondents represent engineering and service companies specializing in the areas of Energy,

Mining, Manufacturing, and Information and communication technology (ICT). Background information of respondents and their affiliations is presented in Table 1. Most of the respondents work in large industrial companies at the managerial positions and are responsible for business development, research and development (R&D) or sales. All of the companies have experience of cooperation with universities and possess a university degree (at least Master of Science).

Criteria for selection was based on the experience of cooperation with universities. Disciplinary areas of collaboration include Energy, Industrial Engineering and Management and ICT. We believe that business representatives who have already cooperated with universities in one way or another are in a better position to consider opportunities for online education in future.

Experiences and expectations of collaborators were discussed based on the semi-structured questionnaires. The questions combined both open-ended questions and questions asking participants to evaluate the importance or relevance of certain issues for them.

Table 1. Respondents

	Country	Position	Company Size	Area of operation
1	Finland	Top manager	Large	Maintenance
2	Finland	Line manager	Large	Technology
3	Finland	R&D manager	Large	Manufacturing
4	Finland	Sales manager	SME	Energy
5	Russia	Top manager	Large	Maintenance
6	Russia	Top manager	Large	ICT
7	Sweden	R&D manager	Large	Energy
8	Sweden	Member of Executive Board	Large	Manufacturing

4. Results

It must be noted that all the respondents had either none or very limited experience of employing and working with people educated partially or completely online. This limits their answers to hypothetical or purely perceptual. However, such situation is most probably common for the majority of modern companies.

4.1. Perceptions of online education

The first thing, the company representatives were asked, was their attitude to online education. The attitudes of respondents from Russia and Nordic countries are different. Respondents from Finland and Sweden do not see a big difference between online and traditional provision of education. The core thing is knowledge and expertise, and people can receive it in various forms:

“...But, otherwise, if that is online, I think it doesn’t matter how you got it. If you were in a building at [university] or in some other place, it doesn’t really matter. I believe so”. (Swedish company, R&D manager)

“I just noticed that it’s two-way street. Some people, because they are like ‘fully online’, so they don’t do that work that well, because there is no push. Then other persons fully enjoy the complete freedom of that, they can do the work anytime they want and so on. But are they better students or better workers after that? I don’t know. Education is just the baseline, I would say. And how this education is done, we normally test these candidates also. There is kind of test period in Finland extended to six months. Within six months if you can see that they don’t know what they are doing, so you can say: ‘bye bye, next one from the line’. It will show up quite quickly that if they didn’t get that education what they were supposed to get. So there has been a lot of variety”. (Finnish company, Line manager)

Attitude of Russian employers can be characterized by one word ‘cautiously’. The highest value of traditional education is interaction between people and thus transfer of traditions:

”I am wary of distant online education. I believe that dialogue between teacher and student is important in education”. (Russian company, Top manager)

”Any university is primarily a transfer of tradition. We are successful when we can generate, synthesize new knowledge, new approaches, new experiences. Synthesis is not a formal thing. How does the designer come up with an airplane? What, he has a machine, presses the button, sets the parameters and it’s drawn? No. He imagines it, enters this image into a physical model, into a mathematical formula, and starts analysis. The purpose of the analysis is to determine its suitability for the purposes formulated. So, synthesis is in any industry, from garments to food. These things are informal. Formally, we can analyze what was born in consciousness, but not synthesize. Learning synthesis is irrational. The most essential part is the use of analysis methods that we study at the university. Informal approaches are given with the

transfer of traditions. If we gather together the best professors on some site, provide high salaries and gifted students, I assure you, for the first year nothing will happen. Traditions for the first year will not be ingrained. They have transformation of tradition, something that is transmitted non-verbally. Therefore, I take a cautious approach to distanced learning”. (Russian company, Top manager)

All the respondents agree that in recruitment process, a candidate with traditional education is more suitable than a candidate with education degree fully completed online. Finnish and Swedish respondents mainly assign 4 – ‘agree’, to such statement, while Russians assign 5 – ‘strongly agree’ (see Table 2). The results are similar to prior studies [10], [14].

Table 2. Attitudes towards online education

Statement	Mean*
In recruitment process, a candidate with traditional education is more suitable than a candidate with education degree fully completed online	4,43
I would like to use more online training for current employees (compared to traditional training)	3,29
I am interested to be involved more in online courses / student projects as a lecturer/supervisor	3,00

*Mean is on a 1 to 5 Likert-type scale (1= strongly disagree .. 5 = strongly agree).

Company representatives see potential of online education primarily in such fields, which require only learning basic facts and formal instructions:

“There are some online courses where you just need to learn formal information, like how fast can I drive my car within this area, all these safety regulations that are in the form of online courses”. (Swedish company, R&D manager) “Do we need it [online education]? Yes, when facts are transferred. On this date happened that. The role of the nonverbal channel is negligible. Then yes. When a gesture, view, attitude to a thing matters, then you need to exclude distance learning. It’s my personal opinion”. (Russian company, Top manager) Most respondents would be interested to use more online training for current employees (compared to traditional training). Online training is seen as a good option for additional education. As it comes to participation in educational processes, company representatives were rather indefinite. It can be explained by general attitude to participation in educational process. Companies expect more applied results for their activities. Another reason is preference of personal communication, in particular in Russia.

4.2. Factors influencing attitudes to online education

When asked what would influence the attitude to online education of a candidate for new position, course specialization is the most important factor admitted by all respondents (Table 1). This correlates with the earlier statements that method of delivering education is less important. First and foremost, course learning outcomes and, as a consequence, professional skills acquired are the factors, which define the suitability of graduates for job.

The second place ranked by importance is shared by brand and reputation of higher education institution and appropriate level and type of accreditation. In particular, quality assurance of online courses is emphasized by all business representatives.

“I think the quality assurance is what will be crucial. So if you have a student and you look at his CV and he has a lot of online courses then you would like to know that there is some kind of quality assurance that he’s actually learned something”. (Swedish company, R&D manager)

In particular, Russian company representative’s express concerns about the proper quality control over the education provided online and risks of emergence of diploma mills.

“As for today, online education is necessary, it is necessary for those who want it. But if it is introduced seriously, this can lead to a complete devaluation of diplomas. It will be a method of purchase of the diploma” (Russian company, Top manager).

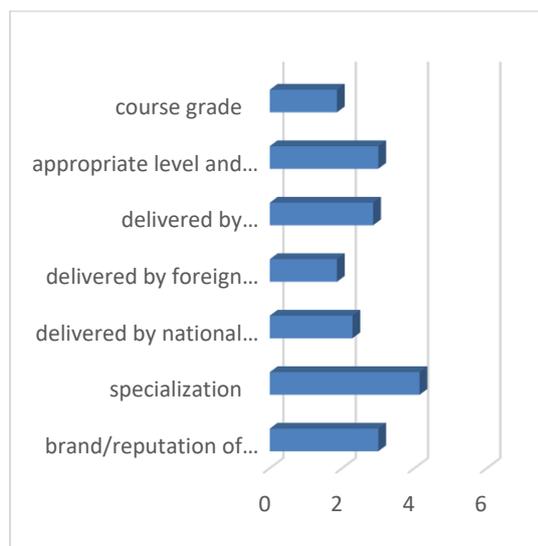


Figure 1. Factors influencing attitudes to online education (Importance of factors on a 1 to 5 Likert-type scale)

Under dimension national-international organisations-providers of online education, companies do not trust foreign institutions. Most trustworthy is online course provided by international consortium of universities or by local institutions. International consortium of universities is considered as a warrant of quality of such education.

5. Conclusions

With little or no experience in recruiting candidates with online education, respondents have concerns about the quality of such education. Traditional education is more preferable, though many employers recognize the potential for education of current employees. Completed online courses or the whole degree is a clear sign of self-motivation and passion to develop new. The defining factor in evaluating online education is course specialization, rather than brand or provider’s name. To satisfy employers’ needs online education should be more specialized and responsive to the current knowledge demands.

6. Acknowledgements

This research is financially supported by Norwegian Centre for International Cooperation in Education (SIU) and Nordic Council of Ministers. We would like to acknowledge and thank for invaluable help our partners: Professor Vladimir Kutcherov, Professor Igor Ilyin, Professor Alexey Lopatin and their research groups.

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The Potential of the Adaptive Collaborative Learning in the University Program: Applying the Cloud Services into the Adaptive Learning Systems

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Abstract

In this paper we discuss the Adaptive Collaborative Learning(ACL) on the Cloud Services will affect the learning field which integrates different systems and applications into one comprehensive system. The experiment pilot studies conduct on the ACL and provide further observation for applying the ACL.

1. Introduction

For many years we have in Japan neglected a focus on encouraging logical thinking and individual creativity in our schools. As a result, education in Japan is often perceived as cramming, with students often tending to avoid tackling harder conceptual problems. Instructors assess students not on originality but whether they adhere to a certain format. Hence, the challenges we face for the future of education are to find better ways to encourage students to think, create their own ideas, and achieve knowledge rather than responding with cookie-cutter predictability.

Project Based Learning (PBL) is an innovative instructional strategy that has been widely applied at educational institutions of variety of levels. PBL encourages students to engage in “real world” problem-solving investigations. It also allows students to autonomously conduct their study in a more constructive manner as well as develop the critical thinking skills of causal reasoning. Likewise, current Knowledge Management (KM) theories and practices have in many ways played equally important roles in corporations and educational institutions. KM and education share the same philosophies that play critical roles at many organizational levels that require an efficient understanding of their collective information and knowledge.

In this article, we would like to emphasize the importance of combination of PBL, KM, and Collaborative Learning on the Cloud and the incorporation of technology into education. We also

would like to demonstrate how our approach enhances student skills and abilities by introducing case studies conducted at Chuo University in Japan. We describe the mechanism of human intellectual development and knowledge structuralizing process by studying topics in cognitive science as possible aids for new knowledge creation – categorization, metaphor, and metonymy.

In 21st century society, knowledge has attained independent value of its own. “Knowledge” in the networked society reflects the new value resulting from the dynamic interactions and sharing among knowledge of individuals’ and organizations’. Today, the rapid aging of the population amid extremely low birthrate is pressing concerns to the Japanese society as it may threaten Japan’s most valuable assets for its established economy, its intellectual resources. Alike, this concern has spread among government, industries, and citizens.

In this paper, we introduce the Adaptive Collaboration Learning (ACL) and discuss its potentials in the new paradigm of the 21st century networked society. It is an innovative information technology system for knowledge creation based on the Cloud Computing and XML Web Services. It is a new system that produces dynamic and valuable interactions among human resources through sharing, interlocking, and collaborating with different types of knowledge.

2. Basic Concept of ACL and XML Web Services

We can envision a future business world where an organization no longer functions on its own but collaborates with a variety of other organizations. In other words, organizations will no longer need to stick to specific data or applications. Rather, they will need to be flexible enough to adopt appropriate objects according to each business model and project. Likewise, in the Ubiquitous Society, continuous innovations are always required, and collaboration and sharing knowledge within and outside of the

organization are essential for survival. We can realize this knowledge sharing and management system-Adaptive Collaboratio (AC)-by incorporation XML Web Services and iDC (see Figure 1).

In terms of applying AC into e-Government and e-Local Governments, it is imperative to build a system as a Social System with the perspectives of users in mind instead of those of the system or service providers. The XML Web Services based e-Government and e-Local Government system will enable AC with utilizing SOAP/XML data sharing, dynamic data linking among governmental bodies, automatic linking and execution between application modules on the [17].

The XML Web Services enables us to automatically link the distributed applications online to realize AC. Automatically coordinating applications (objects) distributed on the Web may also present the optimum options for business and public services. Accordingly, in the Ubiquitous Society, incorporating iDC and XML Web Services will provide a bridge between the traditional top-down, hierarchical organization and the horizontal business models [8].

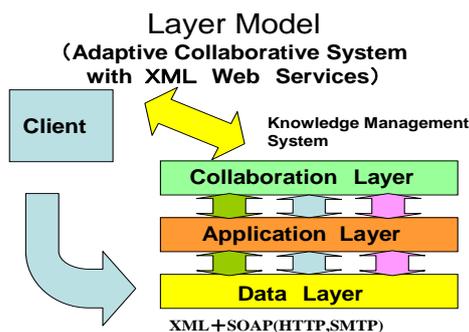


Figure 1. Layer Model [8]

3. Experimental Pilot Study on Adaptive Collaboration

3.1. Implications of the study

In the Ubiquitous Society, open networked information systems are vital as they enable people to collaborate with others regardless of location and type of business. In that environment, we will experience shifts in our communications both in terms of quantity and quality. Not only “Human-to-PC,” but a new pattern of “PC-to-PC” will expand the dimension of communications. The information we share with others will include not only textual information but a disparate range of data and information and including knowledge that is essential for decision making.

Therefore, the primal benefit of collaboration is the sharing of knowledge, information, and data with others. In order to realize this, there needs to be a

space or “ba” where a variety of applications help users to produce new knowledge, information, and data that are appropriately shared and re-used among users. We conducted a demonstration experiment to examine technologies that are essential to build this knowledge sharing environment.

The information and knowledge sharing space has two distinctive attributions – static and dynamic. One is that it statically unifies the management of information and related behaviour, and the other is that it adds actions to make it adaptive to the dynamic operation processes. The stored data are structured for the purpose of re-use, hence it is also the “ba” that encourages knowledge recycling.

Since there are many possible operations imaginable that are suited for the Adaptive Collaboration, its goal is to provide users with a workspace to accomplish their own tasks instead of simply offering functions such as word processing or spreadsheet applications. The workspace may offer email and bulletin board services or document management services. The possibilities are infinite as it is also able to integrate specialized applications for each operation into the user interface.

3.2. Requirement and Purpose of the Study

For successful collaboration, it is essential that data, information, and knowledge are continuously stored and can be shared among many individuals. In order to do so, it is critical not only to build a reliable infrastructure and developed network, but also to consider how the data should flow on the network along with how the data should be applied and utilized. For certain fields, it is strongly preferred that contents still be usable without depending on specific applications or software, or when values are changed 100-200 years from today. That is, data and content need to be constantly viewed, utilized, and processed by many users. Furthermore, the system needs to be flexible enough for the distribution and re-use of data and content as they might be stored at dispersed locations at different times.

Therefore, the essential requirements for AC are the following: 1) users are geographically-dispersed and belong to different organizations, 2) knowledge information is easy to store and retrieve, and long-term information storage needs to be safe and secure, 3) knowledge information needs to be available for high-level statistical processing and analysis, and 4) it operates uninterruptedly, and it is low in cost and highly-reliable.

The purpose of the study is to realize the real-time AC environment through data sharing. For this purpose, we conducted the following experiments: 1) a demonstration experiment on the Storage Management which enables users to share information located in the iDC storage, 2) a demonstration experiment on data management by

applying XML Web Services into the real-time collaborative work system through data sharing [17, [18], [30].

3.3. Experimental Methods

For ensuring the durability and universality of data, it is important to standardize a character encoding scheme and data structure as well as a system that reconstructs and personalizes data according to the need of a user. In terms of data structure, it is necessary to standardize data format that is both open and global for the purpose of information transmission and distribution across the world. In terms of personalization, it is indispensable to consider how to systemize knowledge so that a system could tailor and reconfigure data for each user depending on a situation to utilize stored data. Collaboration can be divided into three categories from the perspectives of a long-term use, “ba” on the Internet, and application of the XML Web services technology into digital data: 1) intensive utilization of network infrastructure, 2) network utilization for information and knowledge, and 3) integrated utilization of distributed data in a large area.

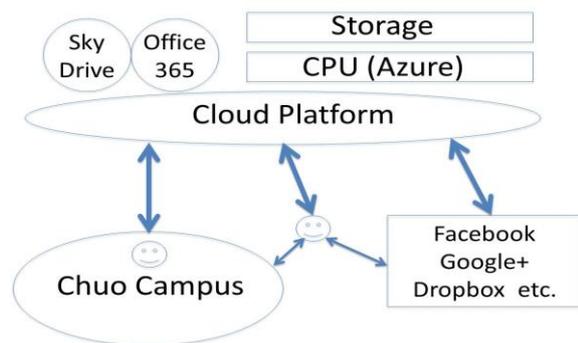


Figure 2. Adaptive Collaborative Learning System 1

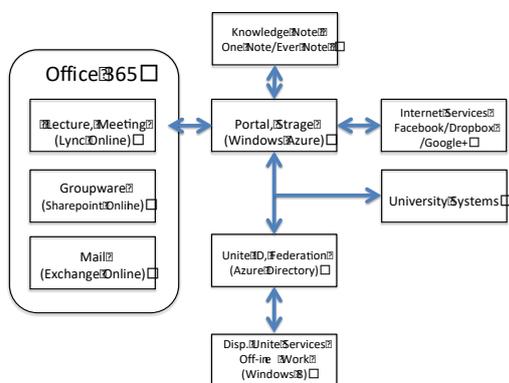


Figure 3. Adaptive Collaborative Learning System 2

In order to realize this open and flexible data structure and information distribution, it is necessary to conduct demonstration experiments in the following ways:

- Providing and integrating an Active utilization environment and a Static, long term environment on the network, an Adaptive space. MAN (Metropolitan Area Network + iDC (Internet Data Center)
- Building an environment with the XML Web Services technology that is independent of a system and application.

In order to examine the feasibility of these mentioned above, we conducted a demonstration experiment. First, we examined the possibility of collaboration among corporations, universities, and research institutions by building an information sharing environment prior to applying XML Web Services into the data management system which utilizes the information stored within the iDC. Second, we examined the effectiveness of the data storage system and evaluated whether the external applications are capable of high-level utilization such as its proficiency of producing knowledge out of information, presenting data effectively, and storing know-how (see Figures 2 and 3).

3.4. Results of the Experiment

The demonstration experiment proved that real-time discussion with sharing data and resources among the geographically-dispersed teams was possible. Furthermore, we confirmed that it is possible to collaboratively edit and process image data between remote locations using a high-speed network.

For the future agenda, if we plan the long-term use of the system, it is necessary to consider how to manage the Web services and how to develop and spread its computer architecture in corporations. In other words, in order to administer the relationship between different Web services on the multivendor delivery platform, it is necessary to consider how to manage many different components involved in this system such as network operation management, service management, and Web Services management including ERP, CRM, SCM, EAI, and, EC.

Physically storing files and data and keeping them readable for a long time do not necessarily mean keeping them understandable for a long time. It is critical for a variety of systems to be able to cooperate in order to process diverse data while extensively accessing meaningful data. To facilitate this, it is essential to utilize a unified meta-standard technology such as XML, and to add autological, self-explanative description onto data themselves.

4. Conclusion

The Adaptive Collaborative Learning, which has drawn attention as a new network system that supports the future Ubiquitous Society. The ACL is capable of functioning with the legacy system that has been widely utilized in organizations while integrating a number of different applications seamlessly. With these beneficial features, more innovative business activities can be conducted such as sharing the order information across the organization, improving efficiency in CRM, risk management, delivery management, profit-cost management, cash flow accounting, balance sheet adjustment, account receivable factoring, updating and comparing the transition of sales, and making strategic decision and setting practical business goals.

The ACL is the most versatile system that facilitates to realize the AC in the Ubiquitous Society. For instance, of incorporating the XML Web Services, since it is solely application/system independent, this also assists the flexible coordination with other systems and creates a seamless environment for the user hence it is highly functional as a core system.

The Ubiquitous Society is a society grounded upon the collaboration around human knowledge within organizations and individuals. The biggest bottleneck of the ACL might not be the difficulties in developing the technologies and infrastructures. Rather, it might be the introverted and closed nature of human beings.

5. Acknowledgement

This paper is mainly based on work in the project funded by Scientific research fund of MEXT (the Ministry of Education, Science and Culture). This paper is also based on work in the Educational Grants of Chuo University and the research project of Institute of Policy and Cultural Studies of Chuo University. We would like to thank MEXT, Microsoft Japan and the project members of Chuo University for their help in gathering information in preparing this paper.

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Physics Teachers Perception of Factors Influencing Teachers Adoption and Integration of Information and Communication Technology (ICT) in Physics Teaching

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Abstract

Integrating Information and Communication Technology (ICT) in the teaching of physics is a gradual and reflective process for most physics teachers and one that is influenced by a complex mix of factors. Effective practice of ICT in the teaching of physics involves developing new forms of pedagogy. Despite all the investments of the government on ICT infrastructure, equipments and professional development to improve education in the country, ICT adoption and integration in teaching and learning have been limited. This study therefore adopted a descriptive survey design to investigate physics teachers' perception of factors influencing teacher's adoption and integration of Information and Communication (ICT) in physics teaching. By the use of simple random sampling technique, 50 (18 males, 32 females) out of a population of 104 senior secondary school physics teachers in Umuahia North Local Government Area (LGA) of Umuahia Education Zone of Abia State. The instrument used for data collection was the researcher's developed questionnaire of the four-point Likert type to elicit information on the physics teachers perception of factors influencing teachers adoption and integration of Information and Communication (ICT) in physics teaching. Two research questions and one null hypothesis tested at 0.05 level of significance guided the study. The instrument was validated, and its reliability obtained as 0.79 using Cronbach Alpha. Data collected was analyzed using mean to answer the research questions and t test statistics to test the hypothesis. The study revealed that lack of teacher ICT skills; lack of teacher confidence; lack of pedagogical teacher training; lack of suitable educational software; limited access to ICT; rigid structure of traditional education systems; restrictive curricula, etc. are some of the factors influencing the adoption and integration of ICT in the teaching of physics in senior secondary schools. It was recommended among other things that Physics teachers should as a matter of great importance be effectively trained

in ICT and this training should be linked to ICT usage.

1. Introduction

Science according to Ting-Kueh [1] plays major roles in creating new knowledge, economic development and wealth creation. This assures social wellbeing by eradicating poverty and providing better health care which improves the quality of human living in several ways. Science finds its application in all facets of life such as agriculture, medicine, energy and power supply, biotechnology, space research and nuclear technology. This means that the understanding of science helps man to know more about the universe and things around us. Science comprises the basic discipline such as Physics, Chemistry, Mathematics and Biology.

Physics is one of the core sciences and the most basic and fundamental science which is crucial to understanding the world around us. Physics is basic for understanding the complexities of modern technology, and essential for technological advancement of a nation. It is not out of place to say that physics challenges our imagination with concepts like relativity theory which leads to great discoveries and technologies that change our lives. Its importance cannot but over emphasized hence the need for all citizens to study the subject with utmost understanding. In spite of the importance of physics, it remains the least favored science subject among students generally. This Erinosh [14] opined is generating concerns among science educators, and researchers are increasingly exploring why students avoid the subject. Literature has shown that students generally regard physics as conceptually difficult, abstract, uninteresting, and elite discipline only suitable for exceptionally talented and gifted pupils. Williams et al. [3] in their survey of why secondary school students in the United Kingdom are not interested in studying physics, reported that students perceive physics to be a difficult/hard subject and have lower

expectations of their ability to accomplish physics tasks.

The evidence of low enrolment and massive failure in Secondary School Certificate Examination (SSCE) and National Examinations Council (NECO) in physics is indicative that many students have difficulty learning the subject [14]. Explaining further Erinoshio [14] reported that consistently for five years, on the average, less than 30% of the total students registered for senior secondary school certificate examination (SSSCE) entered for physics and more disturbing is the low level of performance of students; on the average, slightly over 30% of the students who sat for Physics passed at the credit level compared to well over 40% in biology and chemistry generally. Students' difficulty in physics has been attributed to various factors which include factors that are related to the students that they are capable of controlling, factors related to the course and factors inherent in the nature of physics [13]. Students are of the opinion that physics is difficult and too abstract to understand. This may be due to the fact that physics teachers have not adopted and integrated the use of information and communication technology in the teaching of physics. Hence the need to investigate physics teachers' assessment of the adoption and integration of information and communication technology in the teaching of secondary physics.

Information and communication technologies (ICT) have become one of the fundamental building blocks of modern society. Many countries now regard the mastering of the basic skills and concepts of ICT as an inevitable part of the core of education. This is why various new models of education are evolving in response to the new opportunities that are becoming available by integrating ICT and in particular Web-based technologies into the teaching and learning environment. For such applications to be effectively integrated into the teaching and learning environment, the teacher has to a large extent be familiar with the IT learning environment.

Information and communication technology refers to the applications found on most thin client computers, internet, radios, digital televisions and projectors among others that secondary school teachers can use as pedagogical tools. ICTs included not only learning resources but also tools to facilitate interaction and collaboration [2]. It is obvious from the above that for teachers to ensure the acquisition of appropriate levels of ICT literacy and life skills needed for life-long learning by the physics students, teachers need to have innovative strategies to reinforce their capabilities. The implication of this is that physics teachers need to know exactly how ICT is used as a teaching and learning tool, for their own purposes and to help students to use them. There is therefore the need to adopt and integrate

ICT as a tool in the physics classroom with the overall aim of increasing the effectiveness of teaching and improving students' learning.

Adoption can be explained as the decisions that individuals make each time that they consider taking up an innovation [4]. Defining adoption, Rogers [5] said that it is the decision of an individual to make use of an innovation as the best course of action available. Explaining further Rogers [5] argues that the process of adoption starts with initial hearing about an innovation to final adoption. Defining ICT integration, Williams [3] opined that it is a means of using any ICT tool (Internet, e-learning technologies, CD ROMs, etc) to assist teaching and learning.

Many researchers have identified attributes and factors that influence the adoption and integration of ICT in the science classrooms. Such factors include user characteristics, content characteristics, technological considerations, and organizational capacity as identified by Stockdill and Moreshouse [6]; teacher-level, school-level and system-level as identified by Balanskat, Blamire and Kefalla [7] and organizational factors, attitudes towards technology and other factors as identified by Lim and Chai [8]. There is therefore the need to assess science teachers' perception of factors that influence the adoption and integration of ICT by physics teachers in the physics classrooms. The purpose of this study is to investigate physics teachers' perception of factors influencing science teachers' adoption and integration of Information and Communication Technology (ICT) in physics teaching.

2. Research Question

The following research questions guided the study

1. What are the mean scores of physics teachers' perception of factors influencing the adoption and integration of ICT in science teaching?
2. What are the mean scores of male and female physics teachers' perception of factors influencing the adoption and integration of ICT in physics teaching?

3. Hypothesis

The following hypothesis tested at 0.05 level of significance guided the study.

H₀₁: There is no significant difference in the mean scores of male and female physics teachers' perception of factors influencing the adoption and integration of ICT in physics teaching.

4. Method

The study employed a descriptive survey design to assess senior secondary school physics teachers' perception of factors influencing the adoption and integration of Information and Communication Technology (ICT) in physics teaching. By the use of simple random sampling 50 (18males, 32females) out of a population of 104 physics teachers in all the senior secondary schools in Umuahia North Local Government Area (LGA) of Umuahia Education Zone of Abia State was used. The instrument used for data collection was the researcher's developed questionnaire of the four-point Likert type to elicit information on the factors influencing the adoption and integration of Information and Communication Technology (ICT) in physics teaching in the Senior Secondary Schools in Umuahia North LGA. The responses were Strongly Agree (SA), Agree (A),

Disagree (D), and Strongly Disagree (SD) weighted 4, 3, 2, 1 respectively. The instrument was validated, and its reliability obtained as 0.79 using Cronbach Alpha. The copies of the questionnaire were distributed by the researcher and were also collected back after filling by the teachers thereby obtaining 100% Return. Two research questions and one null hypothesis tested at 0.05 level of significance guided the study. Data collected was analyzed using mean to answer the research questions and t test statistics to test the hypothesis.

5. Result

The result in respect of mean scores and t values of the assessment of physics teachers' perception of factors influencing the adoption and integration of Information and Communication Technology (ICT) in physics teaching is shown below.

Table 1. Mean scores of the assessment of physics teachers' perception of factors influencing the adoption and integration of Information and Communication Technology (ICT) in physics

S/N	ITEM	SA	A	D	SD	MEAN	REMARK
1.	Personal characteristics like educational level, age, gender, educational experience and experience with the computer.	4	12	2	-	3.11	Agree
2.	Teachers' attitudes and beliefs towards technology.	8	8	2	-	3.33	Agree
3.	ICT competence	4	12	2	-	3.11	Agree
4.	Computer self-efficacy	6	10	2	-	3.22	Agree
5.	Gender	8	8	2	-	3.22	Agree
6.	Teaching experience	10	8	-	-	3.56	Agree
7.	Teacher workload	8	8	2	-	3.33	Agree
8.	Institutional characteristics like time committed to teaching and amount of technology training	8	10	-	-	3.44	Agree
9.	Professional development	6	10	2	-	3.22	Agree
10.	Accessibility	12	6	-	-	3.67	Agree
11.	Technical support	8	8	2	-	3.33	Agree
12.	Leadership support	8	10	-	-	3.44	Agree
13.	Technological characteristics	6	11	1	-	3.28	Agree

Result in Table 1 above showed that all the items have mean score values between 3.22 and 3.67. These mean score values are greater than 2.5 which is the mean value of the four-point scale used for the study. This shows that all the physics teachers agreed that all the items listed above are factors that influence the adoption and integration of ICT in physics teaching in senior secondary schools.

Result in Table 2 above showed that all the items have mean and standard deviation score values between 3.11 and 3.44; 0.5113 and 0.9428 respectively for males and mean and standard

deviation score values between 2.44 and 3.25; 0.5351 and 0.7931 respectively for females.

These mean score values are greater than 2.5 which is the mean value of the four-point scale used for the study. This shows that all the physics teachers both males and females agreed that the items listed above are factors that influence the adoption and integration of ICT teaching of physics in senior secondary schools.

Table 2. Mean and standard deviation scores of the assessment of male and female physics teachers on factors that influence the adoption and integration of ICT teaching in senior secondary schools.

S/N	ITEM	MALE			FEMALE		
		Mean	SD	Remark	Mean	SD	Remark
1.	Personal characteristics like educational level, age, gender, educational experience and experience with the computer.	3.11	0.5830	Agree	3.25	0.5680	Agree
2	Teachers' attitudes and beliefs towards technology.	3.33	0.6860	Agree	2.94	0.5644	Agree
3.	ICT competence	3.11	0.5830	Agree	2.56	0.6189	Agree
4.	Computer self-efficacy	3.22	0.6468	Agree	2.88	0.7071	Agree
5.	Gender	3.22	0.9428	Agree	2.75	0.6720	Agree
6.	Teaching experience	3.56	0.5113	Agree	3.13	0.7931	Agree
7.	Teacher workload	3.33	0.6860	Agree	3.16	0.7233	Agree
8.	Institutional characteristics like time committed to teaching and amount of technology training	3.44	0.5113	Agree	3.03	0.6468	Agree
9.	Professional development	3.22	0.6768	Agree	2.81	0.8206	Agree
10.	Accessibility	3.11	0.5830	Agree	2.81	0.5351	Agree
11.	Technical support	3.33	0.6860	Agree	2.44	0.7594	Agree
12.	Leadership support	3.44	0.5113	Agree	2.99	0.5948	Agree
13.	Technological characteristics	3.28	0.5745	Agree	3.00	0.5680	Agree

Table 3. Physics Teachers Assessment of factors influencing the adoption and integration of ICT teaching of science by male and female physics teachers

S/N	ITEM	Male mean	Female mean	t-value	p-value	Remark Significant(S) /Not Significant(NS)
1.	Personal characteristics like educational level, age, gender, educational experience and experience with the computer.	3.11	3.25	0.8222	0.4150	NS
2	Teachers' attitudes and beliefs towards technology.	3.33	2.94	2.2016	0.0325	S
3.	ICT competence	3.11	2.56	0.0000	1.0000	NS
4.	Computer self-efficacy	3.22	2.88	1.7171	0.0924	NS
5.	Gender	3.22	2.75	2.0581	0.0450	S
6.	Teaching experience	3.56	3.13	2.0691	0.0439	S
7.	Teacher workload	3.33	3.16	0.8462	0.4017	NS
8.	Institutional characteristics like time committed to teaching and amount of technology training	3.44	3.03	2.3284	0.0241	S
9.	Professional development	3.22	2.81	1.8212	0.0748	NS
10.	Accessibility	3.11	2.81	1.8344	0.0728	NS

11.	Technical support	3.33	2.44	4.1413	0.0001	S
12.	Leadership support	3.44	2.99	2.8492	0.0064	S
13.	Technological characteristics	3.28	3.00	1.6532	0.1048	NS

Result in Table 3 showed that the mean of the males is greater than the mean of their female counterparts. The result also showed that the p-value of items 1, 3, 4, 7, 9, 10 and 13 are not significant while that of items 2, 5, 6,8,11 and 12 are significant. Therefore the null hypothesis (H_{0i}) is accepted for items 1, 3, 4, 7,9,10 and 13 and rejected for items 2, 5, 6,8,11, and 12. There is therefore a no significant difference in the perception of male and female physics science teachers on the factors that influence the adoption and integration of ICT in physics teaching for items 1, 3, 4, 7, 9, 10 and 13 while there is a significant difference in the perception of male and female physics teachers on the factors that influence the adoption and integration of ICT in physics teaching for items 2, 5, 6,8,11 and 12.

6. Discussion

Result in Table 1 above showed that all the physics teachers agreed that all the items listed above are factors that influence the adoption and integration of ICT in physics teaching in senior secondary schools. This is in agreement with Rogers [5] who identified technological characteristics, user characteristics, content characteristics, technological considerations, and organizational capacity as factors influencing ICT adoption and integration into teaching. Supporting this, Stockdill and Moreshouse [6] and Balanskat et al. [7] opined that teacher-level; school-level and system-level are all factors influencing ICT adoption and integration into teaching. This also is in line with Schiller [15] who also asserted that personal characteristics such as educational level, age, gender, educational experience, experience with the computer for educational purpose and attitude towards computers can influence the adoption of a technology. Jones [10] went further to explain that teachers are implored to adopt and integrate ICT into teaching and learning activities, but teachers' preparedness to integrate ICT into teaching determines the effectiveness of the technology and not by its sheer existence in the classroom. Emphasizing this Jones opined that the attitudes of teachers towards technology greatly influence their adoption and integration of computers into their teaching. Therefore, an understanding of personal characteristics that influence teachers' adoption and integration of ICT into teaching is relevant.

Result in Table 2 above showed that all the physics teachers both males and females agreed that the items listed above are factors that influence the adoption and integration of ICT teaching of physics in senior secondary schools. This is in line with Norris et al. [11] who argued that gender variable was not a predictor of ICT integration into teaching. Supporting this Kay (2006) in his research found out that male teachers had relatively higher levels of computer attitude and ability before computer implementation, but there was no difference between males and females regarding computer attitude and ability after the implementation of the technology.

Result in Table 3 showed that the p-value of items 1, 3, 4, 7, 9, 10 and 13 are not significant while that of items 2, 5, 6,8,11 and 12 are significant. Therefore the null hypothesis (H_{01}) is accepted for items 1, 3, 4, 7,9,10 and 13 and rejected for items 2, 5, 6,8,11, and 12. There is therefore a no significant difference in the perception of male and female physics teachers on the factors that influence the adoption and integration of ICT in physics teaching for items 1, 3, 4, 7, 9, 10 and 13 while there is a significant difference in the perception of male and female physics teachers on the factors that influence the adoption and integration of ICT in physics teaching for items 2, 5, 6,8,11 and 12.

7. Conclusion

The effective adoption and integration of technology into classroom practices poses a challenge to physics teachers. For successful adoption and integration of ICT into physics teaching, factors that influence teachers' use of ICT like personal, institutional and technological factors should be considered. On a personal level the teachers' feelings, knowledge and attitudes influence their use of ICT in teaching should be taken in consideration. If teachers' attitudes are positive toward the use of educational technology, then they can easily provide useful insight about the adoption and integration of ICT into teaching and learning processes. Factors such as support, funding, training, teachers' professional development, lack of teacher ICT skills; lack of teacher confidence; lack of pedagogical teacher training; lack of follow-up of new and lack of differentiated training programmes should be looked into as to improve on them in order

to encourage the adoption and integration of ICTs in physics classrooms.

8. Recommendation

1. Physics teachers should be encouraged to develop positive attitudes toward technology by providing them with excellent ICT facilities.

2. Physics teachers should as a matter of great importance be effectively trained in ICT and this training should be linked to ICT usage.

3. Government should encourage physics teachers by providing computers and other ICT infrastructures to create an enabling environment for ICT training and usage especially in secondary schools.

4. Physics teachers need to be assured that technology can make their teaching interesting, easier, more fun for them and students, more motivating and more enjoyable.

5. School administrators should be able to provide and maintain ICT infrastructure; educational software and hardware in the secondary schools.

6. Physics teachers should be encouraging to have unlimited access to ICT providing them with excellent ICT facilities.

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Session 20: Business Education

Title: Admission Opportunity Equity of Provincial Universities in China – Based on Survey of Five Universities
(Author: Xia Xue)

Title: Teachers' Quality and Pupils' Academic Wastage in Nigeria
(Authors: Ojeniyi Florence Bolajoko, Adegbesan Sunday)

Title: An Assessment of Quantitative Data on the Influence of Gender in Work-Integrated Learning Competencies
(Author: T.P. Makhathini)

Title: Business Students Attitudes Toward and Perceived Deterrents to Participating in Continuing Education
(Author: Charles Ericksen)

Admission Opportunity Equity of Provincial Universities in China – Based on Survey of Five Universities

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Abstract

China's gross enrollment ratio of higher education was 9.76% in 1998, in which was the beginning of the of enrollment expansion policy of higher education. In 2015, the country's higher education gross enrollment rate reached 40%, which means that the goal of "by 2020 higher education gross enrollment ratio of 40%" had been realized ahead of time. And the greatly increasing entrance opportunities of higher education means that China has realized the popularization of higher education. However, the expansion of higher education entrance scale does not necessarily mean the corresponding ascending of admission opportunity fair level. The 'National Medium and Long-term Education Reform and Development Plan Outline (2010-2020)' takes the education justice as the basic principle of the national education policy. In recent years, the government has adopted a series of policies and measures, which are aimed at narrowing higher education entrance opportunity gaps. However, the process of adjusting education resource allocation imbalance is slow. And many researches have shown that there are obvious differences between urban and rural, among various regions, and among different family backgrounds for higher education entrance opportunity in China. This article focuses on the differences between urban and rural areas, and among various family classes in the perspective of provincial colleges and universities enrollment opportunities. And it emphasizes on family factors that affecting the university entrance exam. Based on 3021 sample sizes of students from five provincial universities in China, the author analyses admission opportunity equity with OLS and WLS methods through three aspects, 1) differences between urban and rural areas, 2) differences among parents' jobs, and 3) influencing factors for admission score. There are three key findings, 1) Rural students of colleges and universities mainly distributes in the regular universities. Higher education entrance opportunity town production rate was 0.738 of 2014 and 0.699 of 2015. It is mainly because that most rural students are recruited by general universities and colleges in recent years. The governments' efforts to increase rural students at colleges and universities has shown the result in provincial colleges and universities. 2) The higher of parent's professional levels(classes) are, the greater chances of children's score beyond the enrollment mark. Advantage class children will enjoy the high-quality education, and disadvantage class children can only get general regular or weak education. The class stratum division will continue. 'Education makes different class income tend to be more equitable', which is pointed by human capital theory will become bubbles. 3) Parents' education levels affect children's achievement of the university entrance exam most among all family factors. This embodies the intergenerational function of education. Parents' education levels do not only benefit themselves, it also helps their children get the corresponding monetary and non-monetary benefits through planned ways or unconsciously parenting ways. The government may reinforce in increasing the enrollment of rural students and poverty students among key universities. And education extension is necessary. With the implementation of free compulsory education policy, to popularize high school education, and to increase the proportion of higher education enrollment are beneficial for future generation cultivation and development.

Teachers' Quality and Pupils' Academic Wastage in Nigeria

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Abstract

The purpose of this is to ascertain whether there exists relationship between teacher's quality and pupils' academic wastage in Nigeria, specifically, some selected primary schools in Ilorin South Local Government area. Stratified sampling technique was used to select 27 schools out of the total 45 schools in the nine zonal primary schools and 27 head teachers and 27 class teachers making 54 respondents were randomly selected as sample of the study. The instrument used for data collection was two self-designed questionnaires, one for head teachers and the second questionnaire for class teachers. The two questionnaires were designed to obtain data on teacher's qualifications, teachers' years of service, enrolment of pupils; repetition of pupils and drop out of pupils between the years under study i.e., 2000/2005 academic sessions. The data collected were analyzed using flow statistic and Pearson product moment correlation coefficient at 0.05 alpha level of significant and 7 degree of freedom for accepted or rejected of the seven hypotheses formulated for the study. The result of data analysis revealed that teacher quality has significant relationship with pupils' academic wastage. The findings in the study had indicated that no single factor was wholly responsible for pupils' academic wastage. Among the factors responsible for pupils' academic wastage include the following: economic condition, family attitude, pupils' behavior, lack of thorough supervision, school policy, lack of provision and maintenance of school facilities etc. Based on the outcome of the study, it was recommended that government should review and enforce the existing education law in order to maintain discipline and this would facilitate meaningful learning condition in primary schools. Building of more classrooms to take care of the problem of overcrowding due to enrolment in primary schools for conducive teaching and learning environment. Ensuring adequate allocation of fund to primary schools for easy maintenance and procurement of school facilities so that the school facilities could be prevented from depreciation.

An Assessment of Quantitative Data on the Influence of Gender in Work-Integrated Learning Competencies

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Abstract

Despite continued efforts to promote engineering careers among young women; the profession remains the most male dominated academic discipline in South Africa. Whether the sector is male dominated because the female counterparts are incapable of performing at the same level of competence or not is the question that remains to be answered. The aim of the study is to examine the gender effects in work-integrated learning (WIL) competencies at the end of the program. Supervisors from chemical industries completed a WIL students' competency assessment which measures 23 work-related competencies using a 4-point Likert scale. The competencies were organized in two broad themes of cognitive and behavioral skills. The research findings suggest that female students are stronger in cognitive skills than in behavioral skills compared to male students. Certain issues for female students working in engineering profession are identified in this paper and some educational strategies are suggested in order to better prepare students for WIL.

1. Introduction

Characterisation and conceptions of engineering as a 'masculine profession' remains the same despite women engineers being represented at different levels across different countries [1]. Like many other countries, South African manufacturing sector has evolved to become more gender-balanced, as employment equity ensures equal opportunities for men and women. However, in the engineering sector this is still a goal that the industry is yet to achieve. In 2013, the Engineering Council of South Africa (ECSA) said that only 4% of registered engineers were women. These statistics raise a question of whether women are not pursuing careers in engineering or are there any underlying issues like lack of competency in work performance areas. In accordance with these findings – in 2014, ECSA showed that 70% of women who graduated with engineering qualification left the sector after starting their careers, citing that they feel isolated in their jobs.

It remains unclear whether women feel this way because they are unable to perform in the job as they are expected to or not. The question that has not been answered is whether gender disparities are playing a role in South Africa's competency deficiencies in engineering technicians, while constraining development in the process.

Competency deficiencies in graduates have also been referred to as "skills gaps", referring to the difference between the level of competence required for employment and the level of competence of graduates [2]. A report by Bodmer, et al. [3] for a study in Europe where 1372 engineers with bachelor, master or diploma degree rated engineering competencies on graduate performance, indicated that the large gap was in communication, leadership and social skills. Furthermore, Spinks, et al. [4] conducted a similar study among 256 employers of engineering graduates in the UK. The study found that there was small, yet statistically significant, dissatisfaction with practical application and business skills, and to a lesser extent, technical breadth. This paper seeks to find out if students after completing WIL program – which is at the beginning of their working experience do perform at the same level regardless of the gender.

There has been a great deal of speculation in the public discourse about the performance of women technicians in engineering and technology. However, there is a dearth of literature that examines the female engineering technician competency and the extent to which the social skills influence their performance at work. Although a feminine impact on the nature of engineering competencies has been speculated, very little is known about this topic. In this paper I report on the study of gender effects for engineering competencies at the end of the WIL program.

2. Literature Review

Over the years, much attention has been put on identifying the desirable attributes of an engineering graduate in terms of key technical and non-technical competencies [5]. In this paper, the technical

competencies were divided in subtheme areas – the *ability* to do the work, the *performance* in doing the work and the *judgement* in technical problems. These areas of competencies deal with the ability to solve engineering problems and to develop a solution using engineering fundamentals that were learnt in the classroom setting. As identified by Sageev and Romanowski [6], technical knowledge is the greatest strength in engineering curricula. Hence every student at the end of the theoretical period is expected to possess this skill so as to be a valuable asset in the industry, also to be a competent technician. This paper argues that students' ability to solve technical problems may require practice and experience to improve over a lengthy period. Having said this, it might be possible that some students may graduate with their diploma qualification still lacking problem recognition and solution formulating skills. This leaves the academia with a challenge to assist students in developing some of these skills whilst engaged in theoretical component of their qualification.

Non-technical competencies, which are termed as soft skills in this paper, include communication, teamwork, attitude, suitability and adaptation. Sometimes, the development of a professional and ethical attitude is included under soft skills. Although some of these skills could be related to the student's personality [7]; it is evident that there has been much emphasis on development of soft skills in the classroom in recent times, the expected outcomes on all engineering programmes demonstrate this. Moreover, these outcomes have become a fundamental requirement by engineering professional bodies accrediting engineering qualifications.

Published literature [5, 6, 8, 9] of industry perceptions of engineering graduates, have identified communication and team work as important attributes where 'competency gaps' are normally found. However, it is notable that the literature above does not mention any gender effects on these competencies, but it uses a blanket approach, hence this study was initiated. Team work is mostly required in the industry because there are different fields that are set to achieve the same goals, which is to keep the plant safe and make profit for the investors. It is recognised that students are somewhat given exposure towards working as a team, but it is not necessarily graded on how well they perform. This paper agree with Skates [10], that there are a number of curriculum projects which have attempted to address this area, however it still remains a concern because of the inability to grade it. Furthermore, this paper hypothesise that female students struggle to socially adapt in the workplace as a result they leave the engineering sector and seek for less stressful environment. The study focuses on two distinct factors of workplace adaptation that is, individual differences and industry socialization [11].

Individual differences – Previous research by Makhathini [9] has demonstrated that a number of individual-differences influence the socialisation process, hence the outcome variable in this study is adaptation. Saks and Ashforth [11] conclude that the most promising demographic variables include gender and ethnicity because both might influence social integration in an organization. As for background variables, organizational tenure [11] and cooperative education experience [12] also affect the socialization process, yet it is unclear whether it applies across all gender or not, also to what extent. Still, these 'individual-difference' variables have not been examined in combination with interpersonal and technical competencies particularly with reference to gender.

Industry socialization and adaptation – Saks and Ashforth [11] define workplace socialization as a process that occurs interactively at three levels, that is individual, group and organizational. Individual socialization involves proactive information from diverse sources like colleagues and supervisors to learn the technical and interpersonal competencies [13]. The authors further state that successful adaptation in the industry has significant implications for organizations as well as its employees (students in this case). On the other hand, Kammerlyer-Mueller and Wanberg [14] argues that if new employees fail to blend in and adapt, they are more likely to be dissatisfied and leave the workplace. Hence this study seeks to investigate any competency gap including adaptation in the industry as an attribute, considering gender effect.

An interpretation of gender effects in engineering by Uden [15] suggests that as males and masculinity are connected to power and esteem from the start, females and femininity are excluded or restricted from fully taking part by patterns of behaviour, norms and social regulations. In addition, gender effects in engineering propose that differences between the proportion of females and males in various engineering industries result from female values being dissimilar from male [15]. Furthermore, according to this interpretation males are more interested in 'technology' whilst females are interested in the contextual applications.

3. Methods and Methodology

Participants in the study comprised of 106 students that were placed for WIL practical 1 in 2015. The workplace supervisors were asked to complete an assessment feedback sheet, which is a summary of their views regarding the students after completion of the first six months training. They are expected to rate the students' performance focusing on five main competencies. The students collected these

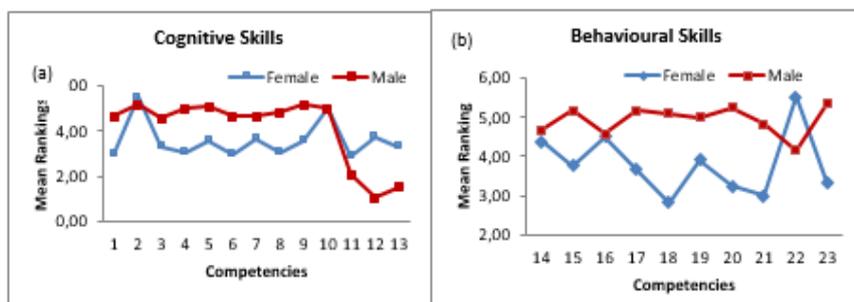


Figure 1. Ranking of female and male students by workplace supervisors on (a) cognitive and (b) behavioural skills

assessment feedback sheets as they form part of their report at the end of the training period. Hence, the response rate was 100%. It is well understood that there might be supervisors who assess more than one student per period, however this is not a problem since the assessment is for each student placed. The permission to use this data was obtained from the head of department.

The competencies listed on the feedback sheet were adopted from Spencer and Spencer [16] namely attitude, ability, judgement and teamwork. These competencies were deemed necessary in order to gain a more complete perspective concerning chemical engineering students/graduates from industry personnel. The competencies were listed under two themes (soft skills and hard skills) and the participants were also given a space to write additional comments they felt relevant after each assessment. Workplace supervisors were asked to rate each student's performance using a 4-point Likert scale, where 1 indicated that the student needs to improve in this particular performance area and 4 indicated that the student exceeded the minimum requirement in the particular performance area.

The ranking given to each competency by the workplace supervisor (based on comparisons of mean values) is provided in table 1. These mean values also ranked from highest to lowest performance. Two sets of ranking are provided, one for each of hard and soft skills, along with an overall ranking. The competencies were categorised into hard and soft skills by the author. The mean importance for each category was determined by summing the mean ranking of the competency within that category and dividing this by the number of competencies for each category. The difference in mean values were tested for statistical significance using one-tailed t-tests (at $p < 0.05$ and 0.01). To assist in the interpretation of the results, the mean ranking attributed by the workplace supervisor for male and female students in each competency is presented in Figure 1.

Table 1. A full list of students' attributes used in the feedback report

No.	Attribute
1	Development of technical skill
2	Adapt to changing work assignment
3	Cope with several assignments concurrently
4	Self-starter and shows initiative
5	Cooperate and work with other people
6	Listens and carries out instructions
7	Works efficiently without close supervision
8	Meets deadlines and keeps superiors informed
9	Produces quality work and displays professionalism
10	Produces an acceptable quantity of work
11	Makes sound decisions based on available information
12	Seeks the appropriate help and advice when needed
13	Shows ability to solve problems
14	Accepts responsibility
15	Exhibits an interest in the job
16	Maintains acceptable dress and grooming habits
17	Good attendance and time keeping
18	Adheres to company regulations and standards
19	Willingness to work beyond standard working time
20	Dependable and conscientious
21	Adapted to working environment
22	Adapted to the social environment
23	Appears suited to this career

3.1. Response rate and participant profile

Of the 106 complete supervisor feedback reports, only two feedback reports were not completed properly. All of the supervisors' feedback reports were returned with each student's P1 report as part of the appendix. Of the feedback reports received, 57% of the students were male and 43% were female. Figure 1 show the ranking based on a 4-point Likert scale as per the feedback report. Of the 23 attributes measured in the report, workplace supervisors rated five attributes as the least that all students possessed. These were independence, adapting to social working environment, teamwork and adhering to company

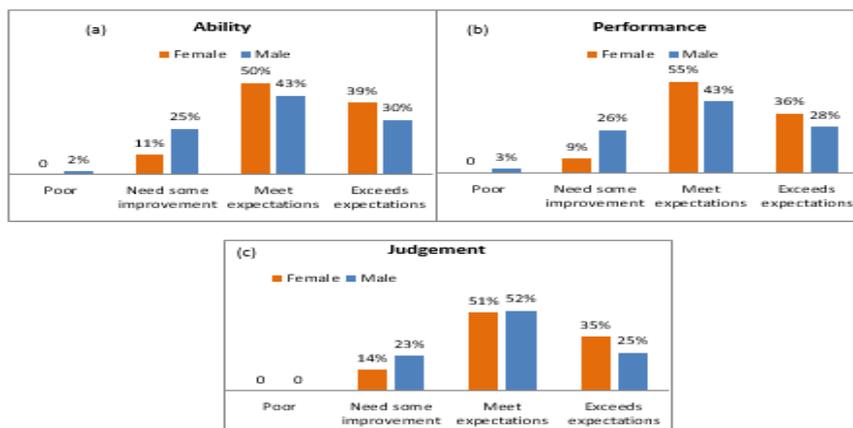


Figure 2. Assessment feedback on for female and male students on cognitive skills (a) ability to do work, (b) performance on actual job and (c) judgement on technical matters

standards and procedures. On the other hand, the workplace supervisors rated four attributes in which all students were acceptably satisfactory. These were meeting deadlines, ability to solve technical problems, decision making and producing an acceptable amount of work. It is noticeable that the least competencies that the students possessed are the soft skills and the strong competencies that they demonstrated in the workplace are hard skills.

A gap analysis of the attributes demonstrated differences between female and male students' ratings ranging from 0.01 to 2.25. The top five areas that had the greatest differences between the female and the male students are reported in table 2. The three highest differences were observed in adherence to company procedures, independence and suitability to the engineering career.

Table 2. Gap analysis of workplace supervisors of chemical engineering students' attributes

No.	Attribute	Mean		
		Male	Female	Gap
1	Adheres to company regulations	5.08	2.83	2.25
2	Dependable and conscientious	5.25	3.25	2.00
3	Appears suited to this career	5.33	3.33	2.00
4	Self-starter and shows initiative	5.00	3.08	1.92
5	Meets deadlines	4.83	3.08	1.75

4. Analysis of Findings

The (engineering) workplace supervisors' opinions collected and presented in this research provide insight for engineering educators. The conceptual themes were developed iteratively, to group units of

data that indicated similar competency deficiencies. The themes evolved from repeated concepts in the collected data. However, the purpose of the study influenced the dimensions used to identify the themes and awareness of current and past changes in engineering education in South Africa provided insight. The purpose of identifying competency deficiencies is to assist continuous improvement of engineering education. The results were presented in two broad themes, the cognitive skills and behavioural skills.

Figure 2(a) demonstrates the ability of the student in doing the actual job in the engineering discipline. Surprisingly, 50% of female students were rated to meet workplace supervisors' expectations compared to only 43% of the male students and 39% of female students exceeded expectations compared to 30% of the male students. This result was rather unexpected since the engineering discipline is historically male dominated, so it is assumed that males will exhibit more ability and potential in the industry. In relation to the ability of doing the job, is the performance standard of doing the job hence, figure 2(b) also shows similar results where female students demonstrated a higher strength in performance in their given technical projects and in delivering results. Approximately 3% of male students displayed poor performances.

Figure 2(c) shows that female students are stronger in decision-making where 35% of them exceeded expectations compared to only 25% of male students in the same category. This may be due to the nature of females since they are able to show their vulnerability and can seek assistance when they are faced with difficult situations in the workplace. However, it was noted that almost an equal split for the male and female students met expectations of workplace supervisors. Not all students were found to

be poor in their judgement ability and decision-making, which is a welcome result in any discipline.

The nominal data was analysed by the Chi-square statistical tool. This tool was used because the data

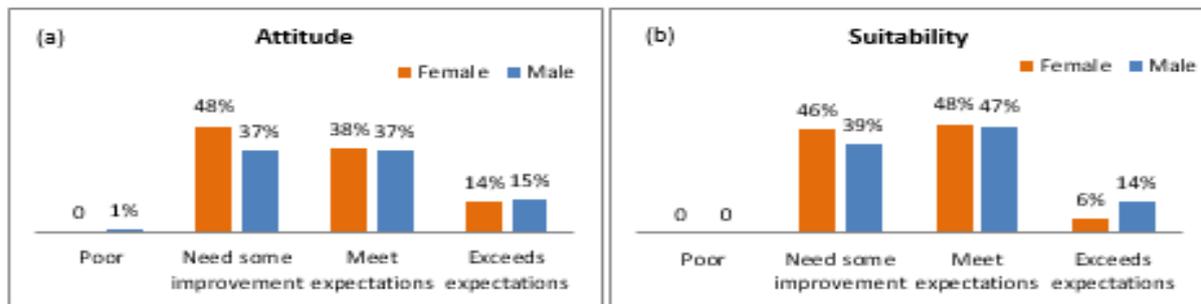


Figure 3. Assessment feedbacks for female and male students on behavioural skills (a) attitude towards work in the industry and (b) suitability on the discipline

was found to be intermittent since it is qualitative, and the distribution is non-parametric. Workplace supervisors' rated female students higher on hard skills than male students and the differences in rating are statistically significant ($p < 0.05$) in all competencies. The results show that the female students' ability to do the actual engineering work in the industry is greater than that of male students and is statistically significant ($p = 0.000261$). For the performance area and decision-making, the female student exhibited higher strength as well, with a statistical significance of ($p = 0.00217$) and ($p = 0.008486$) respectively.

Figure 3(a) shows that female and male students have a fair attitude towards work in the industry. Approximately 48% of the female students need to improve their attitude in the workplace compared to 37% of the male students who need to work on this competence. The split between female and male students who exceeded workplace supervisors' expectations was almost equal. The soft skills results were dissimilar to the hard skills results where female students exhibited high performance and high decision-making abilities. One could have expected that the female students would have good soft skills for them to be rated high on performance. It may be noted that female students were not willing to work beyond the standard time, which is often the case in the industry. This could be related to fatigue and/or transport issues which then becomes safety issues. Only one percent of male students were found to have serious attitude problems. It may be noted that these male students were rated poor on 'attendance and time keeping' and 'showing interest and enthusiasm about the job'.

Figure 3(b) demonstrates that 46% of the female students are below workplace supervisors' expectations in terms of adaptation to the working environment and suitability to the career, compared to 39% of their male colleagues. Only 6% of the female students exceeded workplace supervisors' expectations compared to 14% of the male students.

Again, this result contradicts the rating that the female students achieved on cognitive skills, it was expected that they would be more suitable in the career because their technical skills exceeded expectations. These results may be attributed to the low motivation and low self-confidence from some of the students. Their workplace supervisor may view this as them being less suitable for the job.

The data for soft skills was verified by the use of the Chi-square statistical tool to test its significance. The female students were rated lower on attitude compared to the male students and is statistically significance ($p = 0.0000125$) versus response. For the suitability competence, the female students were rated low compared to male students and the significance of the difference ($p = 0.000121$) which makes these results more reliable.

5. Discussion

The purpose of the research was to examine the gender effects on work-integrated learning competencies at the end of the training period, and to identify specific areas of interest where there were competency gaps. The results of this study suggest that engineering education has some improvements to make in at least two areas of competency.

The overall feedback shows that female students are stronger in cognitive skills than in behavioural skills. The results are in line with the authors' experience, which has proven that females in the engineering sector normally work twice as much as their male colleagues in order to prove a point of suitability in the field. Evidently, the fact that female students' need more improvement on behavioural skills may be because it is difficult for them to socialise with males in the industry, which then affect their ratings in the teamwork attribute. This finding is supported by the work of Coates [17] and Shuman, et al. [18], which reported that there are very few examples of a successful tool for development of professional skills, such as students' ability to solve

conflict, resolve ethical dilemmas and assessment of team skills development and project effectiveness. The argument of Kammerlyer-Mueller and Wanberg [14] that if new employees fail to assimilate and adapt, they are more likely to be dissatisfied and leave; our female students are most likely to be dissatisfied and leave the industry since they fail to adapt quickly enough.

The male students were found to adapt well in the engineering working environment when compared to female students, perhaps the dominance of males in the sector made male students more comfortable quicker. Male students might have gained a bit of an advantage at the beginning of their WIL program which made them to be more comfortable and perhaps complaisant, hence not delivering highly on application of engineering knowledge. Female students may have been viewed as weak candidates in instances where they were required to work extra or over time and they refused. There may be numerous reasons for this, physical fatigue on females may be a dominant factor, safety aspects where public transport is used could be an issue and also domestic responsibilities may take prevalence. Hence, it is important for WIL co-ordinators to prepare female students for all these factors that may affect them in the industry.

6. Conclusions

It seems that chemical engineering WIL students are fairly prepared to face the industry with its dynamic challenges, including cognitive and behavioural areas of competency. This study highlighted that the female students are much stronger than their male counterparts in cognitive competencies at the beginning of their careers (after WIL). It may be concluded that the issue of female engineering graduates leaving the industry shortly after they have started their careers has less to do with their ability to perform at the required level of competence. Some of the strengths and weaknesses appear to relate to this university's context, such as soft skills deficiencies - communication and team work which highlight the lack in exposure to diversity (function of the demographics of the student body). However, I believe that these findings may have a broader applicability to other engineering disciplines and perhaps other universities of technology. It is suggested that co-operative education assists female engineering students in preparing them better for the industry. Engineering educators may consider ensuring gender diversity in group allocation during theoretical component on campus. This study appears to contribute to the minimal literature in engineering education but focusing on gender effects in students' competencies. Finally, this study has highlighted the importance of cognitive skills paired with behavioural skills for all students. These findings have clear

relevance for engineering educators, at any university of technology and further field.

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Business Students Attitudes Toward and Perceived Deterrents to Participating in Continuing Education

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Abstract

The issue of participation has held a long-standing position of prominence in adult education research. In fact, this is one of the few areas where adult education researchers have begun to build a systematic knowledge base [6]. This dominance in research and investigation helped determine that certain characteristics emerge that distinguish participants from nonparticipants. In particular, Johnstone and Rivera [14] pointed out that these two groups differed in age, amount of formal schooling, and where they lived. In the seminal research on participation [12] developed a typology of orientations for participation in adult education activities. This typology has provided a theoretical basis for much of the research on reasons for participation in adult educational activities. This typology classified participants as goal-oriented, activity-oriented, and learning-oriented, and it provided a potential explanation of the why adults participate in adult education activities. Numerous studies have been conducted in adult education that are germane to participation in learning activities [3]. However, while it is valuable to know why adults do participate, it is equally as critical to know why they do not participate in learning activities. The situation can be viewed as a two-sided coin with reason for participation on one side and barriers to participation on the other. Cross [4] classified barriers to learning under three major headings: situational, institutional, and dispositional barriers (p. 98). Situational barriers arise “from one’s situation in life at a given time” (p. 98). Upon closer examination of these barriers, it appears that they primarily relate to the finite amount of resources possessed by an individual. Cost, not enough time, home responsibilities, and job responsibilities are examples of barriers included in this category. Over time, many of these situational barriers may become nonexistent and disappear as barriers. It is fairly common for families to have more money, free time, and less child care responsibility as the family matures. However, as some of these barriers disappear, other barriers may take their place (e.g. health). Institutional barriers “consist of all those practices and procedures that exclude or discourage adults from participating in educational activities” (p. 98). Examples in this category consist of inconvenient class schedules or locations, amount of time required to complete a program, and lack of information on course offerings. One reason these barriers exist may be because institutions were originally devised for a specific group other than the adult education student. For example, college and universities were devised to accommodate full-time day students and not to serve part-time day or night learners. Dispositional barriers are the third type of barriers. These barriers primarily relate to the self-perception and attitude of the learner. Being afraid that one is too old to learn, having low academic confidence, not enjoying studying, and being tired of school are examples of dispositional barriers (p. 98). Subsequent research ([5], [7], [9], [15], [13], [8], [17], [10], has focused additional attention on the deterrents to participation in adult education. In part, these studies identified clusters of reasons for nonparticipation by various groups. Like Houle’s original typology, these may prove valuable in understanding the total pattern of motivational factors that influence an adult’s participation in adult educational activities. Participation in adult education activities may also be influenced by an adult’s attitude toward adult education. An attitude is a “learned tendency to react in a consistently favorable or unfavorable manner toward people, objects, ideas, or situations” [18]. Although practitioners suggest that attitudes influence an adult’s

participation in adult education, a paucity of research exists on the relationship of participation to attitudes toward adult and continuing education. Yet, those limited studies which have been conducted suggest that attitudes are related to participation in adult education [1]. In a 1970 study it was found that favorable attitudes toward adult education enhanced participation by various groups in adult educational activities [16] Two decades later it was determined that one's attitude toward adult education was the most important factor in the discrimination of participants and nonparticipants in adult and continuing education [9]. More recently, it was found that small business managers in Montana who have participated in adult and continuing education have more favorable attitudes toward adult and continuing education than nonparticipants [10]. The aforementioned suggests that attitudes toward and perceived barriers to adult and continuing education have an impact on participation. Therefore, the purpose of this study will be to investigate perceived barriers to participation in adult and continuing education and attitudes toward adult and continuing education by undergraduate business students. This group's attitude toward adult education and their perceived barriers toward participating in adult education may shed light on their future participation in these educational activities. The population for this study will be undergraduate business students enrolled at the University of Montana. From this population, 100 students will be selected for the purpose of this study. Two instruments make this data identification possible; they are the Adult Attitudes toward Continuing Education Scale (AACES) and the Deterrents to Participation Scale for the General Population (DPS-G). Both of these instruments have been used with various populations and both of them were found to be valid and reliable with various groups [9], [15], [13], [8], [17], [10].

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Session 21: Global Issues in Education

Title: Do Accounting Faculty Career Satisfaction and Professional Identification Influence CPA Exam Performance?

(Authors: Stephanie Hairston, Porschia Nkansa)

Title: Research Study on Intercultural Sensitivity of Overseas Students Studying English-medium Instruction (EMI) Postgraduate Programs in China - Take a University in Shanghai as an Example

(Authors: Liandong Guo, Wenruo Liu)

Title: Development through Education: Looking at Ghana and Cuba

(Author: Jordan Hale)

Title: Developing Intercultural Competence in Our Tertiary Graduates: Integrating Intercultural Theory and Student Experience

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Do Accounting Faculty Career Satisfaction and Professional Identification Influence CPA Exam Performance?

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Abstract

Uniform Certified Public Accountant (CPA) exam performance is a key metric used to evaluate the effectiveness of accounting programs. In this paper, we examine the influence of accounting faculty career satisfaction and their professional identification on students' CPA exam performance. Accounting faculty are encouraged to maintain close ties to the accounting profession so they are likely to have a strong professional identity that will influence their teaching and administration of accounting programs. Using a survey instrument to assess accounting faculty's levels of career satisfaction and professional identification, we will investigate the relationship between these factors and accounting program outcomes. Our findings will be valuable to accounting educators, accounting program and university administrators, and the Association to Advance Collegiate Schools of Business (AACSB) in providing evidence of the influence of intrinsic and extrinsic factors of career satisfaction and professional identification on a key metric of accounting program success.

1. Introduction

The Uniform Certified Public Accountant exam (hereafter CPA exam) is a critical component of the accounting profession. Accounting programs in the United States have taken a proactive role in modifying their curricula to ensure that students qualify to sit for and are adequately prepared for the CPA exam. Although enrollment in accounting programs across the country continues to grow, the CPA exam pass rate remains stagnant. According to the American Institute of Certified Public Accountants [1], enrollment in accounting programs increased by 19 percent; however, total bachelor's and master's degrees awarded in accounting decreased by one percent and the first-time CPA exam pass rate remains unchanged at around 50 percent. As first-time CPA exam pass rates can significantly boost enrollment in accounting programs, it is important for universities

to examine factors that influence these pass rates including accounting faculty career satisfaction and their professional identification (the focus of this study).

2. Body of Knowledge

Although prior literature commonly links employee job satisfaction to job performance (Judge, Bono, Thoresen, and Patton [2], there is little empirical evidence that examines the career satisfaction-performance relationship in accounting education [3], [4] suggest that career satisfaction is a broader concept than job satisfaction in that it encompasses factors outside of one's current employment to capture the overall satisfaction of an individual with their choice of profession. Given that current employment is more easily altered than career choice, we expect career satisfaction to significantly influence job performance.

Prior literature also suggests that professional identification influences job performance [5]. Bamber and Iyer [6] provide evidence that external auditors have high levels of professional identification and that professional identification is positively associated with organizational identity. Accounting faculty members are encouraged to maintain close ties to the accounting profession and many faculty members have had first-hand experience working as Certified Public Accountants (CPAs). Therefore, accounting faculty are likely to maintain strong professional identities that will influence their teaching and administration of accounting programs. However, despite the theoretical link between career satisfaction, professional identification, and performance, these relationships (to the best of our knowledge) have not yet been examined in the accounting literature. CPA exam performance is a key metric used to evaluate the effectiveness of accounting programs [7]. Consequently, in this study we will examine whether accounting faculty career satisfaction and professional identity influence CPA exam

performance. Our first research question is: Does accounting faculty career satisfaction influence CPA exam performance? Our second research question is: Does accounting faculty professional identification influence CPA exam performance?

3. Research Methodology and Plan

Based on the results of previous research (Boyle et al. 2015 [3]; Bline et al. 2016 [7]; Fleischman et al. 2017) [4] the two hypotheses for this study are:

H1: Accounting faculty career satisfaction is positively associated with student CPA exam pass rates.

H2: Accounting faculty professional identification is positively associated with student CPA exam pass rates.

The survey instrument has three sections: (1) career satisfaction scale, (2) professional identification scale, and (3) demographic questions. The career satisfaction and professional identification scales are adapted from Fleischman et al. (2017) [4].

To conduct our research, we will collect data from the National Association of State Boards of Accountancy (NASBA) Candidate Performance on the Uniform CPA Examination – University Edition report. Per NASBA, the University Edition of the report highlights school performance which is necessary to examine the relationship between career satisfaction, professional identification, and CPA exam performance at the university level. In addition, we will also collect individual candidate demographic information for first-time CPA exam candidates including age, gender, and classification (undergraduate or graduate). Finally, we will collect AACSB accreditation information for both the university and the accounting program for each CPA candidates' institution.

To examine the relationship between career satisfaction, professional identification, and CPA exam performance, we will use OLS regression analysis. Adapting Bline et al. (2016) [7], model (1) is used to test our research questions:

$$\begin{aligned}
 PASSRATE_{it} = & \beta_0 + \beta_1 CARSAT_{it} + \\
 & \beta_2 PROFID_{it} + \beta_3 CPA_{it} + \beta_4 SAT_{it} + \\
 & \beta_5 AACSB_{i,t-1} + \beta_6 ACC_AACSB_{it} + \beta_7 AGE_{it} + \\
 & \beta_8 GENDER_{it} + \beta_9 RANK_PROGRAM_{it} + \\
 & \beta_{10} GRADUATE_{it} + \beta_{11} OTHERCONTROLS_{it} + \\
 & \sum \beta_i STATE_DUMMY_i + \epsilon_{it}
 \end{aligned}
 \tag{1}$$

This regression controls for other variables that could impact candidate performance (Bline et al. 2016) [7]. We control for accounting faculty CPA certification (CPA), difficulty of obtaining admission to the university (SAT), college and accounting program accreditation (AACSB, ACC_AACSB), age

of candidate (AGE), gender of candidate (GENDER), and accounting program ranking (RANK_PROGRAM). Additional control variables (OTHERCONTROLS) related to accounting faculty will be obtained from our survey including years of professional experience, years of teaching experience, teaching specialty, and relationship with CPA exam review course providers. We also include dummy variables for the state in which the exam was taken to control for different requirements for candidates to sit for the exam.

4. Conclusion

We expect to document a positive relation between both accounting professors' career satisfaction and professional identification on students' CPA exam pass rates. These results will benefit accounting education, the accounting profession, and initiatives of the AACSB and Pathways Commission by providing evidence that integrating more professionally oriented faculty into academia has positive effects on student educational outcomes.

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Research Study on Intercultural Sensitivity of Overseas Students Studying English-medium Instruction (EMI) Postgraduate Programs in China - Take a University in Shanghai as an Example

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Abstract

With the trend of globalization around the world, higher education sector has become more internationalized, and less favored countries, such as China, has attracted an increasing number of overseas students to come for studying. Through the deployment of the Intercultural Sensitivity Scale developed by Chen and Starosta (2000), this article is intended to examine the intercultural sensitivity in 5 dimensions for 255 overseas students with 56 nationalities, who were studying in a university in Shanghai, China. All the participating students were enrolled in English-medium instruction (EMI) Postgraduate programs. The research study was conducted through questionnaire survey and the survey data were analyzed by applying two-way ANOVA method. According to the data analysis, issues were identified existing in intercultural sensitivity for overseas students in higher education in China. Based on the research findings, the article is aimed to unearth the causes behind these issues and provide recommendations accordingly.

1. Introduction

According to the report of Development of Studying Abroad in China by Wang et al, it depicts the recent trends and development of overseas education in the era of globalization, which can be summarized in the following two trends: the number of students studying overseas has been growing up steadily, meanwhile the reverse flow of international students from developed countries to developing countries has become increasingly prominent, which means students from traditional overseas education destination countries choose to study in other less favored countries, due to the further development of globalization and expanding of new markets worldwide; the

distribution of students studying overseas appears to be spread out to so-called ‘unpopular destination countries for overseas education’, such as Asia-Pacific, ASEAN and Latin American areas. Particularly in China, the number of overseas students is increasing remarkably, reaching nearly 400,000 in 2015 and has become the world’s third largest overseas student importing country [1]. With promotion of ‘One Belt and One Road Initiative’ and the increasing fever of studying ‘Chinese language’, the Chinese government also has recognized such trend and prepared to invest more to meet these challenges. For example, the Ministry of Education of China announced the “Development plan for Overseas Students Studying in China” in 2010 [2], which targeted to develop China to become the largest overseas student intake country in Asia by 2020, and the goal was to attract 500,000 overseas students (including primary and high school students) by then. At the National Overseas Education Conference 2014, it was officially indicated to ‘develop overseas education and recruit overseas students to study in China’ for the first time [3]. With overview of all the developments and rapid changes in China and worldwide, further increment of the number of overseas students studying in China seems to be promising. However, there are also concerns that the overseas students may face cultural shock, when they are studying in China, especially, in terms of daily life, natural and civil environment, social etiquettes, even food and living conditions. It requires overseas students to make effort to adapt to the local life style and interact with local people, meanwhile, their level of cognition of culture and conditions in China and adaption to local life will not only greatly affect their experience of life and study in China but also their sensitivity to Chinese culture. Therefore, our investigation on the intercultural sensitivity of a large quantity of overseas students studying in higher education in China is viable and the

outcome of this investigation is expected to provide recommendations to guide overseas students to adapt themselves better to Chinese culture and life style.

2. Literature Review on Intercultural Sensitivity

In the research studies of intercultural communication, it is inclined to study intercultural sensitivity in three perspectives—cognition, emotion and behavior. In the 1950s, Bronfenbrenner et al proposed the concept of interpersonal sensitivity and pointed out it is necessary to learn the differences in behaviors, cognition and emotion comparing to other social groups [4]. Later Bennett identified six stages for cultural sensitivity, namely denial, defense /reversal, minimization, acceptance, adaptation, integration, and he referred intercultural sensitivity as a capability to adjust behavior and attitude from denial of a culture to integrate into multiple cultures in terms of cognition, emotion and behavior, which is the fundamental for the Developmental Model of Intercultural Sensitivity. This Model distinguishes the underlying cognitive orientations individuals apply to understand cultural difference, and it is designed to assist educators working in a multicultural environment to understand their students' emotional reactions towards cultural difference throughout different stages. Therefore, predictions about behavior and attitude can be made and education can be tailored to help students to resolve their intercultural adaption issues [5]. In the 1990s, Bhawuk and Brislin attempted to measure intercultural sensitivity of different groups through even more scientific scales in collectivism and individualism settings [6]. Kapoor and Comadena also argued the issue of validity of the above-mentioned scales [7]. In 1997, Chen and Starosta propounded the idea to discriminate intercultural communication ability from intercultural sensitivity, and they delineated that intercultural awareness is related to cognition, while intercultural sensitivity tends to associate with emotion, and intercultural competence is related to behavior [8]. Shortly after the development of the theory, Chen and Starosta created the Intercultural Sensitivity Scale which was proven to be effective [9]. This article is intended to investigate the intercultural sensitivity for 255 overseas students with 56 nationalities studying in a University in China through applying this Scale. At present, very limited cognitive

research has been conducted in intercultural sensitivity, particularly higher education in China, and this article is aimed to explore research findings in this area.

3. Research Hypotheses

With deployment of empirical research method, this study is intended to investigate the intercultural sensitivity of overseas students studying Englishmedium instruction (EMI) postgraduate programs in a University in China. Recommendations are proposed at the end based on the research findings of the study. Hypotheses for this study are as following:

- a. The intercultural sensitivity for overseas students who were studying EMI postgraduate programs is significantly related to their nationality, age and their overseas experience before their arrival in China;
- b. The intercultural sensitivity for overseas students who were studying EMI postgraduate programs has significant relationship to their level of Chinese language ability;
- c. The intercultural sensitivity for overseas students who were studying EMI postgraduate programs has strong significance to the length of their staying period in China and the programs they were enrolled in.

4. Research Methodology

For this research study, all the participating overseas students were enrolled in postgraduate programs in a University in Shanghai, China, and they were also studying a unit called "Introduction to Chinese Culture". According to the data, 56 different nationalities were represented in the survey; however, the number of students were distributed unevenly for each nationality and the majority of them were from Asian countries, particularly the South-Asian region. Detailed breakdown of number for each nationality is summarized in Table 1.

The questionnaire designed for this survey was based on the Intercultural Sensitivity Scale developed by Chen and Starosta [9], and it was composed of two parts - background information for participants (such as nationality, gender, age, study programs, Chinese language level and overseas experience prior to their arrival in China)

and the five dimensions of intercultural sensitivity and consciousness, namely Interaction Engagement, Respect for Cultural Differences, Interaction Confidence, Interaction Enjoyment, and Interaction Attentiveness, which was measured in Likert scale.

Table 1. Nationality Distribution

Nationalities	Frequency	Nationalities	Frequency	Nationalities	Frequency
Afghan	2	Japanese	4	Ethiopian	3
Algerian	9	Kyrgyzstan	1	Finnish	1
Bengalis	9	Latvian	1	French	12
Belgian	2	Macedonian	1	German	3
Brazilian	2	Malagasy	1	Ghana	4
Burundian	1	Malaysian	1	Hungarian	1
Cambodian	2	Mali	1	Indian	5
Congolese	1	Mongolian	3	Indonesian	4
Cameroonian	1	Moroccan	1	Iranian	17
Canadian	1	Nepalese	7	Iraqi	1
Chilean	2	Dutch	2	Israeli	1
Zulus	1	Norwegian	1	Italian	1
Colombian	1	Pakistani	87	Senegalese	1
Czech	1	Filipino	1	Serbian	2
Ecuadorian	2	Russian	6	Seychellois	1
Egyptian	3	S'Korean	9	Tunisian	2
British	1	Ugandan	2	Ukrainian	2
American	4	Venezuelan	1	Zambian	1
Yemen	2	Turkish	3	Total	241

The programs these students enrolled in covered a wide spectrum of areas—9 areas across Natural Science, Humanities arts, and Social Science. The questionnaires were completed and collected from all the participating students in a lecture they were attending. With assistance of SPSS23, two-way ANOVA was applied to analyze

the survey data and the reliability of the data set was also tested via Cronbach's Alpha.

5. Data Analysis of Survey Outcome

In this survey, 241 out of 255 questionnaires were valid and the value of Cronbach's Alpha appeared to be .763 which is proven to be acceptable for the reliability of a dataset. Participating students were from 56 different countries originally, including 183 male and 58 female. The youngest was 21 years old and the oldest was 54, whilst the majority were between 23 to 26 years old, and their average age was 27.11. Based on the data analysis, it was found that only the programs they were studying and the length of staying in China had significant association with their intercultural sensitivity. The comparative analysis of the 11 sets of valid survey data for participants with higher level of Chinese language ability indicated that the language ability of Chinese actually does not have significant relationship with their intercultural sensitivity, by comparing the mean of their intercultural sensitivity 3.91 to the overall mean of 3.84.

This first hypothesis of "The intercultural sensitivity for overseas students who were studying EMI postgraduate programs is significantly related to their nationality, age and their overseas experience before their arrival in China" is not supported by the data analysis outcome, as the p value of each element is higher than .05 (.168, .305, .613 respectively).

The second hypothesis of "The intercultural sensitivity for overseas students who were studying EMI postgraduate programs has significant relationship to their level of Chinese" is proven to be incorrect as well, as the mean of intercultural sensitivity for students in class with higher Chinese language level is very close to other students, 3.91 vs 3.84.

However, the last hypothesis of "The intercultural sensitivity for overseas students who were studying EMI postgraduate programs has strong significance to the length of their staying period in China and the programs they were enrolled in" is evidenced to be true, as the p value for staying length was .024 and for enrolled programs was .039. Furthermore, by comparing estimated marginal means for different programs students enrolled in, it is found that SP (International Public Affairs) achieves the highest value, which is clearly demonstrated in the plot below:

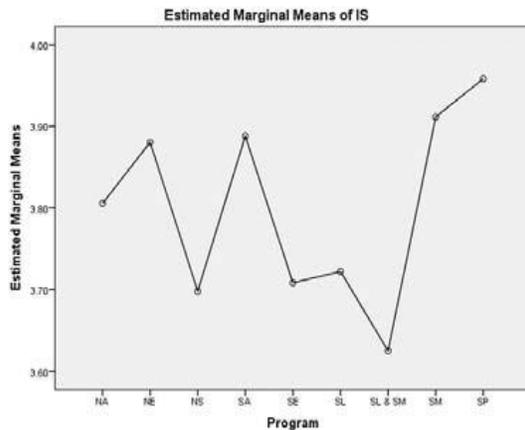


Figure 1. IS of Programs Enrolled

Meanwhile, amongst the five dimensions of Interaction Engagement, Respect for Cultural Differences, Interaction Confidence, Interaction Enjoyment and Interaction Attentiveness, Respect for Cultural Differences and Interaction Enjoyment mark the highest mean value comparing to Interaction Attentiveness with the lowest value (as indicated in the Table 2).

Table 2. Mean of IS for Five Dimensions

Five elements	Number	Minimum	Maximum	Mean	Standard Deviation
Interaction Engagement	241	1	5	3.94	.842
Respect for Cultural Differences	241	1	5	4.25	.845
Interaction Confidence	241	1	5	3.90	.852
Interaction Enjoyment	241	1	5	4.25	.836
Interaction Attentiveness	241	1	5	3.70	.882

6. Conclusion and Recommendations

According to the analysis outcome, it is noticed that the intercultural sensitivity for the participating students enrolled in EMI postgraduate programs is observed to be quite high (43.57% of them fall in the range of 90 to 99, out of 120). Respect for Cultural Differences and Interaction Enjoyment score the highest value amongst the five dimensions, which evidently denotes that this

group of students possessed of strong desire to communicate and exchange their ideas with others from different cultural backgrounds as well as to improve their relationships to others. They were keen to make friends with Chinese people and experience local life style. They were respectful to cultural differences, and enjoyed intercultural communication. Meanwhile, the dimensions of Interaction Engagement and Interaction Confidence indicate relevantly low value, which reveals barriers existed in the social interaction for participating students and lack of social life in the overseas higher education environment in China. Interaction Attentiveness achieves the lowest value comparing to the other four dimensions, which exhibits lack of attention during the process of interaction with others.

The reasons for high value in Respect for Cultural Differences are mainly due to the mature age of these participating students with relevantly substantial social and studying experiences. However, in the higher education sector in China, most of the Universities arrange facilities and amenities for overseas students separately from local students, such as dedicated dormitory, dining and classroom areas for overseas student. Especially, the curriculums for overseas students are designed exclusively, which leaves limited opportunity for overseas students to interact with local students directly in a daily basis. Another reason could be that the overseas students are taught in English without much of exposure to real Chinese environment, whilst their peer Chinese students with limited English ability also creates barrier for effective communication between them, which leads to their shallow Interaction Engagement, Interaction Confidence and Interaction Attentiveness as shown statistically. On the basis of the analysis, our recommendations are suggested as below:

- 1) The higher education sector in China could establish better communication channel and mechanism for overseas students to interact with local students, for instance, Chinese social language classes imbedded in their curriculum as an elective subject.
- 2) Create better social space/occasion on and off campus for overseas students as to encourage them to have higher exposure to local environment, for example, establishment of mixed social zones on campus, participation in volunteer work

with people from local community and excursions to local museums.

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Development through Education: Looking at Ghana and Cuba

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Abstract

Attempts by developing countries to develop are significantly slowed by their struggling education systems and their resultant lack of human capital. Consequently, the problem arises of how to improve developing countries' education, and thus accelerate their development. My research in Ghana and Cuba has allowed me to identify several local and modern solutions to developing countries' education problems: expanding the education systems, changing the curriculum, improving teaching, providing resources for students, and lowering costs. Ultimately, this paper aims to contribute to both education and development studies by describing relevant education reforms for developing countries.

1. Introduction

The quality of and access to education in developing countries - although generally low - can vary significantly. For example, in Cuba, the education system is free for all and is ranked among the highest in the world; while in Ghana, the education system is prohibitively expensive and poorly ranked. Ghana's ineffective education system ultimately slows the country's rate of development. Fortunately, Cuba's remarkable success in education offers key insights that can be used to improve education in other developing countries, such as Ghana. While Cuba's unique command economy prevents the country from fully capitalizing on its superior education in order to develop its economy, other developing countries with more open economies could certainly accelerate their own development by adopting elements of Cuba's successful approach to education and thus increasing their human capital.

Undoubtedly, education plays an important role in development. Indeed, education is the main source of income today in Ghana and many other developing countries [3]. Figure 1 shows there was a significant correlation between growth in human capital (education) and growth in GDP per capita (income) in Ghana beginning only a couple of decades after the country gained independence from Great Britain in 1957. This Human Capital Index was created by the Penn World Tables and represents the average years of

schooling (based on data collected by Barro and Lee) combined with an assumed rate of return to education (based on Mincer equation estimates for each country). Therefore, this measurement reflects both educational quality and access in Ghana, and how this education actually translated to increased human capital and thus productivity and economic growth [1].

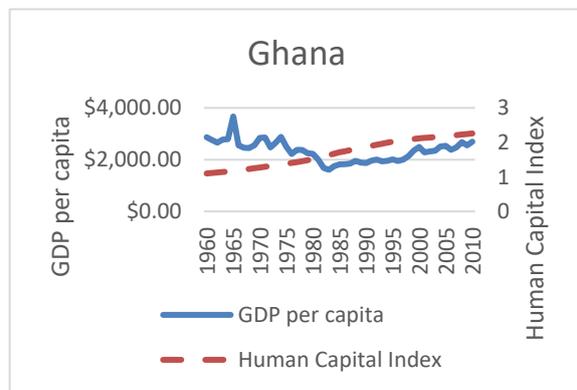


Figure 1. Correlation between growth in human capital (education) and growth in GDP per capita (income) in Ghana

2. Literature Review

Both access to and quality of education in Cuba is high. Cuba's literacy rate and exam scores are more similar to those of developed countries than to those of other developing countries. For instance, Cuba has a literacy rate of 99.8%, and the country ranks first in the world for math and language in its primary schools. Additionally, access to education is high in Cuba, with 94% of Cuban children attending pre-K, 100% of students reaching the sixth grade, and 99% of students reaching the ninth grade [2].

Furthermore, Cuba is now sending many of its own graduates to Ghana and other developing countries, to provide necessary services and to promote education and thus development in those countries as well. Cuba then receives money from these developing countries in return for the services rendered by the Cuban graduates. As a result, education is considered the most successful export of Cuban Socialism [4]. For example, Cuba's Latin

American School of Medicine trains doctors to serve in more than twenty developing countries [2]. Ultimately, Cuba sends over 35,000 medical workers to these countries [4].

As one of the recipients of these highly-trained Cuban graduates, Ghana has an education system that lacks both easily-accessible and high-quality education. Consequently, over half of basic education graduates in Ghana are functionally illiterate and innumerate, and only 76.6% of the total Ghanaian population is literate [5]. Furthermore, only one-fourth of school-aged children in Ghana even have access to basic education. Specifically, 86.6% of Ghanaian children enroll in primary school, 50% attend junior high school (lower secondary school), and only 33% are admitted to senior high school (upper secondary school) [3].

3. Methodology

In this paper, I hope to give developing countries more of a voice in their own education reform, by sharing the views and realities of the people living in these countries today. Therefore, using data collected from interviews and observations I conducted in Ghana and Cuba in 2017, I outline in this paper education reforms for developing countries, based on my analysis of ineffective practices in Ghanaian schools and successful ones in Cuban schools. Based off the data I collected in these two countries, I have identified five key reforms which would enable developing countries to improve their education.

4. Analysis of Findings

4.1. Size of Education System

In Ghana, the amount of time students spend in school is not enough to cover the required curriculum. A few teachers in Ghana told me, “There is too much in the curriculum. There’s not enough time to cover it all. We need more time.” Students said they wanted to learn more. Many people recommended expanding senior high school to four years—as it was briefly, with positive results. Additionally, students could specialize in certain subjects or fields of study, to enable them to cover all of the material and to focus only on the subjects they will actually use in their future careers.

In Cuba, the curriculum is condensed into a manageable amount so that teachers can cover it more thoroughly. Also, students are placed on a specific path early in their schooling, so they can focus primarily on the specialized topics in their assigned career field. Likewise, increasing the amount of time Ghanaian students spend in school, or allowing them to specialize in a particular field,

would make it possible for students to cover all of the necessary curriculum.

In addition to the insufficient time actually spent covering the required curriculum in Ghana, the country lacks enough schools and classrooms: there are currently many classrooms in Ghana with over one hundred students in each. Conversely, Cuba keeps class size maximums at manageable levels—around twenty to thirty students. However, since building more schools can be expensive, one Ghanaian suggested that teachers be sent out to teach those who have little access to education, primarily in rural areas. This is similar to Cuba’s Literacy Campaign in the early 1960s, in which the state sent out thousands of graduates to teach illiterate Cubans how to read and write. By expanding the number of schools or by sending teachers to areas without schools, Ghana could increase access to education for many students.

Furthermore, Ghanaians suggested offering more nontraditional schooling options, including adult education, special education, and vocational schools. Currently, most schools only offer traditional liberal arts. A teacher in Cuba also stressed the importance of vocational education, especially in developing countries, as it provides the skilled, blue-collar workers that are desperately needed in these countries. Shifting from traditional to vocational schooling would help Ghana provide more relevant education, since most jobs in the Ghanaian economy require mainly vocational training.

4.2. Curriculum and Teaching Methods

The curriculum in Ghana is irrelevant and outdated. A Ghanaian mother I spoke to describe the curriculum: “One thing in our education, you know when you learn, maybe you go to university, you learn the technical, but when you leave, you don’t have the facilities needed. You learn something else about like a Greek. It’s not practical. They will be there for the four years but when they come out, they don’t have anything to do. They have to go out, up and down, looking for jobs. [After] they are in school...the nation needs to help. Graduates have nothing to do.” This irrelevance could stem partially from policies that are made in Accra but do not reflect the realities in the villages. Instead, students want to be taught employable skills. Ghanaian students especially expressed interest in more math and science classes. Indeed, adopting a more relevant curriculum in Ghana could help address the high youth unemployment in the country, and in this way promote economic growth.

Notably, a Ghanaian administrator told me that Ghana needs to stop relying so much on outside aid to support its schools, because the countries providing outside aid require that Ghana implement certain educational policies that are often irrelevant

and actually harmful to Ghana's education. By taking control of its own education reforms and practices, Ghana could potentially provide more relevant education.

Furthermore, teaching in Ghana is very traditional. Students are simply expected to copy notes and regurgitate information in class, and there is very little interaction or critical thinking required. Students often only interact with teachers and receive feedback when taking tests. This rote-style of learning comes from traditional Western teaching methods introduced by Great Britain. However, as recent pedagogy shows, students learn more if they are involved in lessons—interacting with the teacher and employing critical thinking. Unfortunately, another result of this colonial influence is that instruction in Ghanaian schools is only offered in English or French, even though most students can only speak a few basic English or French phrases.

In Cuba, students are taught using student-directed learning methods, and they learn a distinctly Cuban curriculum that has been approved by the state and which promotes the states' values: in this way, Cuban education is more relevant to Cuban realities. As a result, unemployment in Cuba is remarkably low. Ultimately, teaching in local languages as well as using more interactive and student-directed learning methods would allow Ghana to improve the quality of its education system.

5. Teaching Quality

Teaching quality in Ghana is poor. In Ghana, most teachers are polytechnic graduates. However, many teachers do not even go to college, particularly primary teachers. Due to their low salaries, many of these insufficiently-trained teachers have to work second jobs and thus lack both the skills and the time to improve their teaching. Thus, one Ghanaian teacher said that Ghana needs to take care of teachers by hiring more of them, training them better, paying them better (to incentivize and keep good teachers), and providing them with more teaching supplies.

Not only are teachers poorly trained in Ghana, but oftentimes they are also not held accountable and are thus allowed to fall behind on their work. Many Ghanaian teachers discipline their students by caning them, do not bother to ask their students questions or collect and grade school assignments, and are often late, absent, or not in the classroom. Thus, the teachers I spoke to expressed a desire to improve teaching by ensuring that teachers punish students with corrections rather than corporal punishment so that students learn from this positive formative feedback; that teachers ask students questions to make sure they understand their work and collect and grade all assignments to both motivate students and show them what they need to work on; and that teachers try to always be among their students during

the school day. In other words, they wanted to guarantee that teachers monitored students better. This supervision and accountability could help both teachers and students be more effective.

In Cuba, teachers and students form a bond and are constantly learning from each other and interacting with each other—and the teachers are competent as well, due to their superior training and supervision. Generally, in their first year of training, pedagogical students in Cuba spend one month observing and working in schools, and the rest of the time studying pedagogy. In their second year, trainees teach in schools two days a week, and three days a week in their third year. In their fourth and fifth years, trainees work in the schools five days out of the week, and then go to pedagogical school one additional day. As one teacher said about teacher training, “so we had to go be real workers, real teachers, even when we were still studying the career.” Due to good training, teachers feel competent to deliver Cuba's well-defined national curriculum.

6. Access to Educational Resources

Many students in developing countries lack the materials required for them to succeed in school. Therefore, one of the primary recommendations offered by interviewees in both Cuba and Ghana was providing more school materials for students. One Ghanaian suggested that schools and the state overall should provide all textbooks, water, heating, and lighting, as these costs currently rest on parents' shoulders. Several interviewees in Ghana said that computers should be provided, because Ghanaians need to be prepared for the modern world. Computers could also enable students to access more learning materials. Some interviewees suggested that the media could provide educational resources, by creating learning programs for students. Many Ghanaians argued that both the government and the private sector should provide more resources. Others even said that people should send monetary aid to families and communities, thus enabling children to have better home environments in which to focus on their studies and more money to use for school fees.

In Cuba, all necessary materials are supplied for free by the state, and this enables all students to have access to education and to succeed while they are in the classroom. Furthermore, the state makes sure to provide support to those families which are struggling, to ensure that their children can go to school and do well in school. Therefore, nearly all students have access to the materials needed to succeed in school. Ultimately, people in both Cuba and Ghana identified this lack of resources in the home as the most substantial barrier to improving education in developing countries.

7. Cost of Education

Education costs in Ghana are higher than many Ghanaians can afford. Annual school fees are around 900 cedis—about \$250—and to these parents must add textbook fees—which cost more, and so bring the total to around 2,000 cedis, or \$500. Due to the high costs of good education in Ghana, there is an inequality in access largely based on the socioeconomic status of the student. Better schools are more expensive, among both private and public schools. Also, extra classes and tutoring are only available to those students who can afford them. Unfortunately, the Ghanaian government still claims that it provides free education, and so many parents become confused and do not bother to buy their children necessary textbooks. Therefore, Ghanaians suggested that the state stop lying about providing free education and instead raise and reallocate funding, in order to lower school and textbook costs.

In Cuba, all schools are public—with no fees—as the state funds students' education, offering free education from the primary level to university for all students. In this way, the Cuban state ensures that every student has access to school. Similarly, access to education in Ghana can only be universal if the large school fees are lowered or even eliminated.

8. Discussion

Due to these many cases of both ineffective and inaccessible schooling, developing countries need to improve the quality of education while simultaneously increasing access to education—being careful to put the necessary policies in place to ensure that increasing access to education does not diminish quality of education. Such efforts can help these countries generate graduate employment, thus developing their economies. Therefore, the five key education reforms I outline for Ghana and other developing countries aim to improve both the quality of and access to education.

9. Suggested Reforms

9.1. Size of Education System

First, developing countries need to expand their education systems. This includes increasing the number of teachers, classrooms, schools, hours of instruction, years of school, and types of school. Only in this way can these countries tackle the issue of limited access to education and ensure that students have enough time to cover the required curriculum.

9.2. Curriculum and Teaching Methods

Second, developing countries need to change their curriculum and teaching methods. The state should review, update, and consolidate curriculum and methods, eliminating irrelevant learning material and ineffective methods. This would ensure that the curriculum is taught effectively and meets modern needs as well as local needs.

9.3. Teaching Quality

Third, developing countries need to improve teaching quality by increasing incentives, improving training, and implementing supervision. This would motivate teachers and better train them to succeed in the classroom.

9.4. Access to Educational Resources

Fourth, developing countries must provide more resources for their students. Such necessities include food, tutoring, student assistance, school supplies, sanitation facilities, infrastructure, and maintenance. This would address the needs of those students who lack food, supplies, and parent assistance at home, and in this way ensure that the education system does not reproduce the cycle of poverty.

10. Cost of Education

Fifth, developing countries must lower costs for education. To do this, the state must increase funding or better allocate funding dedicated to education, in order to reduce education costs and increase student scholarships. This would solve issues with growing enrolment and inequality in educational access in developing countries by eliminating the large school fees.

11. Conclusion

The solution to developing countries' education issues is not simple and would involve substantial financial investment, but the policy recommendations I have described identify key areas within developing countries' education systems that should be improved if better education—and thus development—in these countries is to be realized.

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Developing Intercultural Competence in Our Tertiary Graduates: Integrating Intercultural Theory and Student Experience

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Abstract

The majority of university websites across the globe allude to their institutions' international character, yet most appear to relate this notion to any one or all of just three aspects: the development of transnational research projects; enrolment of international students; and opportunities for participation in international student exchange programs. Students are often described as emerging from the institutions as "global graduates", yet there appears to be some disconnect between this claim and the omission from most of these websites to any reference to the development of intercultural competence.

Governments, non-Government bodies such as UNESCO, the Council of Europe, and businesses, on the other hand, in the global context of rapidly increasing intercultural interaction through business, travel, education and online communications, have emphasised for the past two or so decades the vital importance of the development of intercultural awareness and communication skills as an essential competence of effective and responsible global citizenship (Guilherme, 2014). Only a minority of university websites, however, include explicit reference to the development in graduates of intercultural competence.

This omission suggests a lack of awareness, at the highest level, in many of our universities, of the importance of the intercultural attitudes, knowledge and skills [1] that are widely regarded in research fields as diverse as anthropology, psychology, applied linguistics, business studies, philosophy, communication studies, sociology and education, as essential characteristics of all graduates.

This paper describes a research project that is part of a larger research study (doctoral dissertation) that aims to embed the development of intercultural competence in tertiary units of study. The focus of this study is on the integration of theoretical with experiential elements of intercultural engagement. The study draws its evidence from an undergraduate program on media and popular culture of one semester's duration at an Australian university. The project aim is to develop intercultural awareness and other key intercultural

competences, through a pedagogical approach that integrates intercultural theory and experience through sustained interaction among students from diverse cultural and educational backgrounds. Pedagogical mechanisms employed in this approach include an initial intercultural orientation; theoretical input on the complex and contested concepts [2] of culture and interculturality; language “scripts” that model dialogical discussion on these concepts; embedded reference to cultural and intercultural aspects, as pedagogically appropriate; and intercultural intervention-mediation by the educator throughout the course. Critical discourse analysis is used to demonstrate developing intercultural competence in students, including the mitigation of attitudes of cultural stereotyping, and the developing attitudes and skills in individual students of intercultural openness, curiosity and knowledge exchange [1]. Evidence is drawn from individual and group interviews; audio recordings of group interactions; and participant-researcher observation and field notes.

The research project is underpinned by Rancière’s [3] goal of the democratisation of education through supporting the notion of equal intelligence. Its ultimate goal is to enable the voices of all students, including those of Asian and other non-western backgrounds, who continue to be stereotyped in Western educational institutions as shy, passive and unable to think critically [4], [5], [6], to contribute to the knowledges, ideas and perspectives pool of the pedagogical process.

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Session 22: Pedagogy

Title: Building a Cross-school Teacher Learning Community: Supporting Teachers' Use of Simulations in Science Classrooms

(Authors: Wei Leng Neo, Wei Ching Lee, Victor Chen Der-Thang)

Title: The Co-design Approaches for Inquiry-based Pedagogy: Overcoming Technical and Pedagogical Challenges in Adopting Simulations in Classrooms

(Authors: Wei Ching Lee, Wei Leng Neo, Victor Chen Der-Thang)

Title: An Effective Professional Development Series Improves the Quality of Teacher-Child Interactions

(Author: Anika Bugarin-Jebejian)

Title: Issues Raised while Running Teacher Training Programs at Socioeconomically Challenged Schools

(Author: Sarit Ezekiel)

Building a Cross-school Teacher Learning Community: Supporting Teachers' Use of Simulations in Science Classrooms

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Abstract

In Singapore, the education ministry has been advocating cross-school teacher learning communities (TLCs) as channels to sustain and scale up good teaching practices across schools. Undergirding the TLC or cross-school networking is a sociocultural view of learning and cognitive apprenticeship, where members in a community can participate and learn alongside with peers and experts. Research has also suggested the sharing of successful approaches via social interactions helps to develop the members' sense of self-efficacy through vicarious triumphs. In parallel, the usage of computer simulations in learning science is gaining traction in classrooms, where teachers draw on virtual and interactive applications to aid students visualize abstract science concepts. Tapping into the manipulatives in computer simulations, teachers can infuse deep learning approaches that engage students with underlying scientific procedures, i.e. in observation, exploration, explanation of causality, and cross-examination of varied results. Hence, this proposed research has one inquiry question: In what ways would a cross-school teacher learning community support teachers' use of simulations in science classrooms? Specifically, it explores the challenges and successes for the TLC in establishing collaborations across schools. Using case study, we plan a two-year project across two phases. The first phase initiates an outreach to in-service teachers in secondary schools and pre-universities to attend a three-part series workshops. These hands-on workshops are about teaching science with simulations using sample lesson plans and pedagogical strategies provided by the instructors. During the workshops, the participants will be encouraged to become members in our TLC. The TLC membership includes getting to know like-minded fraternity in face-to-face meetings and accessing to discussions on a dedicated online portal. To increase social interactions on this online portal, the research team will encourage teachers to reflect on their simulation uses, and to interact among themselves about lesson plans, tools, challenges, successes, etc. This phase is expected to last about six months, we aim to recruit around 30 teachers in the TLC. Data will be collected and analysed through conducting 10 teacher interviews to understand their expectations of the TLC and their intentions to use computer simulations in teaching science. The second phase extends teacher collaboration by letting them learn how to customize the computer simulations. The research team will run four workshops about simulation customization, where technical, pedagogical and social components will be covered in the workshops. Every workshop participant will be invited to join the TLC. From the TLC, we will interview at least 20 teachers to find out whether participation in TLC has supported their efforts in integrating computer simulations in their lessons; and to learn about the challenges and successes for the TLC in establishing collaborations across schools. We expect to produce findings that inform teachers' professional development programmes for integrating simulations that effect deep learning. The findings would also provide insights about nurturing robust cross-school networks for other emerging TLCs. In terms of theoretical contribution, a nascent design framework for building cross-school TLCs could be useful for further research.

The Co-design Approaches for Inquiry-based Pedagogy: Overcoming Technical and Pedagogical Challenges in Adopting Simulations in Classrooms

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Abstract

This is a two-year intervention research project to study teachers' adoption, integration, and customization of Open Source Physics (OSP) computer simulation tools for inquiry-based pedagogy. In recent years, inquiry-based pedagogy has been advocated in science teaching and learning to enhance active learning. Simulations or computer modelling afford learners in inquiry learning through exploring, analyzing, and testing the scientific concepts. Despite these promising affordances of simulations for inquiry-based pedagogy, teachers commonly use educational simulations for classroom demonstration and seldom design inquiry-based pedagogy that involves students to construct and test the simulated models. From our existing study, we noticed teachers encountered technical and pedagogical challenges when integrating simulations in inquiry-based pedagogy. Technical challenges could be caused by the poorly designed user interface and inflexibility for customization. Pedagogical challenges could be unfamiliarity with good lesson plans designed for adoption, teachers' facilitation skills with simulations and lacking knowledge about the affordances of such simulations. In addition, teachers are often influenced by other concerns in their schools, such as accessibility of resources, availability of technical support, student profiles, and prevalent learning culture. In this proposed study, we will adopt a co-design framework that involves researchers, simulation developer, teachers and students to work together to enhance the usability of educational simulations. For example, the simulation developer could use the teachers' and students' feedback to improve user interfaces (i.e. technical challenges). In the co-designing process, we would encourage teachers to co-design lesson plans with one another. Teachers may develop their pedagogical knowledge and skills through collaboration. Our research questions are:

- 1. In what ways could the co-design approaches improve the usability of educational simulations for inquiry-based pedagogy?*
- 2. To what extent do the co-design approaches enhance teachers' practices in integrating simulations for inquiry-based pedagogy?*

This study will adopt a two-phased case study to explore the co-design approaches involving collaborations among teachers, simulation developers, researchers and students. The first phase involves recruiting two participating schools, i.e. one secondary school and one junior college (high school). In each school, the research team would facilitate co-design meetings throughout a six-month period. The meetings would focus on refining the user interfaces of two OSP simulations, and that includes developing two inquiry-based lesson packages. The refined OSP simulations would be tested by two group of teachers and students. The Usability Inspection method would be employed to evaluate the usability of the simulation prototypes. In addition, two focus group discussions with teachers, students and the simulation developers would be conducted and analysed. The second phase would involve teachers conducting the developed lessons to explore whether they have addressed the identified technical and pedagogical challenges. Data in the form of lesson observations and teacher interviews would be collected and analysed using thematic analysis. We anticipate two contributions from this study. In terms of theory building, this study could propose a co-design framework for inquiry-based pedagogy involving

the use of simulations. In terms of practice, the developed simulations and lesson packages could be readily shared with teacher practitioners who are interested in widening their pedagogical repertoire.

An Effective Professional Development Series Improves the Quality of Teacher-Child Interactions

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Abstract

Just as the educational system in the United States is working to figure out the best ways to reach the developmentally diverse student population found in our public and private institutions; we should be looking how to best prepare our teachers. Teachers express through honest feedback the lack of quality and/or effective professional development opportunities available to them. There needs to be some sort of reform when the positive changes in the education system can be seen in the success of the students, which is directly affected by the quality and effectiveness in teacher instruction. A quality feedback through coaching model is the most effective way to develop educators in order to improve teacher-child interactions that translates into high quality education.

1. Introduction

There are many reasons for educators to attend professional development activities and opportunities. One being the simple fact of continuing academia. Permanent learning has to be carried out continuously in order to improve educator skills, knowledge, and attitudes [2]. The field of education is always evolving with more and newer research. Second is the opportunity to brainstorm and connect with like minds. Veteran educators have a lot to offer novice teachers who are "challenged with balancing theory with practice" [4]. In my first years as an educator, I looked to those who have been in the field for more time than me in order to cultivate their knowledge. At the same time, I was also creating a mentor/mentee relationship that has been most valuable to my development as an educator. A third and the most practical reason for educators to attend professional development activities and opportunities is the point of bringing the new knowledge back to the classroom and use it to improve the physical, emotional, and cognitive environments of the students; as well as the teacher. Why go to professional development opportunities if not for the natural desire to learn more. "Child care provider education and training appeared to be better

predictors of child care quality than did provider age, employment experience, or mental health" [1]. Maybe because education and training neutralizes the differences in teacher age, employment experience, and mental health. And at what age level of the student is the best place to start educating our educators than in early childhood.

Zueger et al. [5], completed a study with an aim to assess outcomes and benefits of a professional development seminar series for alumni of a pharmacology school. Even though it is not in the field of education, the result did bring up important overall benefits of professional development activities that can be generalized. For example, the surveys given to 207 alumni with 74 returned found that a majority, 95% or higher, agreed that the professional development seminars provided skills applicable to their career with an inadvertent outcome of improved professionalism. The study by Estrela Paulo [3] looked into developing a practicum course as part of a 2-year master's program for budding educators. Her review pointed out how teacher training is an integral part of all research involving teaching itself but has not gain much recognition until recently. These are the first steps in helping novice teachers see themselves as agents of change given the appropriate support.

2. Coaching/Mentoring Model

I propose an action research that will focus on effective professional development opportunities, the article by Carole Angell and Bernadette Garfinkel on *The Power of Mentoring Beginning Teachers* paints a good picture of the benefits of an effective professional development series for novice teachers. Their introduction pointed out the issue of high turnover rates for novice teachers as fuel for their inquiry. The authors conducted this annual mentoring program with much preparations and intention. They created an environment for future, current, and past participants of the program to continue to support one another. The reader is able to follow the chronological order of their methods from the "summer party," through observations and meetings, up until the post evaluation of the program. The article included appendices comprising of the questionnaires the

researchers used. The follow up and self-reflection after each observation, videotaping, and role modeling session was key in the retention of information for best practices.

The particular sites on which this study will be conducted are year-round. The ideal time would be during the summer months when there are limited holidays and breaks that could interfere with the training schedule. This study will implement several assessment tools for data collection. Demographic and background information will be collected in the form of a pre- and post- questionnaire. There will also be questions asked with the intent to gather information about how the particular program changes or professional development opportunities changed educator knowledge and skills. An initial assessment using the CLASS tool will be conducted before the training series to have a baseline score. Another assessment using the CLASS tool will be conducted after the training series to compare to the baseline to look for changes. A twelve-week training series will be implemented with the participants completing a weekly reflection sheet. Please explain this twelve-week training more. This qualitative data will be used to get insight into individualized plans of action for professional growth.

The data collection and analysis methods I have planned to use in my action research is a mixture of qualitative and quantitative. The CLASS tool represents the quantitative method in that there is a scoring system in place with guidelines for ensuring the validity and reliability of the tool. I would expect the initial round of observations and scoring for the participants to be on the lower end. They are adjusting to an observer in the classroom and are not yet knowledgeable of the tool being used to rate them. Over the course of the professional development series, I would expect the CLASS scores for the participants to gradually increase as their knowledge of what the tool is looking for and the skills learned from the professional development series is regularly applied. I would use a line graph to plot the different observation periods to see any trends in improvement or regression. I would expect to see the scores for the domains of positive climate and negative climate to move opposite one another; positive climate increases as negative climate decreases. I would also expect to find that the domains of teacher sensitivity, regard for student perspective, and quality of feedback to answer part of my research question and directly affect the quality of teacher-child interactions.

The professional development series will take place over twelve weeks, with the first week dedicated to introducing the tool, the last week used to wrap the series, and the ten weeks in between to focus on each domain of the CLASS tool in detail. The weekly reflection document will be used after each session. Each participant will be asked to rate the session, observer, and content. These questions will be the

same each time. This will allow me to bar graph specifics about each workshop and its pros and cons based on the participants' perspective. Then I can see what particular training method receives the best reception depending on the subject matter. I would expect that each participant will show bias on whether they enjoyed a workshop or not depending on whether or not it is relative to their current classroom needs. Participant will also be asked to write down a skill they learned in the workshop to try out in the classroom. This will be based on their existing skills and what they feel their classroom and children need. In the next workshop, their reflection sheet will ask them to write down how their attempt at trying out the new skill went the previous week. I would expect the length and results will vary per participant, but the skill that were more relevant to the teacher might result in longer reflection with examples. This collection method would help answer the other part of my research question regarding what makes a professional development activity effective.

The pre- and post- surveys) will predominately be used for demographic and other background data of the participants. This could spark future research about what predictors of educator background is linked to high or low scores in a tool rating quality teacher-child interaction; and give guidance to the creation and implementation of professional development workshops and series using a Coaching/Mentoring Model.

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Issues Raised while Running Teacher Training Programs at Socio-Economically Challenged Schools

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1. Scope

The scope of research is in the area of vocational training of student teachers where training is taking place on-site in actual school classes. As part of this training program professional mentoring is provided by a pedagogic trainer from the teacher training college and guidance is also provided by the full-time school teachers in whose classrooms the trainees are teaching. The proposed study is focused on several years of experience in providing the vocational training for trainee teachers at socio-economically challenged schools. The trainee teachers were exposed to a variety of experiences centered around dealing with children and parents from communities where a relatively high level of social services and community care programs are needed to support such communities.

2. Objective and Motivation

The objective and motivation of this research are:

- to understand what the experiences of trainee teachers have been who are teaching in such school environments,
- to determine whether the type of school where trainee teachers gain their vocational training is a contributing factor in the success or development of skill sets of the trainee. If so,
- what should be the criteria for determining which schools should be chosen for vocational training of trainee teachers and in what way can the trainee teachers be prepared for a variety of different teaching environments.

These issues are primarily to be examined via the narrative provided by actual experiences of the trainee teachers. A final question for which we can attempt an answer is in what manner does the experience provided by such schools constitute an element in the consolidation of the trainee teacher's professional identity.

Session 23: Curriculum, Research and Development

Title: SRHR Education for Adolescents: Content and Pedagogical limitations in Bangladeshi Classroom

(Authors: Farhana Alam Bhuiyan, Saad Khan, Tanveer Hassan, Syeda Farjana Ahmed, Sabina Faiz Rashid)

Title: The Development of High Impact Practices Curriculum Framework for 21st Century Teacher Education in Malaysia

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Title: Network Analysis: An Indispensable Tool for Curricula Design

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Title: Beliefs of Preservice Teachers in Using Tangible Objects in Early Childhood Classroom

(Author: Kan Kan Chan)

SRHR Education for Adolescents: Content and Pedagogical Limitations in Bangladeshi Classroom

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Abstract

'Breaking the shame' is a 3 year (2015-2018) qualitative implementation research project which investigates several aspects of sexual and reproductive health and rights (SRHR) education for adolescents living in Bangladesh. This paper aims to understand the unmet needs of adolescents in regard to the curriculum content from two leading organizations, Unite for Body Rights (UBR) Alliance Bangladesh and BRAC Adolescent Development Program (ADP) and explore existing pedagogical challenges that prevail in Bangladeshi classrooms when it comes to SRHR education. 39 in-depth interviews (IDIs) and 24 focus-group discussions (FGDs) with unmarried male and female adolescents of ages 13-19, from both urban and rural setting took place. Curriculum materials of these two organizations ('Me and My World' from UBR and 'Apon' from BRAC) were also reviewed.

Adolescents asked for content and guidance on a number of topics which remain missing from the above mentioned curricula. Some of the topics are related to emotional and mental wellbeing and coping, whereas some of them are related to sexuality and SRHR skills. Some topics are mentioned in the content, but never discussed properly. Certain topics such as family planning, menstruation, sexual harassment, HIV/AIDS- are presented with an emphasis only on biology and risk. Moreover the pedagogical approach is not interactive according to the adolescents. Rigid formal teaching style and power relations between students and teachers, discourage questions and frank conversations. Gender and age of the teachers also influence adolescents' responses and attitudes in the classroom. Evidence from our research shows that adolescents need SRHR information in ways that are fun, reliable and will also ensure anonymity. Based on these findings, we suggest a revised content of SRHR curricula considering adolescents unmet needs. Also we argue that an engaged pedagogical approach is crucial to ensure a space for creative learning and effective SRHR education.

The Development of High Impact Practices Curriculum Framework for 21st Century Teacher Education in Malaysia

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Abstract

This paper discusses the development of high impact practices curriculum framework for 21st century teacher education model in Malaysia. It presents the underpinning pillars that shape the formation of the curriculum, the 5 Minds of the Future, the high impact practices framework, the purposeful pathways and scholarly activities and practice; and the provisional guiding principles based on values, skills and knowledge. It employs a process approach. Data are gathered through document analysis and focused group interviews with the faculty members, which are analysed through descriptive and qualitative analysis. The findings reveal that the scholarly activities and practices of the programmes need to be enhanced and issues revolving those practices need to be addressed to ensure the implementation of the curriculum a success. The study implicates the need for all academic involved to look at their practices and have the willingness to change in accordance to the new curriculum proposed.

1. Introduction

For a developing country like Malaysia and many others, education has always been an important agenda in the development of the government's policy. The Malaysian education system has been revised over the years and has gone through six periods of reformation. Malaysia now is in the 6th period of reformation through meeting the demands stipulated and aspired by the National Education Blueprint 2013-2025. One of the shifts and focus of this period is to develop quality teachers, teaching and learning which can meet the demand of the 21st century learning. Such initiative has given a direct impact on the development of teacher education in Malaysia which has always been guided by the Malaysia Teacher Education Policy. The policy emphasizes on educating and producing teachers who are knowledgeable and skilful, noble, caring, creative and innovative [5].

Sultan Idris Education University or known as UPSI is the only teacher education university Malaysia where the primary focus is on educating pre-service teachers for secondary schools in Malaysia. It has a long history of being a teacher education institution since its establishment in 1922. Besides UPSI, pre-service teachers for secondary schools are also trained in other School of Education at public and private universities. The education faculties at the respective universities are responsible for their own teacher education curriculum, delivery system and methods of assessment. The monitoring of the implementation of the programmes are controlled and managed by the Malaysian Quality Assurance (MQA). Although there are some similarities and differences between these teacher education programmes, there is lack of assessment on the benchmark standards that govern the process of producing quality teachers. Goh [9] in her views on the Malaysian Teaching Standards (MTS) which was launched in 2009 by the MOE indicates that the standards are used for teachers' self-appraisal purposes. The competencies promoted are also rigid and less prescriptive to reflect actual practice. In addition, there is no teacher education model which has been developed to underpin the process and essence of a teacher education programme. Through the analysis of best practices in teacher education programmes in countries like Singapore, Finland, Netherlands and Scotland, a provisional teacher education model is formed. Therefore, the aim of this paper is to discuss the development of a high impact practices curriculum framework for the provisional teacher education model. It also presents the underpinning pillars that shape the formation of the curriculum, the 5 Minds of the Future, the high impact practices framework, the purposeful pathways and scholarly activities and practice; and the provisional guiding principles based on values, skills and knowledge.

2. Review of Related Literature

Designing a framework for a curriculum is an important aspect in any curriculum development. It centres on how the curriculum is planned, developed, implemented and evaluated [8]. The two most commonly known models are the product and the process model. The product model can be traced in the earlier work of Tyler [12]. This model emphasizes on planning and intentions, learning outcomes, making assessment and exhibiting teachers' dominancy in the classroom. On the other hand, the process model [11] is learner-centred in which focus is given on developing learning activities, providing choice for students, creating meaningful learning environment and developing their social and life skills. Both of these models of curriculum have their own strengths and weaknesses. In addition, the situational model [10] is a more comprehensive framework which rooted from the cultural analysis. This model reflects the contextual learning of a constructivism theory. It can encompass either the process or product model depending on how the curriculum is designed. The provisional model of teacher education which is related to this study takes into account the integration of the above three curriculum models discussed as well as the development of the provisional guiding principles which transcend across the curriculum, teaching and learning and assessment [7]. The provisional guiding principles entail: 1) Teacher education develops teachers who are able to critically examine, appreciate and practice the educational values of the teaching profession in the national and global context; 2) Teacher education develops teachers who are able to explore and create knowledge independently; 3) Teaching, learning, assessment, leadership and clinical experiences are multidimensional, integrated and reflective; 4) The teaching-learning environment provides scope and opportunities to foster intellectual excitement that will optimise learners' potentials and passion for lifelong learning; 5) Provides quality learning space, resources and technologies for learners to engage in active and cooperative learning that promote positive social interactions and self-fulfilment; 6) Develop competency to adapt to changing technology and its application in educational practices; 7) Develop learners as educational leaders with the attitude and capability to provide ideas, innovations and manage change through evidence-based practices; and 8) Foster continual outreach programmes and networking with local and global communities to provide a sense of belonging and responsibility. However, the PGPs after going through a second review were reduced to 7 due to some redundancies in focus.

In designing the curriculum framework, there is also a need to consider the elements that can enhance the student teachers' way of thinking. The Five Minds

of the Future by Gardner [2] is reviewed to see how it can serve as the underpinnings of the curriculum framework. Gardner propagates five types of mind: 1) the discipline mind which focuses on a mastered way of thinking about a scholarly discipline and strive to refine and renew this mastery as a lifelong learning process; 2) the synthesizing mind which takes information from disparate sources, understand, and evaluate the information and synthesize them into a meaningful way; 3) the creating mind which puts forward new ideas possess, unfamiliar questions suggest, fresh ways of thinking and generate unexpected answers; 4) the respectful mind which notes, welcomes and responds sympathetically and constructively to differences between people and cultures; and 5) the ethical mind which is more abstract than the respectful mind as individuals assume certain roles and think how they can serve a greater, common good that goes beyond self-interest. These minds serve as the foundations for developing the generic attributes of future teachers across levels and disciplines in the context of curriculum content, teaching and learning delivery, assessment, teacher leadership and teacher clinical experience and induction.

The sustainability of a teacher education program is vital to ensure such a program is keeping abreast with the education development around the world. Teacher educators need to be empowered and involved in scholarly activities as suggested by Boyer [1] as cited in Morrison [6]. The Scholarship of Teaching and Learning includes: (i) scholarly habits and practices, (ii) integrative scholarship, (iii) scholarship of application, and (iv) scholarship of teaching. The scholarly habits and practices enable the knowledge and subject matter to be investigated in a disciplined manner that would ensure rigour and control, as well as dedication and perseverance. This can increase passion as well as scholarly excitement and indirectly encourage the process of investigation and an outcome based research that would further enhance knowledge and understanding. Secondly, the integrative scholarship ensures that connections are made between branch of knowledge to enhance interdisciplinary understanding, multiple interpretation, synthesizing of various information and relevant contextualization. This integrative scholarship can ensure a holistic and balanced integration and contextualization of knowledge between various disciplines. Thirdly, through the scholarship of application, the teacher educators are able to self-explain their understanding and practices through a bi-directional mode, practicing and talking about practice; application of new intellectual understanding and having able to bridge between theory and practice. This will encourage the investigation and synthesizing of knowledge, while providing relevant solution, towards reflective practices and the ability to commit and provide

services to the society. Finally, the scholarship of teaching will produce well informed teacher educators who are steeped in knowledge and intellectually engaged. They are able to transmit, transform and extend knowledge; and put themselves as learners to ensure meaningful teaching and learning occurs in their classrooms. These sorts of teacher educators will indirectly produce scholar teachers who are able to think and reflect on best practices that will be suitable for their own classroom context.

By empowering the faculty into cultivating best practices and activities, the student teachers learning experiences can become more engaging and the outcome of such processes are the student teacher scholars. Efforts have to be made to encourage these student teachers so that they can take responsibility of their understanding in learning how to teach. These processes can be enhanced by teacher educators and student teachers through high expectations on the learning processes, opportunities provided and taken, as well as responsibilities from both parties. The scholarship of teaching and learning can be achieved through the high impact practices framework. The high impact practices address the innovative teaching and learning context [3], [4]. These high impact practices can be implemented through purposeful pathways. This involves the first-year experience which focuses on the development and skills of student teachers as well as their intellectual and practical competencies. Second, it also includes the element of core curriculum/discipline core. Third, the undergraduate research, to be introduced as early as semester 1, which involves carrying out authentic tasks and enquiry based or faculty led research projects. Fourth, high impact practices purposeful pathways also comprises learning communities such as integrative courses inside and outside class which have some features of community service learning. Fifth, it also incorporates the writing intensive course which focuses on writing at all levels and across curriculum for different audiences and for different disciplines. Sixth, the collaborative assignments/projects in which student teachers learn to work and solve problems in the company of others. Seventh, the community service of learning such as field based experiential learning to analyse and solve problems in the company of others like a study group within a group, team based assignments and cooperative projects are built-in. Eighth, the internship and co-op learning which focus on practical classroom real-world setting. Ninth, is the inclusion of Interdisciplinary courses which aim at integrating courses, learning experiences and teaching instruction. Tenth, are the capstone projects which are projects created by students to integrate what they have learned. Lastly, the high impact practices purposeful pathways comprise the global learning either through courses or programmes for students to explore culture, life experiences and world views

different from their own. It is often augmented by community service. All these high impact practices purposeful pathways can be implemented through activities or requirements of a program or through opportunities given and the context which surround the student teachers when learning to teach. In addition, the high impact practices pathways can either be implemented as credit or non-credit; curriculum or co-curricular; and student teacher's personal development.

3. Methodology

A critical comparative analysis of the teacher education programs in universities such as in Stirling University Scotland, Michigan State University USA, Hong Kong Institute of Education, National Institute of Singapore, University of Jyväskylä, Finland, University of London UK, and Taylor's University Malaysia was carried out to see the similarities and differences of the teacher education programs structure. A document analysis was done to map out the samples of current courses in the university under study with the purposeful pathways of scholarship teaching and learning, the elements of minds for the future and the provisional guiding principles in order to see the possibility of developing a high impact practices curriculum framework. This curriculum framework is designed for eight teacher education programmes: Teaching of English as a Second Language (TESL), Science Education, Math Education, Physical Education, Early Childhood Education, History Education, Moral Education and Primary Education. A focus group discussion was carried out with all the Heads of Department and a few senior lecturers representing the education programmes to gather their views on the underpinnings of the high impact practices curriculum framework.

4. Research Findings

From the document analysis and mapping of the current courses offered to student teachers, first, the first-year experience purposeful pathway can be implemented through university courses through the curricular and co-curricular activities. This can focus on developing the discipline, respectful and ethical mind. The first-year experience mostly contributes to PGP1 and PGP2. Second, the discipline courses purposeful pathway can be implemented through major and professional development education course through curricular activities. These cover all the five minds of the future and it mostly contribute to PGP1 and PGP2. Third, the interdisciplinary courses can be achieved through the elective courses through the curricular activities. This pathway includes the five minds of the future and it mostly contributes to PGP3. Fourth, the learning communities pathway can be

implemented through two professional development courses which focus on instruction, technology and assessment. They include developing the discipline, synthesizing, creative and respectful mind. This also can be achieved through curricular activities and it contributes mostly to PGP5.

Fifth, the experiential learning can be implemented through practicum and school experience through curricular activities. This pathway contributes mostly to PGP3 and 4. They can help to develop the student teachers discipline, creative and respectful mind. Sixth, the undergraduate research can be implemented through the student teachers' final year project and through the curricular activities. This can develop the synthesizing and creative mind. This pathway mostly contributes to PGP 6. Seventh, the community service of learning has only been carried out through the co-curricular and personal development activities. This can develop student teachers synthesizing and creative mind. This pathway mainly contributes to PGP6. Eight, the capstone project can be implemented through the action research and reflective seminar. This pathway can assist student teachers in developing the synthesizing mind. This pathway mainly contributes to PGP 2, 3, 6 and 7. Finally, the global learning pathway can be implemented through the International Student Exchange Programme (ISEP) and community work through student teachers' personal development. This can develop their respectful mind and this mainly contributes to PGP7.

Purposeful Pathways	Minds for the Future	Students as scholar model				PGP
		High Impact Practices TE Curriculum				
		Curricular	Co-curricular	Personal	Samples of current courses	
First Year Experience	DM, RM, EM	√	√		-University Courses	1, 2
Discipline Core	DM, SM, CM, RM, EM	√			-Major and Education Courses	1, 2
Interdisciplinary Courses	DM, SM, CM, RM, EM	√			-Elective Courses	3
Learning Communities	DM, SM, CM, RM	√			-KPD3016 -KPD3026	5
Experiential Learning	DM, CM & RM	√			-Practicum	3, 4
Undergraduate Research	SM & CM	√			-Final Year Project	2, 3, 6
Community Service of Learning	SM & CM		√	√		6
Capstone Project	SM				-Action Research -Reflective Seminar	2,3,6,7
Global Learning	RM			√	-ISEP and Community Work	7

Figure 1: The High Impact Practices of Teacher Education Curriculum Framework

The critical comparative analysis of selected teacher education programmes has shown that many teacher education universities in the world have more or less the same curriculum component but different in terms of focus, approach, routes and the kinds of courses offered. Therefore, the curriculum structure that a teacher education university used has got to

adhere to certain principles or have strong justifications as to why the curriculum structure is tailored in such a way to achieve the desired learning outcomes and the types of student teachers.

Based on the review and document analysis of best practices and prominent teacher education universities in the world including the 21st teacher education approaches, there are four types of changes proposed in order to implement the high impact curriculum framework in the university which serve as the basis for this study. They are a change in pedagogy, a change in the way knowledge is acquired, a change in being and a change in recognition. There are four underpinnings that underlie the high impact practices curriculum structure. They are the eminent leaders in education, knowledge creators and curators, globalization of competencies and the 3C's (Conduct, Collegiality and Contribution) as in Figure 2. These underpinnings are further elaborated as follows:

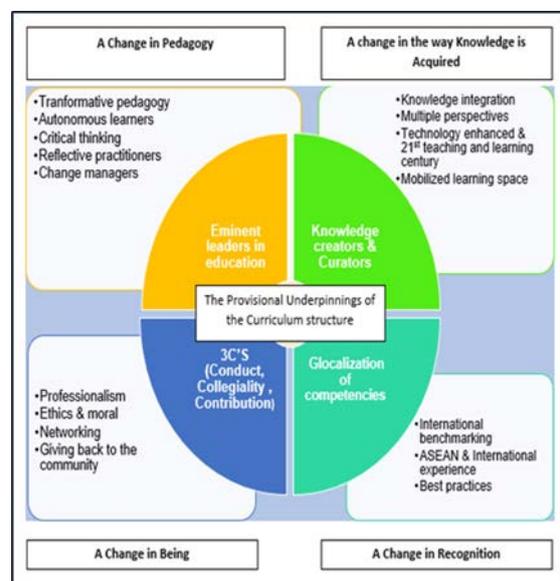


Figure 2: The Provisional Underpinnings of the Curriculum Structure

4.1. Eminent Leaders in Education

Since the seven provisional guiding principles or known as PGPs put emphasis on the Values as the curriculum utmost priority, besides skills and knowledge, it is vital to investigate the kinds of graduate that the teacher education programme moulds out of the high impact practices through the scholarly activities and practices provided in the due course of the programme. The graduates should reflect the ability that they have engaged in a transformative pedagogy which empowers student teachers to examine critically their beliefs, values, and knowledge with the goal of developing a reflective knowledge base, an appreciation for multiple perspectives, and a sense of critical consciousness and

agency [9]. The process of transformative learning includes three dimensions: psychological (changes in understanding of the self), convictional (revision of belief systems), and behavioural (changes in lifestyle). These then will develop autonomous student teachers who are able to become critical thinkers and reflective practitioners who are able to their teaching in situation. They are the change managers who see the teaching and learning process as dynamic and evolving endeavours. Student teachers are more like leaders of their own classroom than pursuers; active rather than passive.

4.2. Knowledge Creators & Curators

Knowledge creators can also be considered as content creators. The student teachers are expected to become knowledge creators and make meaning out of their engagement throughout the scholarly activities and practices. They are to achieve the highest level of the Bloom's Taxonomy which is creating. They could transform their understanding into new ideas that are original, fresh and relevant targeted contents. Not only that, the ability to justify and argue to who and whom of the targeted content to be used for, reasons for creating such innovation and the relevance and importance of it are among the discourses that should become central in the scholarly practices and activities. With the advent of technology and digital community, knowledge of the 21st century can be found almost everywhere as knowledge is no longer in isolation and personal to an individual but shared within a larger community of practice. These community of practice transcends beyond the circulation of people that student teachers see face to face. Therefore, the ability to curate knowledge where knowledge is in abundance is seen as an important skill that could assist student teachers in producing relevant teaching and learning materials for their targeted students. This involves knowledge integration from multiple perspectives that can be resourceful for the teaching and learning process. The scholarly practices and activities in teacher's preparation have to move to a new phase of learning known as heutagogy (self-determined learning), which encourages student teachers to share the knowledge they have curated. The scholarly engagement of the student teachers should reflect the 21st century mode of thinking. The ability to mobilize space for teaching and learning should also be the focus in teachers' preparation as teaching and learning now can happen at any time and anywhere. Therefore, the challenge for teacher education now and in the future, is to enable student teachers to fully understand the design of best practices to develop content that produces meaningful outcomes.

4.3. Glocalization of Competencies

Glocalization consists of globalize and localize teachers' competencies and knowledge. There is a need for teacher education programmes to be recognized not only in one's country but also at the international level. International benchmarking is seen relevant to ensure the sustainability of teacher education programmes. Student teachers need to be exposed to a rich cultural environment that would enable to be adaptive in any teaching and learning environment. Hence, ASEAN and international experiences should be part of the teacher education programs through exchange or split programmes with other foreign institutions outside of the home country. The inclusion of learning through best practices could motivate student teachers in their quests of becoming professional teachers.

4.4. 3C's (Conduct, Collegiality & Contribution)

3C's in the underpinning curriculum structure consists of conduct, collegiality and contribution. In Conduct, student teachers have to maintain the professional reputation and status. The former must have to comply with national and school policies, procedures and guidelines aimed at promoting education, welfare and child protection, and take all reasonable steps to take care of students / students under their supervision to ensure their safety and well. Student teachers must effectively communicate with students, colleagues, parents, school administrators and others in the school community, in a professional, collaborative and supportive manner, and based on trust and respect. Collegiality is to embrace the mutual respect among colleagues and they are committed to working towards a common goal. This is important to be cultivated to ensure professional development of productivity in motivation and new ideas; professional development in refinement of instruction and improved teaching; and self-improvement, which increase the capacity for change and improvement. The scholarly practices and activities should include collaboration of professional development among student teachers and in-service teachers in school. Since the student teachers are the creators of knowledge, they are expected to contribute and share this knowledge with the school community, neighbouring community as well as their digital community. This will create confidence and establish partnerships which could foster professional development as becoming prospective teachers.

5. Conclusion

The curriculum proposed by the curriculum research project is one component of a larger project,

a five-year duration, in developing the teacher education model in Malaysia. The other four projects that contribute to the teacher education model encompass the teaching and learning, assessment, leadership and clinical experience. The high impact practices curriculum proposed transcends across the other four projects in terms of implementation towards the eight-teacher education programmes mentioned earlier. The underpinnings of the curriculum framework which entail four types of changes on pedagogy, knowledge, being and recognition serve as the basis for decisions made on teaching and learning, assessment, leadership and clinical experience. Any education reforms or reviews require changes in practices in order to ensure successful implementation. Therefore, a collective effort is needed from administrators, teacher educators and student teachers to review their practices and work towards changes that the curriculum desire.

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Network Analysis: An Indispensable Tool for Curricula Design

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Abstract

The content addition to subjects and its subsequent correct sequencing in a study plan or curricula design context determine the success (and, in some cases the failure) of such Study Plan since, besides granting some respect towards the deductive speech, the different inter-relationships and interdependences between contents and subjects ought not to be distorted. Establishing such a sequencing is a task that is, sometimes quite hard. In this work a methodology based on the construction of an auxiliary graph of subjects, concepts and contents is proposed. A detailed study of local and global properties stemming from “Complex Network Analysis” to ease the study plan design and grant its coherence through the detection of communities within a graph, the local and global centralities of subjects and their dependences, the overlapping subgroups and the roles and different positions amongst them are discuss.

Beliefs of Preservice Teachers in Using Tangible Objects in Early Childhood Classroom

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Abstract

With the availability of tangible objects in the market, more and more young children have the opportunity to engage in the digital environments. However, there is a lack of research on the view of teachers in using tangible objects. This paper explores the views of preservice teachers in using tangible objects to facilitate children's learning in early childhood settings based on the theory of planned behaviour. Participants are teacher candidates specialized in early childhood education in a teacher education program in Macau. They were presented with some tangible objects and were invited to design a lesson to integrate tangible objects. After their implementation in real classroom, their view on the value and problems of using tangible objects were collected by open-ended questions. Content analysis were conducted to unveil their views. Teacher candidates seem to appreciate this new tool and would like to use tangible objects in their future classroom.

1. Introduction

New technology is emerging to the early childhood program. According to the position statement of NAEYC [10] teachers are expected to critically evaluate if a new technology is appropriate to use in the program as if other available tools. They are advised to support children's learning with technology from a range of options. This is to ensure that use of technology is to make the learning process more engaging and active and empowering. Effective use of new technology depends on teacher's Technological Pedagogical Content Knowledge [9]. Even though teachers have more access to technology, technology is not being used as suggested. One of the reasons to explain this phenomenon is teacher's beliefs. Teachers' mindset is an important variable that might affect their practice [8]. Providing teacher candidates knowledge and experience of using new technology might help them

to develop some knowledge and attitudes towards the new technology. This paper provides a brief overview of a new technology called tangible objects. After that, details of the present study is outlined. In order to understand teacher candidates' view on the use of tangible objects in the classroom, their responses after using tangible objects with children were collected and analyzed. Final session shows the potentials of tangible objects based on teacher candidates' view.

2. Tangibles objects: Concepts and Potentials

Tangible objects have emerged as an additional resource in early childhood classroom [1]. Tangible objects are objects that make use of tangible user interfaces that links the physical and digital worlds [5], [3]. Osmo Tangram is an example of tangible object because kids can manipulate the concrete tangram blocks with their hand. A small mirror placed over the iPad's camera allows the iPad to identify the tangram blocks in front. The associated digital apps in iPad then process the operation of kids and provide corresponding feedback. In this way, kids make use of the physical blocks to communicate with the digital program in iPad. The new means of interaction motivates, engages and encourages young children to experiment and explore the digital world which is otherwise very hard for them to join with their limited fine motor skills. PageCraft is another example of tangible objects. It is a storytelling system for younger children, which includes building blocks and characters figures as an interface for children to interact with the story-building system. PageCraft engages the child through the use of sounds, lights, animation, visual and audio feedback [2]. Tangible interaction focuses on the interaction between users and the hand-on tasks while leaving the translation of children's actual play into text and visuals on screen by the background technologies such as computer vision, sensor technologies, RFID and computing algorithm.

2.1. Potentials of tangible objects

Tangible objects have the affordances of physical objects which allow children to touch and hold objects as toys in their play. They also have the interactive elements embedded in the software design. Therefore, they have been applied in a wide range of areas ranging from support of planning and problem solving, programming and simulation tools, support of information visualization and exploration, entertainment, play, performance and music, social communication, storytelling and supporting learning for children with special needs etc., [6], [7]. Research have been conducted to develop applications using a tangible user interface for children [4], [1] and more and more tangible products are available in the markets. Bers and colleagues [1] introduced a model for educating teacher candidates to integrate tangible objects LEGO Mindstorms and ROBOLAB. They showed that future teachers were able to design technologically-rich curriculum for young students to engage in the design process. However, there is a paucity of empirical research which study preservice teachers' beliefs of using tangible objects in real classroom. Therefore, the purpose of the study is to explore preservice teachers' beliefs of the value and problem of using tangible object in early childhood classroom.

3. Theoretical framework – Theory of Planned Behaviour (TPB)

Theory of Planned Behaviour (TPB) is a mature theory that has undergone rigorous validation processes [12]. It has been widely used to predict teachers' intentions to use technology in the classroom, for example using Web 2.0 technologies in K-12 classrooms [8], using presentation software such as PowerPoint to create and deliver lessons and using DGS in class. This theory assumes one's decision making process about how to behave in new situations depends on three major variables, namely attitude towards the behaviour, subjective norm, and perceived behavioural control. These variables are the direct determinants of the strength of one's intention to carry out a behaviour. They are driven by a set of related beliefs, namely behavioural belief, normative belief, and control belief. These beliefs are the indirect determinants of the intention. This theory assumes that the intention is based on one's rational judgment of these three direct variables. However, the beliefs that one possesses might be irrational or biased. They might be inaccurate or based on incomplete information. This theory enables us to study future teachers' beliefs about the use of tangible objects in classroom. The main constructs of the theory are presented as follows:

Attitude towards the behaviour is a person's self-evaluation of a particular behaviour based on a set of behavioural beliefs linking the behaviour to its probable outcomes. These beliefs might be both positive and negative. Positive beliefs tend to strengthen teachers' intention of having the behaviour while negative ones are likely to weaken their will to have the behaviour.

The second variable, subjective norm, is a person's evaluation of the social pressure of a particular behaviour. It is affected by a set of normative beliefs which refer to "the likelihood that important referent individuals or groups approve or disapprove of performing a given behaviour" [11]. Normative beliefs are the source of social pressure. Normative sources affecting teachers' behaviour include their colleagues, school leaders, students, parents and teacher educators. If the other important stakeholders support the behaviour, teachers are more likely to have this behaviour and vice versa.

The third variable, perceived behavioural control, is one's perception of the ease or difficulty of performing the behaviour [11]. It is determined by the total set of accessible control beliefs about the presence of factors that may facilitate or impede the realisation of a behaviour. Factors may be internal and external. For example, the availability of tangible objects in the school is an external factor while the capability to use the tangible objects is an internal factor.

4. Present Study

In order to understand future teachers' view on the value of the tangible objects, this study draws upon the theoretical framework of TPB that beliefs is an important variable that determines practice. This question "What are teacher candidates' behavioral beliefs about the use of tangible objects in the early childhood classroom?" guides the study.

Instructional context - This study was conducted in a public university in Macau. Participants of this study were enrolled in a course focusing on digital educational resources. The course was delivered over 14 weeks. The content covered in the courses include tangible objects, instructional design and implementation. In the course, students were introduced the concept of tangible objects. They were also given opportunity to explore tangibles objects such as Osmo Number, Osmo Masterpiece, Osmo Monster, AR card and Dash and Dot robots in the class. Examples of integration strategies were provided for them as reference. Then students worked in group to design a lesson of about 30 minutes using the tangible object mentioned below. After that, the instructor would read and provide comments to make their lesson better. In the end, students would implement the lesson using tangible objects in a real classroom with a group of 10 to 12 young students in

a local school. Their view of tangible objects was collected through a few open-ended questions after implementation in real classroom.

4.1. Participants

Twenty-seven students participated in this study. Majority of the students are female with only one male. Their ages ranged from 19 to 22. Since this course was an elective one, students at year 2 to year 4 of the Bachelor of Education in Early Childhood Program may take the course. As students had to design a lesson to integrate tangible objects in real classroom, group members were mixed up of years of the program.

Procedure and data collection – A survey that consisted of nine open-ended questions, based on the TPB variables, to examine teachers' behavioural, normative and control beliefs associated with the use of tangible objects in classroom [11]. Teachers were requested to type in their opinions. Sample questions included in the survey were listed below:

- What do you believe the advantages of using tangible objects in the classroom are?
- What do you believe the problems of using tangible objects in the classroom are?
- Are there any individual or groups who would disapprove of your integration of tangible objects in the classroom?
- What factors or circumstances would enable you to use tangible objects in the classroom?

Data analysis – Teacher candidates' responses to the open-ended questions were classified by two independent researchers to identify common themes. The collected data were analysed using the quantitative content analysis approach in the categories of behavioural, normative and control beliefs in the TPB model. Their frequencies were counted in order to identify which subtheme had the greatest explanatory potential.

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Session 24: Learning / Teaching Methodologies and Assessment

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Title: Assessment Literacy on Campus and in School – Preconditions for Progressive Language Teaching
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Title: Proposal of an Innovative Classroom Teaching Approach that Transforms a Blank Power Point Slide into an Asset
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Title: Round Table Education as an Innovative Approach for Interdisciplinary Higher Education in Engineering
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Emotional Intelligence for Effective Teaching Learning

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Abstract

The aim of technical education system is to transform young students into employable graduates equipped with technical, managerial and soft skills. Now-a-days industries are in dire need of trained personnel who are not only technically qualified but also high on emotional intelligence, good in interpersonal skills, think creatively and manage stress in difficult situations. Research studies have revealed that the key of success in professional life is not just cognitive intelligence rather 80% success in life depends on emotional intelligence [17]. Similarly, it is witnessed that emotionally intelligent persons with positive attitudes excel in their professional, social as well as personal life. The present paper focuses on role of emotional intelligence for enhancing the effectiveness and efficiency of teaching learning process so that it empowers learners with the traits which are required to be successful in today's world.

1. Introduction

The concept of Emotional Intelligence was first introduced in the field of education and training by Daniel Goleman, who defined emotional intelligence as 'the capacity for recognizing our own feelings and those of others, for motivating ourselves, and for managing emotions well in ourselves and in our relationships' [8]. Salovey and Mayer explained EI in a similar way, describing emotional intelligence as a set of skills that involves the ability to monitor one's own and others' feelings and emotions, to discriminate among them, and to use this information to guide one's thinking and actions

The four dimensions of emotional intelligence as proposed by Salovey and Mayer [21] are outlined in Figure 1.



Figure 1. The Four Dimensions of Emotional Intelligence (Salovey and Mayer, [21])

Each of these competencies directly or indirectly affects the teaching and learning environment. Empathy, a key skill, is necessary for the teachers to understand the learners and meet their expectations not only in formal situations within the four walls of classroom but also during informal learning environment. The social and interpersonal skills of the teachers are useful to build the rapport and help the students to achieve the desired learning outcome in their content areas also. Teachers who are in possession of these competencies are able to make the experience of teaching and learning more enjoyable and intellectually stimulating both for themselves and for the students.

If teachers are able to create an environment, which is conducive, supportive and motivating, it will enable the learners to develop interpersonal and self-management skills and to lead a more productive, satisfying and rewarding life.

2. Impact of Emotional Intelligence on Student Learning

In the past it was believed that successes of human beings in social and professional lives depend on cognitive intelligence hence it resulted in ignoring other features and dimensions of human intelligence. In recent years, emotional intelligence has been recognized as the major contributing factors both in academic achievement of students and their emotional adaptation [20]. Recognizing self-emotions, handling emotions, self-excitation, identifying emotions. Generally emotional intelligence gets manifested in the following cognitive functions [22]:

- Intrapersonal features such as self-actualization, independence and self-consciousness
- Interpersonal which involves features such as social responsibilities
- Adaptability, which includes problem solving and testing reality
- Management of mental pressure
- General mood including optimistic and pleasure.

Students should be assisted to assess themselves realistically, set targets and persuade them. Now-a-days students want shortcuts to everything, may it be performance in examinations, getting good grades /marks. Being pampered child at home they are not able to adjust in the world of cut edge competition. Once things don't happen the way, as per their expectation, they get frustrated and sometimes drowned in the never-ending ocean of depression. According to a survey from the Anxiety Disorders Association of America (ADAA), universities and colleges have seen an increase in students seeking services for anxiety disorders.

Hence, teachers should be equipped with skill of managing stress [23]. Positive feelings cause students' adaption and their combined effect provide a good climate for learning. Emotionally intelligent teachers provide a secure condition for growing and learning of students. Psychological Studies showed that a secure climate and having positive feeling in the classroom provide growth, pleasure and convenience for students.

With reference to results in examination / tests, Blacksbury concluded that emotional intelligence may be a predictor of success or failure of students in mathematical and arithmetic fields. In fact, students with higher emotional intelligence are more self-efficient, higher self-confident and cope with problems better. In a study done by Barger et al. [23], it was concluded that people with higher emotional intelligence are mentally socially physically healthier than their counterparts.

3. Teaching Learning Process: The Role of Emotional Intelligence

Emotions are integral part of learning and thus cannot be separated from it. According to Guy Claxton, learning is an intrinsic emotional behaviour [16]. In classroom setting, the perceived emotional state of students is heightened because of the competition expectation conflicts and the dynamics between the teacher and students. As a result, the role of teacher becomes extremely important and involves understanding the emotional aspect of learning and using it for facilitating students' learning.

Understanding Emotional Intelligence are basic life qualifications because, these qualifications result in valuable outcomes for people and societies. These are applicable in all social educational environments. Emotional qualifications facilitate overcoming problems and reaching goals and encourage suitable performance for all people. In addition, this qualification is appropriate for both teacher and student.

The positive outcomes of EI have been studied by Turner and Curran [15] who emphasized the necessity of attention for learning. They opined that attention is

facilitated by positive emotional engagement. On the other hand, the dull and boring session due to poor communication and presentation restrict learning. The teachers can however promote student engagement by making their sessions interesting, communicating and allowing time for questions. This requires EI in the sense of awareness of the interpersonal and intrapersonal factors to help manage emotions. Teachers have a responsibility to be a leader and motivate learners to engage in the learning process.

Another critical factor of is teachers' relationship with students, this has a positive impact on student performance and retention [14], [13], [7] highlight how caring relationships can have a positive effect on aspirations and achievement, helping to nurture the intellect as well as the affective aspects of learning and teaching. On the other hand, negative emotional states can have a detrimental effect on the learning experience. Stress has been shown to have a negative effect on student engagement and achievement [15].

An international study about socio-emotional learning depicted its increasing effect on students, improving relational quality, increasing life quality and satisfaction [17]. Research results show that emotional qualifications in classrooms can improve growth in all contexts. They also showed that there is a strong relation between emotional intelligence and academic performance.

4. Characteristics of emotionally intelligent teachers:

Sapre [19] mentions two important characteristics of an effective teacher, intellectual excitement and interpersonal rapport, which mean the teacher should be content expert and have effective presentation and communication skills. Emotional Intelligence is required to complement both the dimensions of effective teaching. Teachers need to apply the dimensions of emotional intelligence to update themselves in the content area as well as teaching and learning tools

Teachers' emotional intelligence means that they must be self-aware that enables to recognize feelings and manage peoples' emotions. Role of teacher in restructure the society is invincible. emotional competence of teachers is necessary, both in general for their own wellbeing and for effectiveness and quality in carrying out teaching - learning processes in the classroom, and in particular for the socio-emotional development of students.

Peter Salovey [11] believed that emotional intelligence means processing emotional information that includes correct evaluation of emotion in self and others and it is a suitable tool to adapt them consistently resulting in improvement of personal life [18]. The following dimensions of an emotionally intelligent teacher contribute to enhanced self-

awareness and healthy relationship with students and colleagues:

- Self-recognition and self-respect
- Keeping a variety of strong, healthier relationships
- Working with other and reaching positive results
- Coping with daily tasks and pressures effectively.

Mortiboys [12] endorses the qualities of acceptance (unconditional positive regard), genuineness (congruence) and empathy (understanding the feelings of the other), drawn from Humanistic counselling psychology developed by Carl Rogers (see Figure 2).

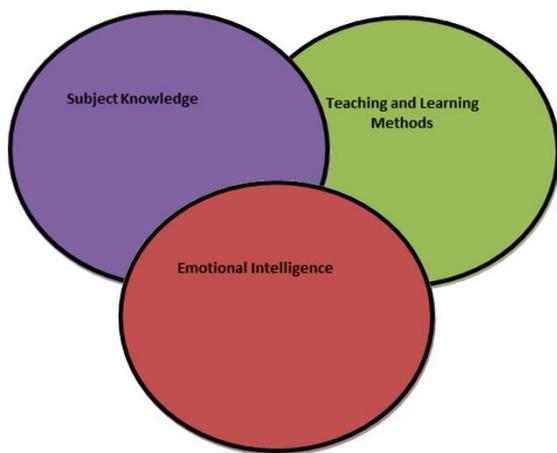


Figure 2. Effective Teaching (Mortiboys, 2005)

In doing so, he highlights the relationship between education and counselling. Both processes may be regarded as entailing a transformative journey [4] where the student gains knowledge and learns practical and reasoning skills which help them function better. Studies have shown that people who score highly on tests of EI have better interpersonal skills and are more positively evaluated by their peers.

5. Emotional intelligence and corresponding teachers' skills

In order to reach higher objectives and expectation from education, it is necessary to develop the desired teachers behaviour and skills and transform them into effective teaching and learning practises.

Darvin et al. showed a pattern based on emotional intelligence and its role in teaching and learning processes. There are evidences that emotional intelligence is an important predictor for social and personal performances, so is true for teacher effectiveness.

Based on the above discussions an attempt has been made to identify the behaviour and skills required by teachers in relation to each dimension of Mayer and Salovey model of Emotional Intelligence. These are listed in Table 1.

Table 1. Depicting Emotional Intelligence Capabilities and Corresponding Teachers' Behaviour and Skills

Emotional Intelligence Capabilities (Mayer and Salovey, 1998)	Teachers' Behaviour and Skills
Self-awareness Knowing one's internal states, preferences, resources, intuitions • Emotional self-awareness • Accurate self-assessment • Self-confidence	<ul style="list-style-type: none"> • A creative and constructively critical approach towards self • Being prepared to adapt new practice where benefits and improvements are identified
Self-Management Managing one's internal states, impulses, and resources • Emotional self-control • Transparency • Optimism • Adaptability • Achievement orientation • Initiative	<ul style="list-style-type: none"> • Demonstrate the positive values, attitudes and behaviour they expect from students • Act upon advice and feedback and be open to coaching and mentoring
Social Awareness Awareness of others' feelings, needs, and concerns • Empathy • Organizational awareness • Service orientation	<ul style="list-style-type: none"> • Communicate effectively with students and colleagues • Recognise and respect the contribution of others • Identify and support students affected by changes or difficulties in their personal circumstances
Relationship Management Adeptness at inducing desirable responses in others • Developing others • Change catalyst • Inspirational leadership • Influence • Conflict management • Teamwork and collaboration	<ul style="list-style-type: none"> • Establish fair, respectful, trusting, supportive and constructive relationships with students and colleagues • Work as a team member and identify opportunities for working with others

It is hoped that teachers on getting aware of the requirement of behaviour and skill required as above will be in a better position to find out the areas in which improvement is required.

Currently though, many teachers may not be aware how emotional intelligence affects the teaching learning process. They might be expert and competent in their content but are likely to ignore the emotional aspect of the teaching/learning dimension. The small things like not recognizing students by name, even when the group is small, and not being able to notice the look of boredom, disinterest and confusion on faces of the students can lose the opportunity for building positive learning environment for the students.

The findings demonstrate the value of underpinning teacher education with a model of effective teaching which includes emotional intelligence at the core, as well as subject knowledge and teaching and learning methods.

6. Conclusion

In this paper, the knowledge and use of emotional intelligence has been considered as an important factor for following reasons:

- Improving teaching learning environment
- Multiple tasks expected from a teacher
- Enhancing potential of student personality

Emotional intelligence is not just a personal quality which a person either possesses or not. Unlike intelligence, it can be developed to improve teaching-learning environment and encourage the emotional state of the learners to make it conducive to learning. If teachers are able to encourage students to become self-aware, they will be able to manage their educational responsibilities better such as working in a group, overcoming exam anxiety, overcoming the stress of talking with a teacher or just the ability to make friends inside or outside the classroom.

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Current Indian Campus Training Industry Scenario and Its Outcome

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Abstract

Non-Registered Freelance training companies surviving on networking, having no fullfledged structure and set-up has managed to bag training projects from multiple campuses across the perimeter of the country. Moreover, their training methodology are not proven, outcome oriented and upgraded in terms of quality delivery & learning, which leads to skill gap. The increasing skill gap means lack of quality training, and lack of quality training clearly points out lack of quality training bodies. It should be a quick eye-opener for training bodies to augment and supplement quality training needs to bridge the existing skill gap.

1. Introduction

Traditional learning methods are extremely impersonal and do not take into account the specific needs of the individual, focusing more on the mass approach. Experiential learning goes beyond classroom learning and ensures that there is a high level of retention, thereby delivering exceptional ROI over a traditional learning program.

Explore-Learn-Grow, must be the mantra in order to bridge gap between theory and practice.

2. Training Curriculum with Technology Integration

Technology based training which includes web, mobile app and other e-learning technologies are proven to fill-up the learning gap post classroom training sessions. The integration of technology offers virtual 24x7 learning connect between the trainer and students regardless of their geographical proximity, which is much affordable and convenient. This also encourages Self Pace Learning Methodology.

3. Clarity on Industry requirement

In order to bridge the industry-academia gap and generate highly employable talent pool, an understanding of the industry requirement is a must by a training provider. A research on the current and

future trend of industry requirement would ensure better clarity on what technical and non-technical areas, a job aspirant should get trained on and transform as per the needs of the industry.

4. Quality trainers

As aptly said ‘Trainer of the Future, is a Guide on the Side’, similarly, without a qualified trainer, it’s like ‘Let go my Future’. A trainer who’s passionate about continuous learning, innovative thinking & embrace efficiency can deliver the best quality training, which lacks big time at present.

5. Authorized Certification body for trainers and domain based certification

Any individual aspires to join as trainer must comprehend to the pre-determined criteria and undergo certification assessment. These assessments not only validate a trainer’s expertise but also gives a platform for trainers to self-realize their own potential w.r.t training delivery expectations.

6. Supply Chain – Training Need & Skill Gap

The connect between the Industry requirement and training need analysis is not fundamentally established at academic levels. As a matter of fact, students tend to remain unemployed even after attending various training programs by training experts. In order to bridge the gap, complete analysis of the training need and understanding of trainee skill gap is required to design industry-oriented training curriculum. Lack of expertise from authority to understand training need analysis which tends to give wrong output.

7. Role Based Curriculum

In the current training ecosystem, there’s a vast requirement of role based curriculum rather than academic based curriculum. This curriculum gap does

not allow a trainee to adopt to best industry learning practices. Role based curriculum is again a breed of experimental and experiential learning methodology to make an individual industry ready, which should be the pre-requisite for any training curriculum.

8. Selection of training provider is more based on personal networking rather than proven credentials or expertise

Current training vendor selection at campuses happens either through personal networking or commercial based auctions. Either the management or placement officer would have their own personal favorites, or a common auction set up where all the training vendors are invited at one shot to give presentation on their expertise and then quotation. The least quoted proposal is accepted without any validation of expertise.

9. Focus towards outcome accountability from campus

The lack of focus on student learning outcome must bring campuses in the same line to hold training bodies accountable. In the present scenario, non-existence of training outcome accountability is a big loophole which ultimately leads to non-effectiveness towards the target audience.

10. Connect between Classroom Training and E-Learning

In the era of digitalization, adoption of e-learning is happening at a very fast pace in the Indian education system. However, training bodies lack to understand that the primary mode of learning for Indian students is most effective towards Classroom Training (peerto-peer learning) and E-Learning (secondary mode of learning) will always be the best substitute to classroom training in an Indian education system. Technology integration with the education system is a boom and would continue to be but can never be a sole player for the learning industry.

11. Certifying body to approve Training Methodology

Lack in training certifying body has led training institutes to grow like mushroom without ensuring quality, delivery and understanding of client requirement. A certifying body must be setup to ensure adoption of quality training methodology and output driven delivery model for any training organization. In addition, each training organization must necessarily be certified or accredited in terms of

functioning, domain competency, process quality, trainers and outcome etc.

12. Involvement of private training bodies due to rusty government administration

As per statistics, only 7% of incorporated training bodies in INDIA work with government agencies. The huge difference is due to rusty administration which chiefly point towards the corruption or the middle man model inside the system. Currently, there's no existing platform for training organization to approach govt. bodies to prove past experiences and credentials.

13. Motivation towards choosing Training as Career Option

Lack of awareness towards training industry has a paramount contribution towards lack of quality trainers in the L&D Industry. Students/Job Aspirants have no clarity about the industry, various roles, career growth, pay package etc. In addition, absence in motivation from campus or family is also responsible for students not pursuing training as career option. Currently, nonexistence of entry barrier allows people to join this industry by getting more attracted towards the ease of earning rather choosing the same as serious career path.

14. General Hiring to Skills based Hiring – The Future of Hiring

Influence of digital technology, rapidly growing innovative start-up system, changing business models, government's Digital India initiatives and the consumer economy have impacted the current growth trends of IT/ITes/Core and another sector.

With this change in the global business economy, there is an increase in demand of professionals who are not only hard but smart workers. Corporates are looking to hire professionals who can perform multitasking rather than a single role oriented job. Hence, the competition for young talent pool is highly diversified and much more demanding than compared to past. This is one of the key reasons why general hiring scenario couldn't resist the power of the current changing business trends and force itself for a makeover to focus towards skills based hiring.

Few noticeable challenges of general hiring are listed below:

15. Multiple On/Off Campus drive to hire the right candidate

In the present hiring scenario, companies have to conduct multiple On/Off campus drive to bring in

right talent on board. However, the process is quite exhaustive with no guarantee of filling-up the right talent. The current corporate mass campus hiring pattern involves lot of human resource, time and effort from the corporate side to filter right candidates as per the company's expectation. In this pattern, corporates focus more towards evaluating a candidate on technical/non-technical fundamentals rather than on floor skills requirement.

16. Post hiring project based application training

Due to lack of role based curriculum and industry-centric application training, employers need to focus meticulously towards the fresher training and induction, which again accounts for additional time, energy and resource. Candidates fail to absorb the industry curriculum post on-boarding because of poor laying out of fundamental during academics, which also results in low performance post joining and lack of understanding of the expected role.

A clear understanding of the employer requirement and required application training would then account for additional hiring conversion thus reduction in training post onboarding.

17. Campus Hiring Rounds – ‘One Size Fits All’ Model

The current campus hiring process is still the same and followed as it was a decade ago, with a fixed sequence of Aptitude, Verbal being the first round followed by Extempore/GD, Technical & final HR interview. The defined sequence fails to get refined and upgraded based on the technology shift towards industry roles, which pushes the current hiring process to become obsolete for the young talent pool.

Only a synergistic association will help student's cross barriers and meet the industry expectations, resulting in a match between skill available and role requirement.

18. Lack of Basic Technical Fundamentals

During campus hiring process for entry level positions, candidates are expected to have technical certifications and possess technical fundamental skills, lack of which impacts the hiring process. Gaps in this regard pushes the recruiter to hire candidates not on the basis of their proven skills but on their skill standing among the crowd.

19. Lack of Post-Hiring Feedback Model

No right clarity on the possessed skill gap shared by recruiting team which leads to nonunderstanding of industry requirement in turn impacting the training need analysis. Also, skill gap receives much prominence over non-acceptance of low hiring figures set by the recruiting corporate.

20. Corporates Day - 1 Campus Hiring Slot

Campuses face quite a big challenge to provide exclusive Day 1 slot for Mass Hirers. It's quite impossible to meet the expectation of all the corporate to accommodate them on Day 1, failing to which leads in losing out few of the good opportunities by the same from the campus front.

21. Lacks Project Based Learning

It can also be called as 'Problem Based Learning'. PBL is considered to be the next-gen learning model, which not only allows a student to experiment but on other hand, extends a platform to learn from his own mistakes. This kind of model not only ensures better learning but also help students gain vast knowledge on the specific domain thus showcasing an immediate and meaningful reason to apply their skills.

22. Attrition Due to Unclear Career Option

Most of the organizations spend a considerable amount of time and resource in talent acquisition but the actual value of new talents can only be realized if the talent is retained long enough to tap its treasures. However, due to career option chosen with ambiguity, the retention level is going down due to lack of clarity on roles and industry provided by the recruiter and understanding of the same by the candidate. The only solution to this setback would be proper career counselling at campus level w.r.t their technical domain interests.

23. Non-technical Hiring Factors

Gaps in terms of communication, decision making, problem solving, resilience and team working ability that young talent pool needs to possess exists in Tier – II & III campuses, leads to less hiring conversion by the recruiting organization. The existence of the gaps is due to non-motivating and support factor in the existing academic eco-system.

Assessment Literacy on Campus and in School – Preconditions for Progressive Language Teaching

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Abstract

This study maps requirements and expectations for assessment literacy (AL). It indicates the extent to which student teachers can be prepared to meet these demands. Addressing pre-service teachers' AL is of importance today, given the extensive research in the field of assessment. This line of inquiry can provide insights into circumstances in academia and in schools. The theoretical framework revolves around (pre-)teacher cognition and AL. Furthermore, challenges for student teachers, who depend on training on campus, during practica and internships in school are addressed. Given the fact that assessment training on campus was not introduced officially until the 2010s in Sweden, there is a need for continuing reform both in terms of formal decisions and of cognitive approaches to assessment strategies as integral parts of teaching and learning. Theories, rules and regulations stipulated by authorities as well as results from questionnaires and interviews form the framework of this article.

1. Introduction

Research on assessment is extensive with regard to teaching and learning in school. There is, however, a lack of research conducted on pre-teacher cognition about assessment and assessment literacy on campus and in school [1], [2], [3], [9]. Assessment literacy (AL) can be defined as “skills and knowledge” about formative and summative assessment strategies for constructive, progressive learning [5], [8]. This study employs a multidimensional definition of teacher AL in practice. My aim is twofold: to state the facts of what is required in AL for language teaching and -learning in a goal-oriented school and to map (pre-)teachers' AL and perspectives on assessment. Wiliam's argumentation about “assessment as the bridge between teaching and learning” and the necessity for formative assessment to be embedded in strategies for improving teaching and learning is another basic approach in this paper [10]. I have also consulted reports from authorities, such as the OECD.

2. Literature Review

Between the spring term of 2014 and the spring of 2018, mixed methods research was conducted comprising questionnaires for some two hundred students studying at the fifth, sixth and eighth terms in the teacher training programme for primary- lower- and upper secondary school (the same questionnaire was issued at the beginning and at the end of campus courses). Furthermore, my study includes reports from student teachers' interviews with fifty-five qualified teachers during the practicum as well as my interviews with ten qualified teachers and with five colleagues at Stockholm University. The tables below include a representative sample of the general results of two aspects in my questionnaire about student teachers' AL to date. It is beyond the scope of this brief article to include all the results for the fifty-eight questions that were addressed to the students. It should be added that theories about assessment were not included in campus courses at the teacher training programmes until the 2010s. Previously, it was taken for granted that student teachers would learn about assessment during the practicum. Today, however, we provide some teaching about, and training in, approaches to, and strategies for, formative and summative assessment on campus. Still, the teacher training programmes offer relatively limited opportunities for student teachers to prepare for assessing and rating pupils' contributions in school. Furthermore, since the supervisors – qualified teachers in schools – did not receive any formal training in assessment prior to 2011, the level of AL for student teachers often depends on their training in higher education and on the autodidactic skills of the supervisors as well as on the empirical evidence collected over time by the supervisors and on local advice from their colleagues in school. As my study to date has shown, for lower- and upper secondary school, teachers have seen minimal improvements with regard to professional learning over the years. In fact, on a national level qualified teachers have only been offered training as lead teachers, who are

selected by the senior staff in Swedish schools. Normally, there are merely one lead teacher for each subject. This means that the teaching staff in general are dependent on head teachers and lead teachers' abilities to provide time and space for furthering their academic education. In addition, interviews with secondary school teachers suggest a divergence in approaches to assessment strategies and, hence, to issues about validity and reliability. Student teachers will almost certainly be affected by this divergence. Further necessary aspects of goal-oriented education, such as alignment, transparency, feedback and feed-forward, peer-, self- and cooperative assessment as well as qualified interpretation of steering documents, are also unclear or challenging to implement without systematic support from specialists for many teachers. As Vogt & Tsagari stated in a European context, "to compensate for insufficient training, teachers seem to learn about language testing and assessment on the job" [9]. If "assessment is a process that helps focus attention towards what matters most in education, beyond just access and participation: the actual learning outcomes of each student", as OECD argued in their report *Synergies for Better Learning*, then it is relevant to examine further (pre-)conditions for teaching, assessing and learning [6]. My results also show that national requirements for empowering pupils to take responsibility for their own learning through peer- and self-assessment can be improved. DeLuca, Valiquette, Coombs, LaPointe-McEwan & Luhanga argued that: "research has continually demonstrated that teachers face significant challenges integrating new approaches to assessment that align with contemporary mandates and assessment theories" [4]. This argument again supports my findings about in-service teachers' cognition and AL regarding assessment and grading.

It would be reasonable to assume that the above-mentioned challenges affect the teachers' knowledge, beliefs, thoughts and actions (teacher cognition), as Borg has mentioned in another context [2]. If this is true, then this will also have repercussions for the crucial development of student teachers' cognition and AL during practica and internships. As academics, we are accountable for providing our future teachers with relevant training that prepares them for a teaching profession which is bound to be demanding and challenging on many levels today and in the future. The OECD has stated that school leaders' approach to professional learning "is largely determined by their individual preferences and the specific contexts in which they work, rather than by any overarching set of expectations and opportunities set by the systems in which they work" [7]. My study also confirms the fact that teachers have a limited say with regard to the selected aspects in, and of opportunities for, systematic in-service training both on a national and on a local level.

What is even more problematic is that the implementation of requirements about learner autonomy in the most recent educational reforms for school has not been a priority either on a national or a local level. Head teachers and by extension further relevant senior staff in municipalities as well as politicians in Sweden are accountable for arranging and promoting in-service training for teachers. However, a national framework for enforcing this rule is non-existent. Instead, the Agency and the Swedish Schools Inspectorate monitor how various aspects of teaching, assessing and learning are managed in a number of schools over time and can suggest improvements, when needed.

3. Samples of Results

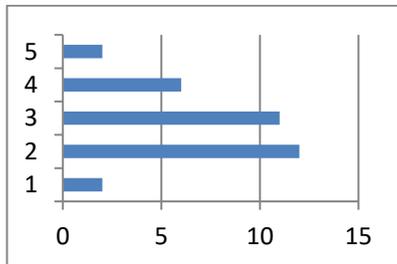
Results from a questionnaire handed out during the autumn term 2017 to thirty-three students in a sandwich course comprising a campus course of 7.5 credits and the second practicum of 7.5 credits are listed below. These students were admitted to the teacher training programme (English as the first subject) for compulsory school (years 7–9) and for upper secondary school. There were thirty-three answers prior to the sandwich course and twenty-two answers after the examination of the two courses. The results confirm the holistic outcome of my study of preconditions for progressive language teaching; assessing and grading are often considered challenging areas for school teachers. Hence, they may find that student teachers need to focus on teaching and learning in the earlier stages of the training. The Tables present answers (pre- and post-) to questions about a) "I was well-informed about general strategies or visions with regard to assessment and grading at my practice school" and b) "The teaching to date (on campus and during practicum) has met my needs as a student teacher". The figures in the tables represent the answers:

1. Strongly agree; 2. Agree; 3. Undecided; 4. Disagree; 5. Strongly disagree.

Tables 1 and 2 above show the increased focus on assessment during the second practicum for future secondary teachers of English. The post-results indicate the fact that the assignments for the sandwich course (on campus and during the second practicum in English language education) provide a clear framework for the student teachers' training with regard to assessing and grading in schools. Bearing in mind that this sandwich course is held during the fifth term of the programme and that teaching, assessing and learning interact, as Wiliam argued, there may be cause for concern about the late timing of a proper introduction – both in the theoretical and empirical sense – to assessment and grading.

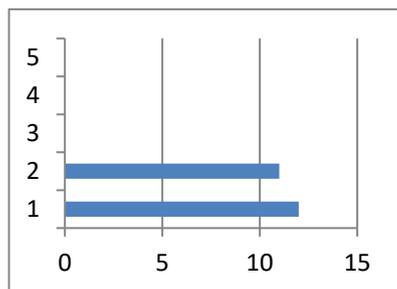
Information about assessment and grading during the first practicum

Table 1. Answers to the question “I was well-informed about general strategies or visions with regard to assessment and grading at my first practice school” (pre).



Information about assessment and grading during the second practicum

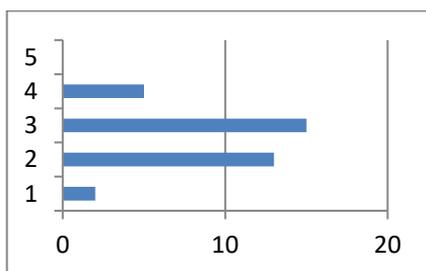
Table 2. Answers to the question “I was well-informed about general strategies or visions with regard to assessment and grading at my second practice school” (post)



Tables 3 and 4 show responses regarding the degree to which the teaching to date (in the fifth term of the teaching training programme for secondary school teachers of English) on campus and during practicum has met the necessary requirements for the development of pre-service teachers’ cognition and AL about assessing and grading.

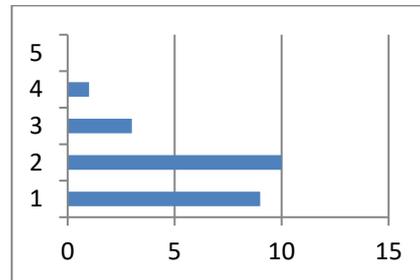
The teaching to date has met students' needs

Table 3. Answers to the question “the teaching to date (on campus and during practicum) has met my needs a student teacher” (pre).



The teaching to date has met students' needs

Table 4. Answers to the question “the teaching to date (on campus and during practicum) has met my needs a student teacher” (post)



Given the fact that the campus course comprises merely five seminars prior to the practicum, the results for AL have improved, as shown in Table 4, even if there is room for further perfection. However, it may be argued that focus on how teaching, assessing and grading interact needs to be introduced already in the first stages of the teacher training cycle. In running text in my questionnaire my students have mentioned in passing that the sandwich course above is merely the second course in the entire programme that deals with assessing and grading. This statement is thought-provoking and calls for further research.

4. Conclusion

New perspectives on the need for alignment between formative and summative approaches to assessment “requires a major shift in mindset for teachers, as well as fundamental changes vis-à-vis traditional classroom assessment practices”, as OECD argued [7]. To facilitate such a shift for qualified language teachers in school, in-service training is needed.

My study has focused on student teachers’ AL from perspectives such as their comments on theories introduced on campus and on the empirical evidence from practica that may have affected their pre-teacher cognition. It is obvious that at least two thirds of the qualified teachers in my study as well as the majority of the student teachers that I have taught are committed to, and can even be enthusiastic about, European and local regulations, recommendations and theories about the necessity for formative stages such as alignment, transparency, feedback and feed-forward, peer- and self-assessment as well as co-operate assessment for teachers in school to achieve better results for valid and reliable grading. The conditions for practising teachers in school, however, can act as a deterrent or even as an impediment for student teachers. Certainly, this inconvenience can be overcome by national or local decisions about continuing education for teachers.

If, for example, one of the main targets for Swedish schools is to develop pupils' responsibility for their own learning, as the curricula state, then teachers will have to propose, and ultimately agree on, strategies for instructing and inviting pupils to various assessment activities and to create a constructive classroom atmosphere. It is true that this will require both further training, time and space throughout their professional lives, but in the long run, it would even alleviate some of the stress and the time constraints that teachers often state that they experience in schools. Under ideal circumstances, introducing recurrent peer- and self-assessment with transparent guidelines and rubrics in connection with formulating reasonable challenges and scaffolding, for instance, can be beneficial for the entire society. In light of the promising fact that student teachers are committed to this cause, it is imperative that teacher educators and supervisors in school can offer proper training in assessment as well as conduct and follow up research on AL on the teacher training programme as well as in schools.

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Proposal of an Innovative Classroom Teaching Approach that Transforms a Blank Power Point Slide into an Asset

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Abstract

In this paper, we present a pedagogical approach used to teach Industrial Management, a module that uses complex theoretical concepts (project planning, gross margin, free margin, exponential smoothing). The approach is based on employing a blank PowerPoint slide, and inviting engineering students to take an active role in creating the lesson and gradually build knowledge about the course. The approach has shown a significant impact on students' degree of assimilation.

1. Introduction

Recent years have seen a decline in the quality of education, which has constantly influenced the training cycle of engineering students. Teachers' poor performance and the low level of students' assimilation may be due to ineffective traditional teaching methods or inappropriate active teaching approach methods. Today schools are increasingly equipped with computer resources that interfere in pedagogy. Yet, technology means remain non-existent or not adapted to our population, our academic needs and our goals. Nevertheless, if they exist, technology means become a distraction, and make students more and more difficult to teach, convince, and attract. What if the lack of concentration is aggravated by the lack of sequence in the content of the courses, which makes them unattractive and devoid of added value for the student, and with the teacher ineffective pedagogy and method of transferring knowledge? Thus, the evolution of the TIC in education shows an undeniable impact on teaching methods and the position of teachers in this regard.

It is imperative to vary and adapt the teaching models according to the fields of study and the objectives to be achieved. Indeed, we all learn differently: some will be more sensitive to discourse, others to teaching materials, others to exchange with other participants. It follows we have several models, methods, especially in the context of active learning

and which have come to take over from traditional methods which have long been criticized.

As far as teaching aids are concerned, we will focus on the use of PowerPoint as a pedagogical tool that has long remained a popular and effective means of transmitting and linking ideas and knowledge in the academic context. In fact, PowerPoint allows a good organization of training content, its design was part of a logic of simplification of the contents to create a schematic or even in some cases, a clear map and well chained up for any type of training. Nevertheless, this use quickly turned to switch from a unique work, personalized and presenting an added value for its author and the learner to a bad manipulation, making the PowerPoint a tool popularized, accessible to all, without essence and efficiency. Slides are super loaded, devoid of a good sequence of ideas and far from being sparkling to read and profit from.

To meet this limit, Esprit, the Tunisian Private School of Engineering and Technology, adopted a new educational interactive approach to improve the learning experience of its students. Although this is proven beneficial, the approach makes teachers confronted with challenges when delivering the course. This article then shows the benefits of the implementation of a new approach based on overcoming the syndrome of the blank page transforming PowerPoint from a problem into an asset.

2. State of the art

The study of teaching approaches remains at the heart of research and work on the learning processes for all types of audiences, and this in a logic of continuous improvement and adaptation of training and teaching to different types of developments marking the academic environment, mainly the technological revolutions. Two major pedagogical approaches exist [16]: the classical, teacher-centered approach and the modern, learner-centered approach. The classical approach is based on a traditional relationship of authority and in one direction between

the one who teaches and possesses the knowledge (the teacher) and the one who passively receives this instruction (the learner). Traditional pedagogy is that of knowledge, the transmissive model, authority, individualism and punishment. This learning approach has been questioned because it reduces all forms of transmission of knowledge to a caricature similar to a traditional pedagogy of the master type [4].

The modern approach, meanwhile, aims to make the learner at the heart of learning so that she or he builds knowledge through scenarios. Indeed, the teacher is no longer seen as a "transmitter of knowledge" but is considered rather as a "companion" that allows the student to learn. This new approach is then integrated into a current pedagogical teaching that defends the principle of active participation of individuals in their own training. These same teaching approaches fit into three main paradigms of learning: behaviourism, cognitivism and constructivism. Behaviorism considers learning as a lasting change in behavior resulting from particular training [15], [19]. According to Basque et al. [1], learning takes place after a correct response to a given stimulus. The achievement of this outcome requires pedagogical methods such as lecture and drill and practice to increase retention of learning. In the use of TICs, tutorials (exercises or tutorials) can also be used by learners. In this context, "modernized" lectures, presented by means of an electronic transparency or a projection equipment of a PowerPoint medium, are also used by the teacher. In contrast to behaviorism, cognitivism highlights the internal processes of learning. For cognitivists, in particular, Tardif [17], the learner is an active information-processing system, similar to a computer: he perceives information that comes from the outside world, recognizes them, stores them in the memory, and then retrieves them when needed to understand its environment or solve problems. In this context, the cognitivist teacher will be inclined to use learning tools allowing a great interactivity with the learners such as smart tutorials or illustrations. Finally, like the cognitivist approach, the constructivist approach considers that learning is a mental activity that does not disregard the learner's knowledge. Constructivism develops the idea that knowledge is constructed by those who learn. According to Giordan [5], the learner is no longer an empty barrel to be filled (criticism of the behaviorist paradigm). He has in him what we call the "already there", spontaneous models, representations or conception of the world, which one would gain by knowing if one wants to act on what he knows to lead him to modify and evolve. This is the whole point of a teaching which is based on the representations or conceptions of the learners as levers for efficient and meaningful learning. For Piaget [11], the learner is not simply related to the knowledge he learns: he organizes his world as he

learns, adapting himself. This constructivist perspective emphasizes the adaptive nature of intelligence, on the organizing, structuring function it implements. This adaptive capacity is based on two processes of interaction of the individual with his or her environment: assimilation and accommodation. The constructivist teacher will tend to choose very open learning environments in which learners can test their own assumptions, confront points of view, and so on. It may also promote the use of software to make reproductions in projects closer to real life contexts. According to Giordan [5], the learner is no longer an empty barrel to be filled (criticism of the behaviorist paradigm).

Partially derived from constructivism, a new paradigm emerged, integrating an additional dimension, that of interactions, co-construction and co-elaboration, called socio-constructivism. Socio-constructivism is a theory that emphasizes the relational dimension of learning. Unlike the cognitivistic approach centered on individual mechanisms, the socio-constructivist approach places more emphasis on social dimensions in skills training. The construction of knowledge, although personal, takes place in a social context. For Vygotsky [18], learning consists in developing oneself by necessarily passing through a phase of social interaction with others. The author argues that social interactions with both the teacher and the other learners are paramount in the learning process. In this sense, learning is approached as a structuring action of the many interactions that the subject lives in his or her social environment. (Impact of socio-constructivism on the quality of learning). It is in this paradigm that the problematic of our article is integrated. Indeed, the evolution of teaching methods towards active pedagogy has naturally led to an evolution of the pedagogue's work towards a role of guide and counselor, rather than a master of content as in his classic role. Such a modification of the teacher-learner relationship emphasizes the fundamental role of communication, which did not remain without impact on the teaching institution. A question that arises at this level: How does a teacher come to make learners take a liking to what they do and what they receive as training in an increasingly evolving context? In this context, Meirieu [8] argued that there is a discrepancy between the need to acquire knowledge on the part of the learner and to take into account his or her interests that are indispensable for motivation. It stipulates that "only scholastic knowledge making sense for the pupil can be assimilated durably". Thus, a competent teacher is the one who can reconcile and find a consensus between what stimulates the learner's interest on the one hand and what he should acquire as knowledge and which does not necessarily interest him. Such a mission is far from being easy to achieve. Thus, active pedagogy has not failed to favor interaction and communication between the teacher

and the learner, through the use of several means adapted to the training process. These include simulation games, role plays, case studies, computer and audio-visual media, and so on. Nevertheless, the majority of these learning methods are now criticized because of their low effectiveness against the target audience. Indeed, the heterogeneity of the learners' levels, the inexperience of some and the difficulty in using certain tools and supports, the lack of autonomy of certain "average" learners who remain helpless in the face of unforeseen obstacles, Criticism and aptitude for choices for lack of perspective, all these motives, which are far from an exhaustive list, constitute obstacles specific to the learner. These barriers certainly impede the implementation of modern pedagogical approaches. However, from the extrinsic to the learner, we can emphasize the lack of material and financial resources in some institutions (high costs of play games and certain tools and supports, lack of space and Organization, inadequate infrastructure, etc.). Nevertheless, the majority of these learning methods are today criticized because of their low efficiency. In this context, we have chosen to propose a new approach while returning to the use of the PowerPoint as simple and accessible pedagogical support but far from its traditional use. Indeed, in a traditional pedagogical approach, having a course in PowerPoint is perceived lately as the worst pedagogical approach causing the "death" of criticism and analysis. Consequently, slides can be useful only when they can be used properly and in a well-defined frame. Being aware of these limitations, a new use of the PowerPoint has been initiated within ESPRIT. The syndrome of the blank page, a phenomenon long considered in its pejorative sense that of hindering the fluidity of writing in the author, or production in the artist, is now the subject of inspiration in the use of the white slides, thus becoming an asset to construct an overview based on an interaction between the teacher and the group of learners. We start from a blank slide and then create a cognition group where all the individuals present bring and share their perception and expertise.

3. Our approach

The proposed method is divided into four steps:

- Preparation: the teacher prepares in advance his/her course based on a clear sequence of ideas.
- Teaching: the teacher applies the pedagogical approach.
- Debriefing: students, with reflections or proposals, extend the different concepts.
- Learning outcomes consolidation: the teacher and the students discuss the strengths and the weaknesses of the talk in order to evaluate the experience and some recommendations are made for the next talk.

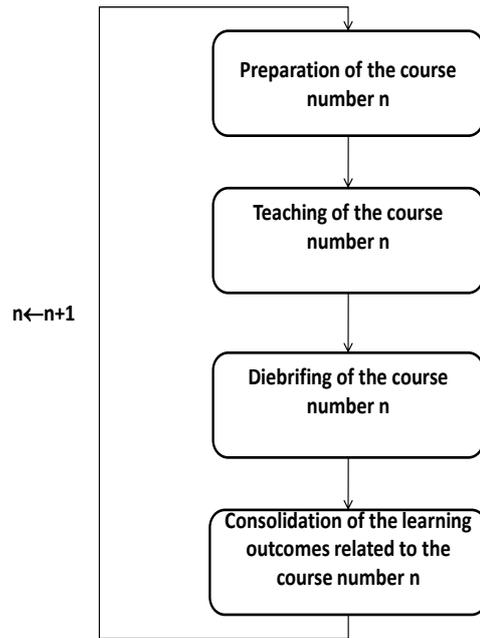


Figure 1. The proposed approach's four steps

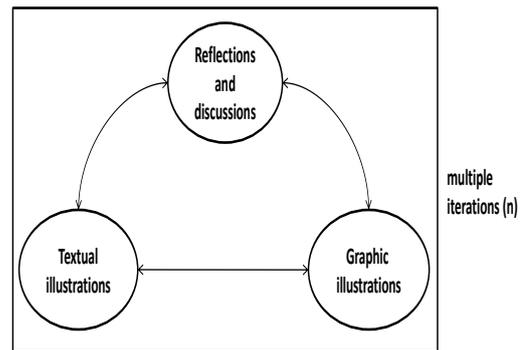


Figure 2. The details and interactions during the step number 2

4. Validations

For this first experiment, we have applied our approach on Project Management module. In this section, we present three fundamental notions in project management course: the earliest and latest start dates, the total margin and the free margin.

4.1. Learning outcomes: Presenting/ Understanding

The Early and Late Start times in project planning

- Starting point: a blank PowerPoint slide.
- Situation:
 - o At the end of the session, the teacher announces two pieces of information (a):
 - o Tomorrow at the same time (hour "h") students will have an exam!

- o The average revising time of the module requires “n” hours.
- Evolution:
 - o A student gives his or her preference (b).
 - o The preferences include rotating to the left (c) (it gives the early start time), or rotating to the right (d) (this gives the late start time).

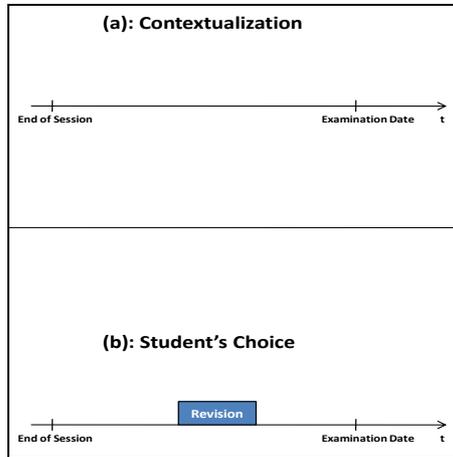


Figure 3. A ludic explanation of the earliest and latest start dates in a project management (a) & (b)

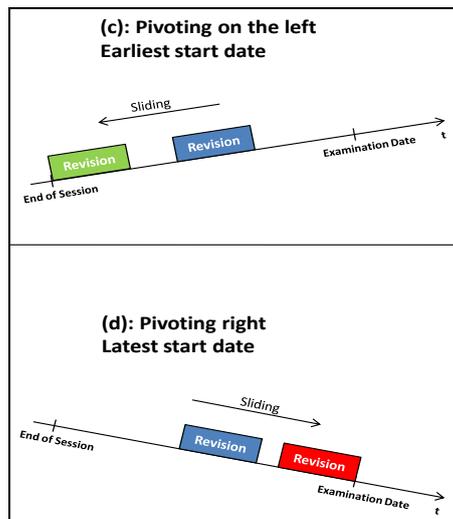


Figure 3. A ludic explanation of the earliest and latest start dates in a project management (c) & (d)

4.2. Learning outcomes/ output: the notion of a gross margin in project planning

- Starting point: a blank PowerPoint slide.
- Situation: You are driving your car (a):
 - o The width of the car is lower than the width of the roadway.
 - o A cow crossed the road suddenly! (b)
- Evolution:

- o First response: make a dodge!
- o When the width of the road exceeds that of the car (c), it is possible because there is a margin for movement and the situation of the driver is not critical!
- o When the width of the carriageway is equal to that of the car (d), dodging is not possible because there is no margin for maneuver and the situation of the driver is critical!

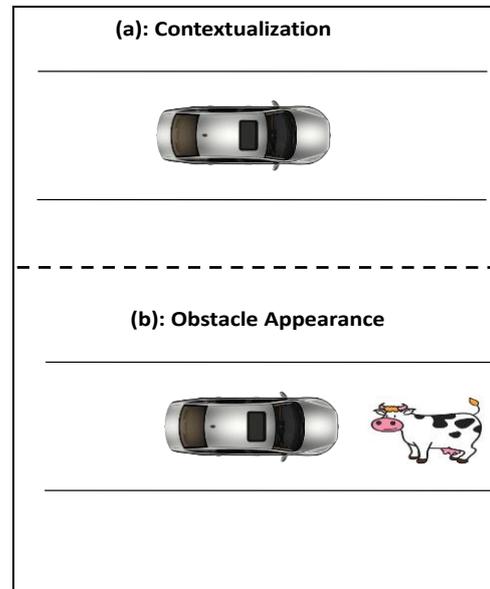


Figure 4. A ludic explanation of the total margin (a) & (b)

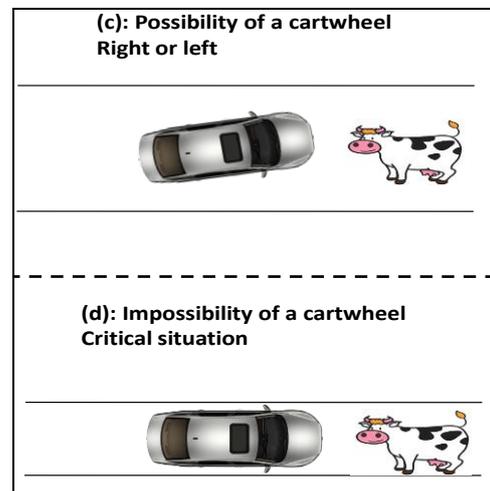


Figure 4. A ludic explanation of the total margin (c) & (d)

4.3. Learning outcomes: the notion of free margin in project planning

- Starting point: a blank PowerPoint slide.

- Situation: Three people are sitting comfortably in front of a TV screen and are watching a soccer match (a):
 - o A new spectator enters the room, looking not to disturb others, where should s/he put their chair? (b)
- Evolution:
 - o There is a distance from each seated spectator:
 - o The spectator must not exceed the shortest distance (c).
 - o If the spectator exceeds this minimum distance (d) h/she will disturb the comfort of one or more seated spectators! (b).

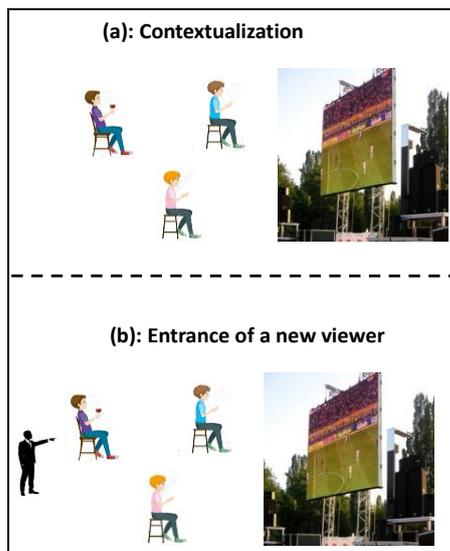


Figure 4. A ludic explanation of the free margin (a) & (b)

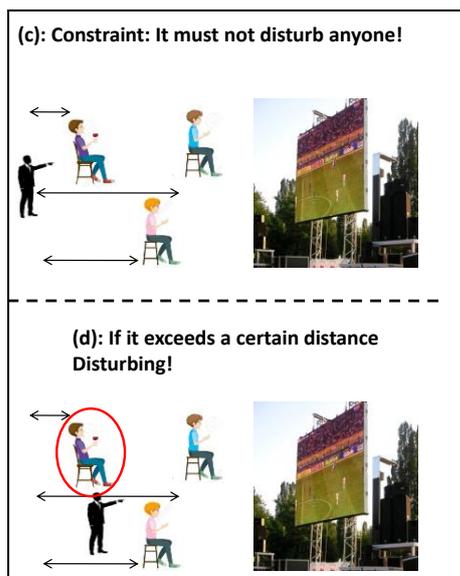


Figure 4. A ludic explanation of the free margin (c) & (d)

5. To go a little further!

We have explained our approach to our fellow teachers, especially those teaching subjects such as mathematics, and mechanical engineering. Yet, they were skeptical about the application of our approach in their subjects. But, one colleague adopted our approach in his field (operations research) and the results were simply spectacular. Here are the details:

5.1. Learning outcomes: constraints relaxation in a linear programming

- Starting point: a blank PowerPoint slide.
- Contextualization: Let us consider if a linear program manages to solve a problem with 7 equally strict constraints. (a)
 - Evolution: The following example is considered: a girl is looking for her soul mate (b)! Of course, she has requirements (constraints, (c)):
 - o This man must precisely have: 2 cars, 3 houses, 4 cats and 2 dogs. In addition, this man must earn \$ 2,000 per month. He should exactly be 1.8m tall and weighs 85 kilos.
 - o Can she find a man with all these requirements? The answer is obviously 'no'!
 - o Ask the students to give this girl an advice to get married. The majority replied: the only way is to 'let go', lessen the demands! This is the same principle that governs Operations Research: in order to find a solution of a linear program, it is necessary to release constraints (avoid the strict ones!).

(a): Context's setting
A linear programming (7 constraints)

$$x_1 + x_4 + x_5 + x_6 + x_7 = 22$$

$$x_1 + x_2 + x_5 + x_6 + x_7 = 25$$

$$x_1 + x_2 + x_3 + x_6 + x_7 = 17$$

$$x_1 + x_2 + x_3 + x_4 + x_7 = 30$$

$$x_1 + x_2 + x_3 + x_4 + x_5 = 35$$

$$x_2 + x_3 + x_4 + x_5 + x_6 = 15$$

$$x_3 + x_4 + x_5 + x_6 + x_7 = 10$$

$x_1, x_7 \in \mathbb{N}$

(b): Presentation of an example
A girl is looking for the man of her dreams!



Figure 4. A ludic explanation of the relaxation concept in operations research (a) & (b)

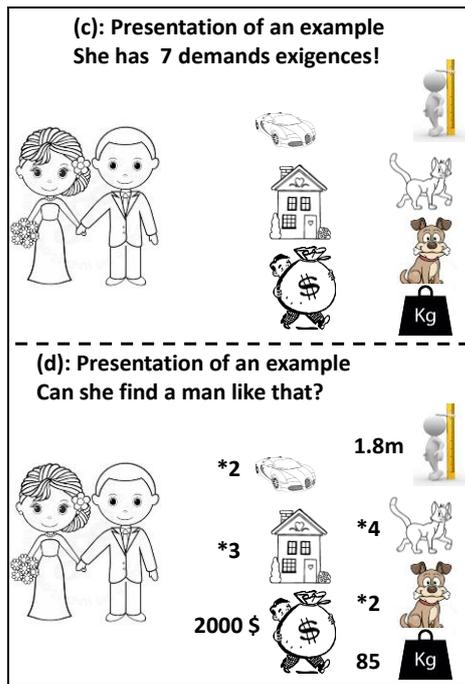


Figure 4. A ludic explanation of the relaxation concept in operations research (a) & (b)

6. Conclusions and perspectives

The aim of the paper is to present an active pedagogical approach used to explain the theoretical notions that are often complex and necessary for the understanding of Industrial Management or Management Models for instance. In this approach everyone is a winner:

- The teacher who will avoid the use of a classical and boring teaching approach.
- Students who, by participating in the acquisition of their own knowledge, become 'adept and interested' in such a module.

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Teaching Effectiveness: Strategies And Factors Affecting Attention And Securing Academic Connection

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Abstract

This paper aimed to identify strategies and practices manifested by teachers to get attention and to secure academic connection in the classroom. Results show that there are things that teachers find important to get attention and to secure academic connection with the students like employing discipline and creating motivating activities, getting respect from the students, building an environment that nurture trust, love and confidence, and setting expectations and using varied instructional strategies and materials.

The participants were teachers who were taking their graduate studies. The method of inquiry used is phenomenology. Data were gathered through questionnaires. The study will help educators and curriculum developers to consider various aspects of students' learning needs in the preparation and planning of instruction. It is a guide to know and resolve issues in the teaching-learning process as well as to consider some pedagogical practices that were not acknowledged in the classroom dynamics.

Round Table Education as an Innovative Approach for Interdisciplinary Higher Education in Engineering

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Abstract

The goal of the German federal government to establish one million electric vehicles on the German roads by 2020 is a major challenge for science and industry. Innovative development methods, components and technologies combined with low sales volumes pose a challenge for long-term employees and job-seekers alike. The daily life of an engineer in the field of electro mobility is characterized by creative thinking and flexibility. Furthermore, the work is characterized by interdisciplinary approaches. To collect and structure knowledge and solve problems targeted communication in the group is necessary. Team work in heterogeneous groups is important for success in professional life.

In order to provide students with an optimal introduction to this promising field of electro mobility a targeted degree course is offered at the University of Braunschweig. In this context, the lecture "Production Engineering for Electro mobility" and a corresponding workshop have been held since the summer semester 2016. Both courses provide the ideal conditions for the implementation of the innovative concept "Round Table Education": a heterogeneous pool of students from the fields of chemistry, electrical engineering, mechanical engineering and life sciences as well as a broad spectrum of scientific topics.

The concept Round Table Education is implemented in the practical oriented hall exercise. Based on the theoretical foundations, which are taught in the lectures, the teaching concept is carried out during the course of the practical exercise. In this context, the main objectives are to motivate the students to work in interdisciplinary teams as well as to create a project-oriented atmosphere. Goal is the cooperative solution of problems of electro mobility and associated production technology. By means of practice-oriented work, interface problems between the individual parts are to be revealed and solved. The "Round Table Education" concept divides the pool of students into smaller and heterogeneous groups. They are the developers for High Voltage batteries including the corresponding production concept. They also have a fictional project budget.

The early confrontation with challenges and demands in the working environment of electro mobility as well as the customer requirements prepare the students to the later activity in research or industry in a targeted way. The supervising scientific staff act as contractors in the project. At the beginning of the hall exercises they explain the basic principles and distribute tasks. They also serve as external service providers, which can be commissioned, if necessary. For this service the students have to pay a fee which is subtracted from the project budget. In this way, the students are able to develop an intuitive understanding for the optimal use of an existing budget. They also learn what consequences the inadequate use of the budget may have. In order to promote the willingness to cooperate and the mutual understanding between the students of different scientific areas, workshops on team development are held. The workshops on team development are given parallel to the engineering tasks.

Due to the challenging interdisciplinary practice and independent work, the students are confronted with common practical problems. In addition, the whole work will be presented at the end of the course. The groups must emphasize their solution to their peers. By independently solving tasks in group form, soft skills (e.g. problem-solving competences, presentation skills) are trained and the sustainability of the knowledge gain is ensured.

Session 25: ICT Education

Title: iPads in Education: Positive Pedagogy versus Problematic Practicalities
(Authors: Steven Furnell, Ismini Vasileiou, Nicholas Outram)

Title: Use of E-learning Resources for Science Education in Primary Schools
(Authors: Winnie Wing Mui So, Chen Yu)

Title: Effectiveness of Digitalization System in Education in Palestine
(Author: Falasteen Naser)

Title: Creating Invitational Classrooms in Online Graduate Education: The Heart and Soul of Teaching
(Authors: Sharon L. Moore, Kerry E. Black)

Title: Promoting Academic Integrity in a Virtual Learning Environment
(Authors: Imani Akin, Elizabeth Johnson)

iPads in Education: Positive Pedagogy versus Problematic Practicalities

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United Kingdom*

Abstract

iPads and other tablet solutions have been enthusiastically embraced as learning devices, thanks to their flexibility for traditional uses and the new opportunities that they offer through discipline-specific apps. However, while there is indeed value to be gained from deploying and using such technologies, there are also practical considerations that ought to be recognised. This paper presents a case example based upon the experiences of the School of Computing, Electronics and Mathematics at the University of Plymouth, in which iPad minis were issued to all students on taught programmes. The discussion reflects upon the various uses to which these were put, including those initially planned and those subsequently driven by staff engagement. It also considers the practical challenges that were faced in running and ultimately maintaining this provision. This led to the discontinuation of the original scheme and the evolution in to a new mode of provision that seeks to maintain the pedagogic benefits that had been established.

1. Introduction

Tablet devices have become a significant and accepted part of the device landscape in recent years, with the launch of the original Apple iPad in 2010 having catalysed the situation and opened a wider market that now exists across several platforms. Tablets have since found uses in a variety of personal and organisational scenarios, and the educational context is one in which the benefits were identified from an early stage. This has resulted in considerable investments in the technology, with education providers at all levels finding opportunities to integrate them into learning activities, as well as a significant market in relation to education-focused apps tailored to the needs of the learners involved.

This paper describes the experience of the School of Computing, Electronics and Mathematics in providing iPads for students, and reflects upon the benefits that resulted, alongside the challenges that

ultimately affected the sustainability of the approach. The discussion begins by looking at the pedagogic opportunity offered by tablets in general, before moving on to examine the specifics of the iPad initiative operated within the case study.

2. The pedagogical perspective to using tablets

In the recent years, students have benefited greatly from online content and online delivery. They still value and need the face-to-face interaction, but at the same time the use of technology in today's Higher Education environment is transforming how we see and develop the curriculum. As educators, we need to understand and embrace technology and be able to describe in great detail the advantages and disadvantages of mobile learning in an attempt to create a flexible and inclusive learning environment. There is a variety of research that demonstrates the pros and cons of using mobile devices in the classroom. For this particular paper, the emphasis is given to the Higher Education context, where the students typically have at least some experience of using mobile devices.

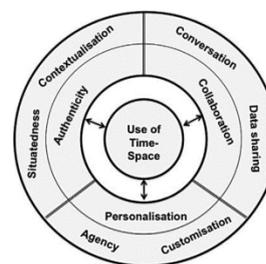


Figure 1. The MLearn Framework [9]

Previous literature has demonstrated the positive use of mobile phones [1,2,3,4] and tablets [5,6,7,8] in education. Kearney et al. [9] developed a framework for locating distinctive mobile pedagogy features. Following from Vygotsky's socio-cultural theory, mobile learning became the key feature to support collaborative learning. In such an environment,

although the curriculum is driven by the tutor, the students have the opportunity to set goals either individually or as a team. Students become flexible, autonomous and very often they can tailor activities to their individual needs. Students are given the opportunity to participate with or through their tablets, and they can generate their own space and context.

To develop rich connections within the learning environment, tablets can facilitate both communication and interactivity amongst students and tutors. Students can produce and also exchange content and artefacts, and the curriculum can be enhanced, transformed and inspire not only the students but also the tutor as well.

In the School of Computing, Electronics and Mathematics, we aim to promote a culture of Flexible Learning. Figure 2 shows how mobile learning fits within the context of collaborative learning, within a flexible learning environment.

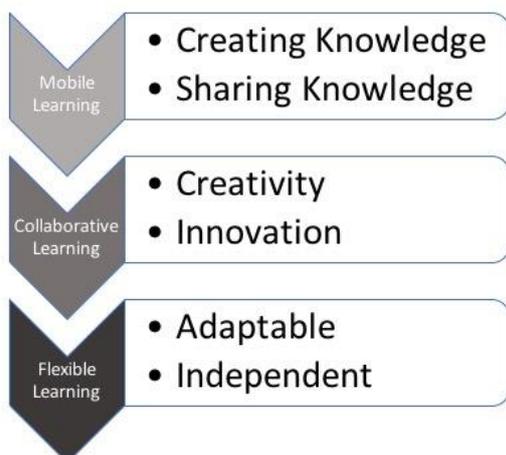


Figure 2. Mobile learning set in the wider context

We have noticed that the technological experience faced by students within the School empower their capabilities and changes the focus from a didactic approach to a more student centred one. The diverse functionalities and opportunities students are receiving help to make learning more powerful, and the experience of being in Higher Education can be contextualized. Self-directed learning offers greater flexibility to the students and the blending of formal with informal education can create a robust approach towards independent and autonomous learning.

Creativity, innovation and self-belongingness are key aspects in developing our curriculum, and we aim to champion approaches that prepare our graduates better for the digital world. Creativity is social, and it derives from collaborative learning. Innovation emerges from pursuing new ideas and self-belongingness stimulates individuals' minds, concepts and knowledge. Each student can find their own space within the above learning environment and feel free to generate ideas in their own pace. Similarly, tutors will play a key role in encouraging and

identifying those innovative and creative ideas by fostering the learning environment, and rediscovering or redesigning the curriculum. With these advantages in mind, the remainder of the paper considers the experiences of the authors' School within the University of Plymouth, where the decision was taken to provide each student with an iPad mini device to support their learning activities (itself following on from a successful initiative the prior year in which iPads had been issued to staff in order to foster and enhance their own use of such technologies).

3. A case study experience

A pilot of the 'iPads for students' initiative was conducted in the spring term of the 2012/13 academic year, with devices being purchased for all students across the first year of our programmes. This deployment occurred a few months after the release of the first-generation iPad mini device, and this device had been specifically selected on the basis of the cost and form factor (i.e. something that it would not be unreasonable to expect students to carry with them for use in sessions). In this initial instance, the students received no prior indication that they would receive the devices, but following on from the success of the pilot, the provision of iPads was announced in advance as part of the marketing of the programmes, such that students expected to receive a device upon enrolment.

The deployment of the devices was light-touch in terms of attempting to control the students' usage. Although Mobile Device Management (MDM) solutions are available, we did not attempt to preconfigure the iPads or push content to them. The only requirement that was imposed was that students had to sign up to some basic ground rules, including clauses to say they would not jailbreak the device, and would abide by the standard terms and conditions of acceptable use on the university network. Aside from this, they were encouraged to regard the iPads as personal devices, and they were free to use them for other purposes alongside their studies. Indeed, the terms of the agreement were that the devices would ultimately become the students' property once they successfully completed their programme of study (noting that students exiting before this would be required to be return or purchase their device).

Over the lifetime of the project, we purchased almost 2,500 iPad minis, and deployed one to every student (from stage one undergraduates through to taught Masters) to support their learning. The next section examines the uses to which these were then put, and the resulting benefits from the student perspective.

4. Positive aspects of the case example

An immediate and planned benefit of the initiative was that it provided a platform within which we could integrate several distinct technology-enhanced learning activities already underway within the School:

- **Lecture Podcasts:** Prior to the adoption of an institution-wide solution for lecture capture, staff within the School had been encouraged to produce podcasts of lectures and/or supplementary materials as a means of further supporting the students' learning experience and allowing flexible delivery (with students having access to a catch-up resource if they happened to miss a session, or a recap resource if they want to go over something again). The value of the iPad minis in this case was simply that they provided a convenient means from which students could download or stream the materials.

- **iTunes U:** The University of Plymouth joined iTunes U in November 2010, and since then the School has become one of the main contributors of content within the institution. Additionally, academics can encourage students to use iTunes U as a source of content from other institutions, thus giving them an alternative or complimentary perspective. The provision of iPad minis, with a dedicated iTunes U app, again ensured that students could use the resources, and academics could direct them to such content safe in the knowledge that they had the technology to support the task.

- **eBooks:** As part of another initiative being championed within the university [10], first year students across all programmes are provided with eBook versions of their key textbooks. The eBooks in this particular case are readable using the VitalSource Bookshelf app (www.vitalsource.com), which allows students to download content to the iPad for offline and ergonomic viewing.

While none of these specifically required an iPad, it served to provide easy and convenient access from a single device, and enabled the separate activities to be more clearly viewed as part of a coherent overall approach. However, all of these applications were already pre-determined from the outset of the initiative, and what was arguably more interesting was to see the way in which these were complemented by staff-driven activities, that leveraged the availability of the technology to different uses that had not been specifically suggested or mandated by the School. Examples in this context were:

- **Use of Apps:** In supporting flexible delivery, and a student-centred approach, it was noted that a more collaborative approach should be facilitated. Using various apps, such as BaiBoard and Explain Everything, students could easily collaborate with

each other and the tutor during lab sessions and/or lectures. For example, in a first-year module on Database Development, the iPads were used to produce diagrammatic representation of the systems analysis and design phase, and support interactive sessions on group work between students and tutor. Even students with various learning difficulties, or any other individual needs, could participate in activities without feeling that they were being put on the spot or that their difficulties were becoming known to the rest of the class.

- **Bespoke Apps:** The iPad and iTunes U allow the tutor to provide an easy way for learners to download curated apps from the Apple App Store. Native applications have access to the full power of the device, including high-performance graphics, physics simulation, motion sensing, touch, location sensing and more recently, augmented reality. The opportunity presented by apps is intriguing if targeted in the appropriate way. For example, building authentic simulators into an investigative task can allow students to experiment and learn intrinsically, and thus help construct a deeper understanding of a concept through a direct and active experience. One of the tutors also wrote a bespoke app to perform specialist calculations for a first-year module on digital electronics. This allowed students to check their answers to problems that are notoriously error prone, and meant they could check their own answers independently, without asking a tutor.

- **Custom iBooks:** Apple iBooks is a content authoring and publishing platform, only readable on Apple-branded devices. However, they are unique in the feature set they provide. iBooks support a superset of the ePub-3 standard, and include full colour images, embedded video, embedded lecture slides, inline scroll boxes, text pop ups (including glossary items), formative quizzes and interactive images. The provision of iPads to students created an opportunity to leverage all the interactive features of iBooks (and iTunes U) to try and reduce cognitive overload in new learners and provide clear structure to content. The freely-available authoring tool, iBooks Author, was found to be very easy to use and highly productive, and so represented a positive experience for the academics that adopted it.

- **Private iTunes U courses:** In addition to directing students towards iTunes U content that had been made publicly available, the fact that students had iPads also enabled private iTunes U courses to be used as a channel for content delivery (i.e. making materials available to a closed group of defined users). While such content could already be shared via the university's standard (Moodle-based) Digital Learning Environment (DLE), placing the content on iTunes U had the advantage of being a download service – so all resources become available off-line – furthermore, it enables the tutor to 'push' content to students as opposed to asking them to 'pull' the

content from the DLE (which invariably gets forgotten). In summary, this made it easier to curate the overall module learning experience.

The student response to the provision of the iPads was largely very positive, and the following set of quotes are representative of some of the related open comments received within the (external) National Student Survey and (internal) Student Perception Questionnaire in the year of the initial deployment:

- “The use of my iPad has really reinforced my learning. Makes it much easier to keep a track of my studies and course notes.”
- “iPad Mini provided which was very helpful for when computer rooms were full.”
- “Many resources, for example, giving students free iPad Mini as tools.”
- “Ebook and iPad initiative has been valuable.”
- “We were given free iPads which have been very useful in our studies.”

However, it is fair to observe that not all of the feedback was positive, and the following negative quote is also representative of a small number of others received:

- “the Ipads aren't that useful, mostly they are used for playing games or checking emails.”

Having said this, it can still be observed that the students were still benefitting from the device (and indeed getting them to check their emails more regularly was not necessarily a bad thing from the staff perspective either!). In addition, another minority theme emerging in the negative feedback was that some students would have preferred to have been provided with alternative devices (some citing laptops or alternative tablets, whereas a few suggested equipment specific to their programme of study). In response to this, it can be noted that the iPad mini was selected a conscious choice, on the basis that it not only provided a capable means of integrating the aspects previously identified, but it also provided a platform that was (and continues to be) largely free of malware threats (thus avoiding the potential to expose the students, and the university’s technical support service, to a range of new problems that could otherwise arise from infected tablet devices).

Overall, we have found that the use of mobile devices enhanced and fostered a flexible and collaborative environment. Students had access and availability of information at any point within and outside the classroom, all in one place. They were able to expand their reading, understanding and practice beyond the walls of classroom, and did not have to change or alter their learning style. They felt they

were given equal opportunities no matter what their background and/or difficulties were.

Sharing and collaboration was one of the biggest advantages of this approach, and students very enthusiastically engaged with all activities. Discursive sessions were very powerful since the inclusive environment developed supported students (even on the autistic spectrum) to participate during the lab sessions. The iPads were a means to offer an alternative method for learning, sharing and collaborating with peers and tutors. They also proved very valuable for students working at different paces (as was the case, for example, with the iBooks).

In the areas that they were most enthusiastically adopted, then iPads promoted a collaborative learning environment via the use of apps and the willingness of tutors to embrace this technology. Although we promoted collaborative learning, at the same time the use of tablets empowered students who preferred to have more ownership of their own learning experience. Whether they were attending a lecture, a practical or a workshop, we found the iPads versatile and adaptable to any learning environment.

5. Practical challenges of device provision

Unfortunately, the many benefits that were seen from the initiative had to be offset against a number of less positive factors. One of these in particular proved to be such a practical obstacle that it forced the scheme to be reconsidered in spite of the many good points.

Two negatives that became apparent even at the early stages of the initiative were essentially related to student perceptions. The first, as we had predicted from the outset, was that the perceived value of providing the device would be linked to the degree to which academics were then seen to be making use of them. Even though the School had promoted the initiative to staff and emphasized the advantages to be gained from integrating the use of iPads within and beyond the classroom, no-one was obliged to do it and it is fair to say the adoption and buy-in was ultimately mixed. As a result, students would find some staff making regular and enthusiastic use, whereas others would make no specific use or reference to the devices at all. Even then, the devices still offered a flexible and portable means of performing tasks such as accessing standard module material, but this would have been perceived as an incidental benefit when compared to staff explicitly integrating iPad-related activities or content into their delivery.

The second perceptual aspect, which became more apparent over time, was that while the provision of the original iPad mini had been extremely well-received (as students were receiving the very latest technology), as time went on and other devices joined the market, the iPad mini was no longer seen as such a novel or aspirational device. Indeed, whereas

virtually no-one amongst our initial generation of recipients had a tablet device of any sort, it was not long before students joining the university would have a tablet (or phablet) already, and so the iPad was viewed as another (sometimes unwanted) device.

To this point, the negative issues did not specifically jeopardize the ongoing value or viability of the initiative. However, as further time passed, a couple of more fundamental issues emerged. The first of these was that as successive new versions of the iPad's operating system, iOS, were released, it ultimately became apparent that the devices we had originally deployed to students were no longer going to be capable of being updated to run the latest version.

While this did not really affect the suitability of the devices for the key apps that students were required to use to support their learning, it did impact their personal usage once newer apps and features started to appear that would only run on the later versions of the OS. Perhaps unsurprisingly, this caused disgruntlement and dissatisfaction amongst some of the students, and as the provider of the devices, the School became the focal point for their concerns. In some cases, the students even attempted to suggest that it was the School's duty to provide them with a device that could run the latest version of the OS. While this clearly was not a fair argument, it nonetheless presented a further challenge in terms of expectation management for an initiative that was solely intended to be for the students' benefit rather than something for them to complain about.

A more common complaint was that installing iOS upgrades had caused their devices to become slow over time.

The most significant issue, however, and one that ultimately caused a fundamental re-evaluation of the provision, was that the evolution and revised pricing of the iPad range, which ultimately rendered the current approach unsustainable. Specifically, the refresh that occurred in spring 2017 saw the removal of the entry-level iPad mini option from the range. Up until then, there had always been a 16GB wi-fi only model that we could source at a price-point of around £240 per unit (this was initially the original iPad mini, and then latterly the iPad mini 2). However, the refresh left the iPad mini 4 as the only remaining option in the mini size/form-factor, and the price was now £419. By comparison, the entry-level price of the full-size iPad model was £339, but even opting for this would have increased the cost to our school by approximately £50K per year.

The combination of these factors (most particularly the pricing) have meant that approach will now be reconsidered and the School will no longer provide iPads to all students by default. This does not mean abandoning the provision entirely, and we will retain and maintain a small fleet of devices that can be

deployed to students on the particular modules where staff have actively adopted and embedded iPad usage.

6. Conclusion

The deployment of the iPads clearly demonstrated many of the benefits of tablet (and more general mobile device) usage that were previously highlighted in the literature. Indeed, the generally positive response from students, and the enthusiasm of those staff that most fully engaged with the initiative, provided clear evidence that the activity had been worthwhile. At the same time, it became difficult to avoid the practical challenges, and the device pricing was ultimately one that resulted in the initiative being unsustainable in the longer term. One point that can be noted here is that buy-back schemes may enable institutions to keep their fleet updated and reduce the ongoing hardware costs in real terms. However, this is only relevant if students are expected to return their devices, whereas part of our plan throughout the initiative was that they should be able to regard the devices as theirs and retain them at the end of their studies. In reality of course, this proved problematic in terms of both ongoing costs and ageing devices.

The updates to the both the operating system and the underlying technology has highlighted a rapid refresh cycle that higher education is ill-prepared to support. With the benefit of hindsight, to some extent we were caught out by the update cycle and this could be put down to lack of foresight (given the pace of the technology sector). Equally the initiative began at a time when such devices were new and it was not clear what the refresh cycle or support window for older devices would actually be. Moreover, even allowing for technology being a fast-moving domain, it is notable that this article is being written only four years on from the initial deployment to students, and the devices from that era are effectively outdated. This is clearly in stark contrast to what one might expect from desktop and laptop devices, where a five to six-year refresh cycle is now considered the norm [11], and where the related OS – be they Windows or macOS – would be expected to extend back to a much earlier generation of hardware (e.g. the 2017 release of macOS, High Sierra, will still run on Mac models from late 2009 to late-2010, and the system requirements for Windows 10 easily encompass many PCs of the same era).

On the positive side, the termination of the specific scheme to provide iPads to all students does not mean that all the prior gains are lost. Many of the benefits we experienced were not iPad-specific, and so can still be achieved via other platforms. This, added to the fact that students are increasingly in possession of their own devices (and we can still provide them for those that do not have them), means that the learning gains that were developed through the initiative will not be lost, even though the School ceases to be the

default provider of the technologies. What is lost is the advantage of a having completely level playing field, in which all students can be relied upon to have the same device, as well as the ability to rely upon platform-specific apps or technologies such as iBooks.

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Use of E-learning Resources for Science Education in Primary Schools

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Abstract

To pioneer the deployment of e-learning at classroom level through the use of WiFi, e-textbooks and e-learning resources, the Support Scheme For E-learning in Schools was launched in 2014 which signifies the Hong Kong Government's commitment on the promotion of e-learning in schools. However, teachers' current use of on-line resource in their teaching is still teacher-centred and IT is commonly used to enhance traditional practices. In response to this, this study explored science teachers' use of e-learning resources for science learning in primary schools. 6 participating teachers from 3 Hong Kong primary schools were involved in teaching science with an e-learning platform named "Interactive General Studies". This platform offers a diversity of e-learning resources including cartoons, videos, games, simulation experiments, attempting to establish multimedia science learning environments. Data were collected through lesson observations, reflection journals, and pre- and post-interviews. Results indicated that these teachers used the e-textbooks in different ways. In particular, their functional use, classroom rules setting, the time allotted and the organization of inquiry with the e-textbook varied to a large extent. Factors including teachers' existing practical theories, students' familiarity with e-learning interface, the complexity degree of e-learning tasks, as well as technical limitations seemed to contribute to those differences. The implications of this study are that (1) sustained efforts to shift teachers' teaching style to more student-centered; (2) explicit instruction for students to be familiar with using interface and functional tools and (3) provision of wider digital resources to need the meets of students with different learning abilities, are critical for more effective e-learning in primary schools.

Effectiveness of Digitalization System in Education in Palestine

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Abstract

This paper summarizes the experiment of digitalization of education in some schools in various governorates in Palestine, it explains the concept, provides an overview of the implementation of the system and it examines the effects of the digitalization system on education in the second semester of 2016/2017. In addition, it shows the suggestions, the recommendations and the challenges for the development of the digitization system to improve its performance in the future. Moreover, this research removes the gap of lacking in local researches in Palestine.

It is an experimental design approach. Several tools were used in data collection; such as focus groups, interviews, class room observations and experimental design groups. The groups in this research were selected randomly from the fifth grade and sixth grade. The effectiveness of using the digitalization system was tested by t test.

The effectiveness of the digitalization system was divided in two sections. First, the educational achievement of students in Arabic and geography subjects was significant during semester. Second, the behavioral achievement was effective during the classroom such as low levels of boredom, fear, anxiety and tension were noticed.

1. Introduction

Nowadays, technology using is preferred by all of us, since you can get what you want in less time and effort also nobody ever expect our world without technology especially children who are in their first years of life, since they daily use technology in playing phones, tablets and computers. Despite the side effects of using technology, it can be used effectively to create educated generations by using the available tools in an appropriate way to get all helpful information. It was hugely noticed that the interest of student moves far away from the educational aspects and the boredom of the educational process that completely depends on the teacher is more noticed. Moreover, the student's achievement level was decreased. Here, the role of the educational system is

to use these tools which are preferred by students since this system is the basic field that build society.

2. Literature review

In the developed countries, such as Tehran. The use of ICT (Information and Communication Technology) system in the schools of the developing countries among students who haven't the accessibility to use technology in their homes is considered as a chance for learning new skills [1].

Digital education in India is interesting among the stuff who implements the system and it is effective for the students. The challenge in this system is that the Indian people do not have the required internet band width especially in the rural areas [2]

In Palestine, there are many technological tools in schools such as (computers, interactive boards, LCD projectors, etc.) which are used as explanation tools to improve students' comprehension and understanding. After viewing the Japanese experiment [3] and other countries experiments regarding digitalization of education, in September 2015, a formal decision was made by the Palestinian Council of Ministers concerning the digitalization of the educational system as a national project led by the Ministry of Education with cooperation of the public and private Palestinian sectors.

In July of 2016, a Palestinian staff consisting of employees and engineers from the Ministry of Education, attended a workshop in Jordan which was under the assistance of directors and supervisors from Intel Semiconductor Manufacturing Company, Microsoft Corporation Technology Company, to view and to benefit from the digitalization of educational experiments in other countries also to suggest a digitalization educational system to be implemented in Palestinian schools. In September 2016, the municipalities with the Ministry of Local Government, Paltel Company, AMIDEAST

Organization, Coca-Cola Company, and other donors started to present financial tender to prepare the pilot schools for the new system. The system started to be implemented on these schools, the fifth and sixth grades in thirty-seven schools after the teachers had been trained.

A national team for digitalization of education in Palestine consisting of specialized engineers and supervisors from the Ministry of education was created for this mission. The team was responsible for teachers' training to improve the technological capabilities. The training is divided to technical training, educational training, and classroom management training. In addition, the team was responsible for following up the infrastructure and internet network of the system, providing digital content of the Palestinian curriculum and the benefits that could be earned from the Palestinian education portal, which contains thousands of learning blocks, videos and educational materials which are accessible to teachers easily. The Palestinian digitalization system consists of the following devices, the charging and storage unit, the educational 2-in-1 Detachable Tablets, PC Interactive Projectors, 2-in-1 Detachable Teacher Notebook, Mobile Server Access point (the needed access point was content access point which Israeli authority refused to pass it from the borders).

Although there were many challenges in implementing the system, there were initial positive effects that were obvious in the digitalized schools, some schools out of the pilot were joined to the digitalization system family so the number of digitalized schools increased to seventy-five schools in different Palestinian directorates at the end of the second semester of 2016/2017.

3. Methods and Methodologies

The experimental design approach consists of two groups, the experimental group and control group were selected randomly from the fifth grade and were consisted (21 students, 23 students) respectively. The experiment group and control group were selected randomly from the fifth grade and were consisted (23 students, 21 students) respectively.

The focus groups were conducted in two groups, the first focus group was consisted from seven teachers for one and half hour. The second focus group was consisted of the headmaster and six teachers for two hours.

The interviews were conducted in the Ministry of Education with the supervisors, engineers and trainers to provide needed feedback information and necessary documents during the implementation of the system.

Classroom observation noticed the behavior, interaction of students and difficulties in using the system in different schools.

4. Analysis of Findings

The effectiveness of the application of the system was divided in two sections, the behavioral and the educational achievement of students.

The behavioral section is effective for several causes. First, boredom decreased in the class room. Second, excitement increased due to using of tablets. Third, fear, anxiety and tension decreased. Also, the quite medium and high level of concentration appeared since the teacher can look at the students screen on the interactive board at any time. In addition, the interaction increased in the classroom especially within students who were inactive and had weak personalities. Moreover, the frequency of absence during the semester and the number of times students leave the classroom during the class period decreased during the implementation of the system.

The second section was the educational achievement of students which increased during the implementation of the digitalization system especially among students who had low level of achievement. Also, the confidence of the students' themselves was higher when using the tablets and the understanding in the class improved by using different types of digital methods (pictures, videos, interactive work sheets, etc.). In addition, the investment of class period was evident as resulted from the high understanding and concentration levels of students.

5. Discussion

There were some challenges during the interviews and focus groups. Firstly, a big budget will be needed by the State and the donors in the future to cover all the schools which must be taken in consideration.

Secondly, teachers' training faced difficulties especially among aged teachers who didn't use technology techniques which require more training for them. In addition, students couldn't take their tablets to their home to do the homework; also, the curriculum was not web based.

Moreover, there was a lack in the interactive materials that are needed to apply the digitalization system. Also, there were problems in the network and sometimes the Wi-Fi was going to fall over. Finally, the needed access point was refused to be passed from the borders (i.e.: Education Content Access Point, which is an easy-to-use device specifically designed to store, manage, and distribute digital content where connectivity is low, doesn't exist, or there are some problems in internet connection).

The SPSS analysis of the students' marks showed that the digitalization system was effective to improve the educational achievement; there were no low scores after implementing the digitalization system in both subjects (Arabic, Geography) as shown in Figure 1 and Figure 2.

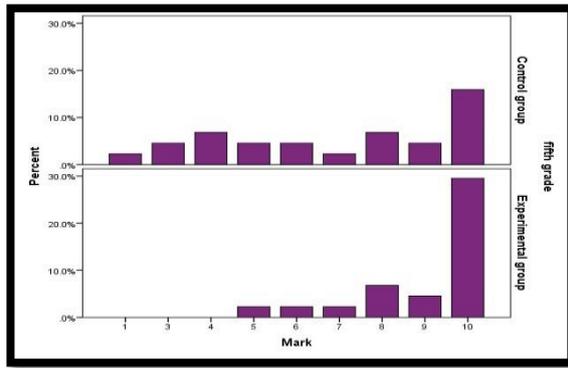


Figure 1. This figure represents that there are no low marks in the experimental group compared with the control group in Arabic subject of the fifth class

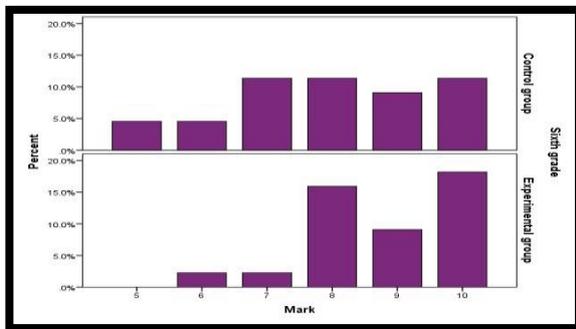


Figure 2. This figure represents that there are no low marks in the experimental group compared with the control group in Geography subject of sixth class

Also, the educational achievement in both subjects is higher in the second semester where the digitalization system was implemented in comparison with the first semester by using paired sample *t-test*, there was strong evidence of significant difference between the first semester and the second semester for Arabic and Geography (*P-values* = 0.002, 0.000), respectively. There was a significant difference in students' marks in the Arabic subject during the class period where the digitalization system was implemented in comparison with the traditional class by using ANOVA test (*P-value* = 0.005) as shown in Table 1. On the other hand, there was no significant difference in Geography subject in the class period which implemented the digitalization system in comparison with traditional one by using ANOVA test (*P-value* = 0.05) as shown in Table 2. The explanation of the non-significance difference in Geography class may be the age of the teacher and being non-familiar with the digitalization system.

Table 1. ANOVA Test

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	48.000	1	48.000	9.004	.005
Within Groups	223.909	42	5.331		
Total	271.909	43			

Table (1) shows the strong evidence of significant difference in fifth-grade in Arabic subject between the control group and the experimental group, so the null hypothesis was rejected ($H_0: \mu_{\text{control}} = \mu_{\text{experimental}}$)

Table 2. ANOVA Test

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	7.987	1	7.987	4.081	.050
Within Groups	82.195	42	1.957		
Total	90.182	43			

Table 2. shows that there is no significant difference between the control group and the experimental group in sixth-grade in Geography subject, so the null hypothesis could not be rejected ($H_0: \mu_{\text{control}} = \mu_{\text{experimental}}$)

6. Recommendations

The recommendations based on the present study that supports the evidence that digitalization system could be an effective education and attractive system at the same time. Generally, the implementation of this system in all schools in Palestine need a huge funding to cover the cost and the expenses for providing system tools and teacher trainings. Also, this research suggests making interactive platform to make it easier for teachers for more benefits from the videos and interactive exercise. Finally, since digitalization system in Palestine is in the initial steps, the implementation of this system on other stages of education in schools is recommended to increase school achievements and improve students' behavior.

7. Conclusion

To conclude, the digitalization system with its special characteristics, which make it is more effective, attractive, usable and understandable being

compared to the traditional education system. Moreover, the digitalization system is considered an effective way to ease learning process and encourage students to improve their achievements. In addition, it is beneficial to focus on the interactive medium of education. It has also changed the learning process to concentrate on students instead of teachers. The added value by this research removes the gap of lacking in local researches. Also, this research explains the suitable infrastructure of implementing the digitalization system in Palestinian schools.

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Creating Invitational Classrooms in Online Graduate Education: The Heart and Soul of Teaching

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Abstract

Until fairly recently, online education was primarily located within the purview of individualized programs or distance universities. In the past decade, “online” has become common across post-secondary institutions as technology has created opportunities for connecting globally. While these opportunities can be exciting, they also pose challenges for engaging learners in meaningful ways. How can we as teachers inspire our students and be real and present in the online classroom? Based on three decades of distance and online teaching experience, my colleagues and I have learned that while online programs have proliferated and technology has moved at lightening-speed, creating invitational, collaborative online classrooms requires creative and intentional instructional strategies that differ from face-to-face education. We have learned that the teacher still matters and must use deliberate actions and strategies to help students feel part of the learning community. Teacher presence in the online classroom is a crucial aspect of dynamic learning environments. In this paper, innovative strategies (Artistic Pedagogical Technologies) for engaging students and creating invitational online classrooms will be presented.

1. Introduction

Parker Palmer in his seminal work on the *Courage to Teach* said “we teach who we are”. “I am a teacher at heart, and there are moments in the classroom when I can hardly hold the joy. When my students and I discover uncharted territory to explore, when the pathway out of a thicket opens up before us, when our experience is illumined by the lightening-life of the mind—then teaching is the finest work I know” [1]. What an inspiration! For teachers who work in online educational environments, this idea holds the promise of something that encompasses what we believe to be the heart and soul of teaching and learning. It suggests that teacher presence is important and necessary. It is our belief that it is possible for this to occur through invitational educational learning environments. Invitational Education as a concept originated with William Watson Purkey in the late 70’s and focused on an approach to teaching and learning that focused on enhancing the self-concept of learners.

Creating invitational classrooms is based on his conception of invitational theory developed as a model of professional practice [2]. “Purkey used the word invitational to mean offering something valuable and summoning cordially. An invitation is an intentional and caring act of communication designed to offer something beneficial for consideration” [3]. A basic premise of invitational theory is that “everyone and everything adds to, or subtracts from, human existence” [4]. In the educational context, this suggests that students can benefit each other through an invitation to participate in the learning environment [5]. Palmer postulated that it is an “air of hospitality” that contributes to invitational classrooms where hospitality encompasses “receiving each other, our struggles, our newborn ideas with openness and care [6]”.

A core assumption of invitational theory is that learning environment affects students’ learning [7] and that this holds true whether the learning environment is a face to face setting or an online classroom. Moore and Janzen [8] in an article which portrays an invitational online classroom in a qualitative research course from the perspective of student and teacher, share examples of this. “By providing continual invitations to “walk with me” students that may otherwise experience feelings of being ‘lost’ within the tenets and procedures of qualitative research, have continual opportunities to ‘walk’ the qualitative landscapes and mountains together with an experienced educator-guide”.

In online education, this may prove a little more challenging, yet wonderful opportunities exist to be creative in constructing environments that foster student success and engagement in the learning process as a means of bridging the virtual and the real [9]. The Faculty of Health Disciplines at Athabasca University in Alberta Canada has developed their graduate programs in nursing and health studies using an underlying foundation of invitational theory. Faculty here have developed and pioneered the use of artistic pedagogical technologies (APTs) as a strategy for creating invitational online classrooms [10], [11]. Research conducted by Perry and Edwards [12] found that the use of APTs in online learning facilitated interactions among teachers and learners and helped to create “an air of hospitality”. In this paper, we

present strategies that can be used to facilitate creating invitational and engaging classrooms in online learning environments.

2. Assumptions of Invitational Theory

Three basic assumptions underlie invitational theory:

1. Students have the capacity for self-direction and should be treated accordingly
2. Process is as important as outcome.
3. Human beings possess untapped potential and the design of educational programs should intentionally strive to tap this potential [13].

This is achieved through strategies that the teacher uses to interact and engage the learners in the online classroom. Invitational education provides a way of creating welcoming learning environments based on trust, respect, optimism, care and intentionality [14]. The professor intentionally selects strategies in the online classroom that are designed to provide a welcoming environment, one that encourages participation and engagement and connection with fellow learners and the course professor.

3. Teaching Activities and Strategies

In an excellent book *Teaching Health Professionals Online*, the authors describe several artistic pedagogical strategies [15]. We will draw on four of these to give examples of how they might be used.

3.1. “Me to You” Videos

With the evolution of computer technology, it is possible to create a simple video and within minutes post it online. “Me to You” are generally short videos (2 minute) prepared by the course professor as a means of personalizing him/herself and the course material. In a face to face class, the professor can walk in, introduce herself, review what was covered the week before, provide new insights, summaries, offer encouragement and be present with the class. In an online learning environment, “Me to You” videos offer the same opportunity. The professor can begin each new unit in the course with one of these videos and upload them to a YouTube channel that can be set up specifically for that course. Generally, the video is an unscripted, informal and inviting “chat” made in the professor’s home office, so students see the wall hanging, paintings books, whatever it is that makes their office their own. In this way, the professor becomes real to and present with the students. When done on an ongoing basis throughout the course, they become a means of engaging with the students and help to mitigate feelings of isolation that sometimes are present in online learning.

4. Photovoice

Several years ago, Wang and Burris [16] developed a participatory action research methodology called photovoice in which they used photographs to elicit participants experiences about health and community needs. In 2006, Dr. Beth Perry transformed this idea into an online artistic pedagogical teaching technique [17].

This is a strategy I have used for quite some time in my teaching where I use a photograph, a quotation and a reflective question to introduce each unit in the graduate course in Advanced Qualitative Methods for Health Research [18]. For example, in the unit called “The Process of Data Collection”, the following image is presented with instructions for reflection:



Figure 1. Grand Canyon, photo by Sharon Moore

“We shall not cease from exploration and the end of all our exploring will be to arrive where we started and know the place for the first time” [19]. (T.S. Eliot, cited in Patton, 2002, p. 265)

4.1. My instructions to the students

“I chose the photo and the quote for this unit as a way to get you to think about the meaning of data collection. I invite you to talk about this in the unit discussion forum and your understanding of what it might mean from the perspective of data”. The students’ online discussions reflect considered thought and dialogue in a deep and meaningful way as seen in just one student’s comments.

“Data collection and analysis both include cycling between the whole and the part, analyzing one and then stepping to the other to view the subject from a different perspective again. One of our readings compares this to moving from interviews to analysis and back for further interviews. I repeat that description here because I think it such as perfect fit for Eliot’s statement. We not only return to places and know them for the first time, but we will depart and return yet again, and find that our understanding has grown further still. The cycle is potentially all but infinite. The image of the Grand Canyon, for me, evokes a sense of the grandeur of that cyclical journal to understanding. In some ways, I feel quite small to be participating in such an overwhelming process.

More importantly, I feel inspiration at the magnificent view and opportunity”.

This example is but one of the level of dialogue that students engage in around some of the course content. The invitation to reflect on the photograph and how it relates to the topic encourages a depth of discussion that words alone do not.

5. Coffee Forum

A coffee forum is simply an online forum within the course that provides a place for informal discussions and sharing not usually related to the course. Students interests are often discovered and shared through what they discover about each other in their discussions of photovoice activities and sometimes groups are formed either as a result of these shared interests (e.g. a subgroup of the class who got together online because of their interest in hiking and climbing - which arose from an image of a hiker standing above the clouds). This group went on to complete their group project together because they shared a common interest.

In a recent course, one of the students shared in her introduction that she was going to have a baby during the course. When the baby was born, she posted a photo of her newborn in the coffee room. It was so much fun for all of us and offered a way to congratulate and encourage her.

The Coffee Forum is also a place where I as teacher go to post encouraging or inspirational thoughts. In some courses, I find there may be a particularly stressful week for the students and I post a week of Hope Thoughts (one each day) for 7 days.

6. Parallel Poetry

“Emotion is difficult to express or convey online, but poetry provides a vehicle for sharing feelings within the limitation of words. Reflective or parallel poetry is a useful teaching tool in helping students achieve outcomes in the affective domain that may involve a change in attitudes or beliefs and in helping learners and instructors to express feelings and emotional experiences.

In parallel poetry as seen in the example below, the instructor provides an example poem on a topic related to the course content (Haikus, odes, limericks, narratives etc. have been useful for this APT). Students are invited to create their own poem (a parallel poem) after reading the example poem” [20].

6.1. Teacher Poem

On Caring...

It is difficult to put into precise words,
What it means to care.
Is it giving, not taking?

Is it listening, not talking?

Is it bending, not standing strong?

6.2. Student Poem

On Caring....

What does it mean to care?

It is giving and taking, at just the right moments.

It is listening and talking, in perfect balance. It is bending and standing strong, strong enough for two. (used with permission from Melrose et al. [20]).

7. Invitation to Reflection through Multimedia

Employed as a strategy to facilitate students understanding of the dimensions of qualitative research, a short video The Paths I’ve Walked with images taken from around the world is set to a piece of music and linked in the students online course pack. The students are asked to view the video and respond to questions in two stages. The first set of questions asks the students to reflect on what they experienced in watching the video and to post their reflections in the discussion forum:

What is being conveyed in the images?

What did you see?

What did you hear?

What meaning do you take from this video?

How did it impact you?

How do you think your own values and beliefs influenced your understanding?

After the students have had some time to read and reflect on their classmate’s responses, they are asked to consider some further questions: As you think about and read other responses, what are you noticing?

What insights might this offer about qualitative research?

What are some of the dimensions of qualitative research that might become visible through this activity?

The students’ responses and dialogue around these questions provide wonderful opportunities for the professor to engage the class in rich dialogues about many important aspects of the nature and dimensions of qualitative research. They begin to see and experience concepts such as the multidimensionality, contextuality and subjectivity of qualitative research. Their conversations take on life in a way that just reading about the topic does not generate and they offer a variety of paths for the professor to be present with and to engage with the students in meaningful ways.

8. Weaving Connections: The Heart of Teaching

Regardless of where you teach or in what kind of environment, be it face to face, blended or online “TEACHING MATTERS”. We believe as Parker Palmer notes that “good teaching cannot be reduced to technique. It comes from the identify and integrity of the teacher” [21]. As faculty who teach in online environments, we have seen and experienced the joy that comes from teaching and from engaging with students in meaningful learning experiences. We have tried many learning activities and experimented with artistic pedagogical technologies. Some have worked better than others but there are great personal rewards as teachers in the quest for strategies that facilitate our teaching and learning with students. In online teaching environments, despite the fact that we are not face to face with the students, we have found that it is still possible, in fact it is crucial to be present and to be engaged in the classroom. Our work is challenging, exciting and meaningful as we see the intersection of what we teach, how we teach, and how students are engaged in their learning. It is at this intersectionality that the learning experience deepens according to Brown [22]. Parker Palmer continues to inspire us to continually try to be better teachers. He says that “Good teachers possess a capacity for connectedness. They are able to weave a complex web of connections among themselves, their subjects and their students so that students can learn to weave a world for themselves. The methods used vary widely ... The connections are made by the teachers are not held in their method, but in their hearts - meaning heart in the strictest sense, as the place where intellect and emotion and spirit will converge in the human self” [23].

By deliberately creating invitational classrooms through intentionally choosing activities and strategies that help us connect and engage with students, we can establish alive and vibrant online classrooms built on trust and respect where students are excited about and engaged in their learning journeys. A good teacher makes a difference to learners and to the learning process itself. In the words of our colleagues Melrose, Perry and Park we challenge you (as we continue to challenge ourselves) to “take deliberate steps enhance the effectiveness of your online courses. Examine how your own intellect, emotion and spirit come together to make you the teacher you are and the teacher you will become” [24].

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Promoting Academic Integrity in a Virtual Learning Environment

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Abstract

Concerns regarding academic integrity within online or virtual learning environments is prominent. A proactive approach and reminders of the fundamentals of academic integrity allows for intervals of instruction and reflection for scholars. Fostering a culture of academic integrity through an academic community beyond the course and within the institution can support ethical responsibility. This phenomenological research examines institutional processes to promote academic integrity within online or virtual programs in higher education with data collected from online instructors, staff and administrators. The review of the literature includes an examination of the planned behavior theory to support student and institutional success in promoting academic integrity.

1. Introduction

Academic integrity is a long-standing topic in education with an increasing issue in institutional supervision [3]. Technology has changed teaching and learning and created new pathways for learning. Teaching and maintaining academic integrity are critical for all learning environments, including, but not inclusive to face-to face-and virtual learning environments. In the fall of 2014, the United States reported 5.8 million students enrolled in online courses [10]. A review of policy, processes, and procedures for promoting academic integrity can address newer learning environments.

2. Academic Integrity in Online Environments

There is concern of incidents regarding academic dishonesty within online or virtual learning environments. Opportunities for violation of academic integrity in online learning environments is increasing. While there is a concern of incidents regarding academic integrity within online or virtual learning environments there is no deficiency on research on the concept of academic ethics, honor, and plagiarism both online, and face to face learning environment [7].

3. Purpose of the Study

Identifying proactive processes to promote academic integrity online will support the development of processes and procedures to actively plan and foster a culture of academic responsibility. Phenomenologically surveying online faculty and staff with open ended questions regarding lived experiences regarding academic integrity issues will support this pilot study. A random selection process using an online survey will provide initial insight into the activities surrounding academic integrity. The research question guiding this study is: What evidence-based procedures and processes dissuade ethical violations?

4. Literature Review

Promoting academic integrity in a virtual learning environment has similarities to promoting academic integrity to an in-seat setting [8]. There are a few issues which are not present at in-seat institutions. The review of literature includes information on planned behavior theory to form a theoretical frame work aligns with the purpose of promoting positive integrity in academic settings. The research includes studies of academic misconduct and behaviors promoting and preventing academic integrity. Motivation for practicing academic integrity are explored. Ethical issues, effects, and deterrence will be addressed along with methods to encourage academic integrity.

4.1 Defining Academic Integrity

Developing a global definition for academic integrity may not be possible. Defining academic integrity is challenging due to the absence of a generally accepted definition but can be classified as honest, responsible scholarship [11]. Defining academic dishonesty is easier. A consensus among some higher education faculty and staff is plagiarism or fabrication is a violation of academic integrity. Plagiarism is the utilization of another's intellectual property as new work [1,8]. Self-plagiarism is noted as resubmitting previously submitted work as new and

original information [1]. Ghost writing is another form of plagiarism in which students pay another to write portions or entire works with the student noted as the author [2]. Fabrication can either be citing work as an author's which is untrue, or, it can be presenting false information with acknowledgement either given or not given to an author [1], [8]. Academic misbehavior is noted as a scam, or con, when the misconduct is not overt, but counteractive to expectations, such as falsely stating technical issues, or software problems as reasons for lateness, or willful inaccuracies [8]. Academic fraud extends to impersonation of another person in lieu of a degree, being deceitful with identity or circumstances, or hindering the educational or institutional process through interference of a student or faculty member [3]. Providing examples of academic behaviors leading to academic dishonesty aids in a universal perception of defining academic integrity [4].

4.2. Theoretical Framework for Promoting Academic Integrity

A theoretical framework appropriate for managing the issue and the behavior included the theory of planned behavior. Incorporation of the dimension of perceived control with the theory of reasoned action led Icek Aizen to development of the theory of planned behavior. The premise of theory of planned behavior is intention drives behavior. The three dimensions of affecting intention includes attitude, subjective norms and perceived behavior control. The theory of planned behavior can be a personal model used to predict academic misconduct [12]. Integration of components and or concepts of planned behavior theory into the curriculum can aid in promoting academic integrity.

4.3. Integrating Integrity into the Curriculum

Student embracing the intrinsic value of doing the right thing is a factor to address. Faculty and staff can affect the subjective norm by incorporating the value of integrity within academics [12]. A positive or negative mood can be redirected by fostering a sense of safety. Faculty and staff can impact perceived behavior control by encouraging positive behavior and a sense of efficacy when integrating multiple successes within the course curriculum planning. The students' perception of the ability to manage the behavior is the goal. Assessing the attitude of students can be addressed through planning for student preparedness and readiness for choosing the positive behavior.

4.4. Consequences for Academic Dishonesty

Researchers recommend consideration of the motivation for academic dishonesty prior to

determining consequences [6]. A degree awarded by an academic institution serves as evidence an individual has demonstrated satisfactory mastery of the required knowledge and skills, while society receives this testament in good faith [3]. Additional research on proactive processes to dissuade ethical violations and promote academic integrity in academia can contribute to the literature on this issue. Stricter policies and punishments have served as processes and procedures to deter unethical behaviors. Promoting a community or culture, which values the fundamental of academic integrity, will provide students and faculty with a clearer understanding of the "gray areas" which are beyond cheating, and plagiarism [9]. Reminders to deter students from forgetting policies, as well as encouraging professors to uphold set policies by reporting incidents is recommended from previous studies [9].

5. Method

The cases of unethical behavior within doctoral programs are of interest as the terminal degree is considered a higher level of academic honor and prestige [7]. The phenomenological pilot study to identify proactive methods for promoting academic integrity included interviewing 10 online instructor and administrators. The research questions were designed to gauge the who, what, where and how of the levels of the responsibility for academic was managed. The seven-question survey was developed in Survey Monkey and disseminated through LinkedIn. The data was retrieved and analyzed.

6. Findings

Research questions 1 and 2 allowed for collection of demographic data. The questions included asking respondents about the position or role in higher education and how many years the respondents worked in higher education. 10% of the respondents were in administrative positions, 30% were faculty, and 60% of the survey was completed by adjunct faculty.

6.1. Communication of Academic Integrity

Respondents reported the communication channels and methods used to promote academic integrity. Out of the responses, 40% indicated email was used to promote academic integrity, 30% shared the syllabi contained information on academic integrity, the course, and course policies. 20% of the respondents indicated assessment feedback was used to promote academic integrity, academic integrity was addressed in the handbook, in orientation, and covered in student commons. 10% of the responses included that information was posted in the library,

announcements, and everywhere was included in the response.

6.2. Enforcing Academic Integrity

In response to who enforces the academic integrity policy the participants provided multiple responses. The academic dean was named in 100% of the responses. Department and program chairs were identified as enforcers of academic integrity in 70 % of the responses as were faculty. One respondent responded all were responsible for enforcing academic integrity while another respondent replied academic integrity policies were enforced; At the end of day by the CAO.... In day-to-day practice, by the Institutional Research Board, by a cadre of Institutional Research Reviewers (IRRs) who review completed dissertations etc. Responses included details of the process from the instructor noticing then reporting the violation using an institution form to forward the matter to administration and another response named a student review committee.

6.3. Supporting Reports of Violations of Academic Integrity

When asked if and how support was provided, 60% of the respondents felt supported, of those who responded yes, many of them further cited evidence. 30% of the educators were not sure. One respondent, of the 30% was unsure and shared the frustration of sometimes the policy being overridden. 10% did not address the question, but mentioned an academic integrity tool as helpful without addressing.

6.4. Processes and Procedures

40% of respondents indicated speaking directly with the participant as part of the process for reporting and managing incidents. Another 40% reported the matter was forwarded to supervisors or administration. An online reporting system was identified by 10% of participants, while 10% reported being unsure of the reporting process.

6.5. Fidelity in the Promotion of Institutional Academic Integrity

Within the list of actions 50% of the respondents indicated communication was needed. Some indicated communication of policies must clearly be set by administrators, another stated communication must be everywhere and clear for students, and another depicted personal integrity and communication with faculty was needed. 20% of respondents indicated quizzes and embedded tutorials should be implemented in courses. 20% of respondents indicated the usage of TurnItIn, a web-

based, plagiarism prevention service developed by iParadigms, LLC would help monitor and student work. 10% of respondents indicated a policy of zeros, without resubmission and possible expulsion would be a deterrent and another implied there was nothing applicable for their situation.

6.6. Who Enforces the Academic Integrity Policy

100% of the respondents identified the academic dean as the enforcer of academic integrity, but all participants identified an administrator as responsible. Only 10% of respondents noted all members of faculty and staff are responsible to enforce the academic integrity policies of the institution. Considering the first responders to observe a violation is typically the faculty the question remains as to why many in an academic institution not accept the role to uphold the academic integrity set forth by an institution. Perhaps professors feel bound to follow procedures or have no voice in the process. Another situation would be professors are limited in the function of promoting academic integrity in many institutions.

7. Recommendations for Leadership

Half of the respondents indicated communication was needed. Some indicated communication of policies must clearly be set by administrators, another stated communication must be everywhere and clear for students, and another depicted personal integrity and communication with faculty was needed. Adjunct professors typically identified policies and procedures with transparency and visibility were key elements. Faculty noted clear communication for students and listed proactive methods to curtail cheating and plagiarism through instructional tools and plagiarism programs. Faculty named situational consequences for students. Administrators who responded provided holistic approaches for proactive deterrents. Professional development opportunities for faculty, as well as instruction information for students were suggested to develop a clear understand of the institutional stance. Recurring themes from the data depict adjunct or new hires are unaware or unfamiliar with policies, or how to deal with situations. A suggestion would be for professional development be a proactive measure to promote academic integrity as colleges are relying more on adjunct professors to work in place of tenured faculty. Considering adjunct professors are in the forefront of working with students it is essential awareness, availability, and clarity regarding academic integrity is prevalent. Concurrently, faculty should be proactive in learning, and adhering to the institutional policies and procedures. Faculty are the ones students look to for instruction and guidance. Another recurring theme is

administration viewed the policies as being in place, and thereby should be known. Administrative responses indicated a need to make issues of academic dishonesty situations less accessible for students, while maintaining adjunct and full-time faculty are following the policy. When evaluating responses from the collective group, it is clear academic integrity policies and procedures are not clear to faculty and staff. Even if the policies and procedures are considered available by administration.

8. Summary

Implications of the findings indicate the accountability has become blurred. The need for defined roles and responsibilities are important in sustaining and monitoring the academic curriculum, policies, which promote academic integrity. A disconnect between what is known is a loophole for some to manipulate policies. This seemingly leaves honest students at a disadvantage when the dishonest seem to escape consequences. The issue of responsibility and directing one to another office ensures there is a known chasm in student academic integrity instruction no one is willing to address. Institutions cannot rely on student moral compasses to ensure integrity is adhered to by students. The idea everyone is doing all which can be done, but the problem continues is a misnomer. Collectively and holistically an institution is judged on the standards set forth. If accountability and responsibility is blurred sustainability of policies is at risk.

9. Conclusion

This research examines institutional processes to promote academic integrity within online or virtual programs in higher education. The planned behavior theory frames the study while the review of literature helps to ground this current research on academic integrity. A culture of academic integrity can reduce negative or uncomfortable situations due to potential faculty judgement and adverse consequences for students. Promoting academic integrity through pedagogical processes can support the development of scholarship over punitive consequences [5]. A proactive approach to reminders of the fundamentals of academic integrity allows for intervals of instruction and reflection for scholars. Fostering a culture of academic integrity through an academic community beyond the course and within the institution can promote ethical responsibility.

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Session 26: Global Issues in Education

Title: Pedagogy Enhancement with e-Learning: Changing Pedagogy Pattern in Indian Education System with E-Learning
(Author: Disha Shrivastava)

Title: Promoting Sociocultural Awareness in Different Social Patterns: Focus on English and Chinese Greetings
(Author: Linqi Liu)

Title: Education for All – A Constitutional Agenda A Study of Poverty and Education in the Urban Slums of Siliguri Municipal Corporation and Raiganj Municipality in West Bengal
(Authors: Arup Pramanik, Sandipan Bhattacharya)

Title: The Seismic Transformation in Higher Education in the 21st Century: The Case for Data Analytics and Student Success
(Authors: Regina Enwefa, Luria Young, Stephen Enwefa, Gabriel Fagbeyiro, Damien Ejigiri, Diola Bagayoko)

Pedagogy Enhancement with e-Learning: Changing Pedagogy Pattern in Indian Education System with E-Learning

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Abstract

India has the third largest higher education system in the world, pioneers being US and China. We churn around 2.5 million graduates every year from our higher education. However, this caters to just about 10 percent of India's youth, and the quality of this output is considered below par. Reason being, inefficient pedagogy in the education system.

1. Introduction

Educational information is being accepted and promoted by all the nations around the world. A fact stated by the National Centre for Education Statistics that in 2008, there were 18 million students, who enrolled in some online program worldwide, which was a 1.6% increase from 2002. In India, even though the statistics are not so high, still there is a broad scope of online education. We are therefore trying to relate and understand this shift in the learning pattern and how it is and will change the learning habits along with knowledge enhancement amongst the students and teachers.

2. Objective of Study

Pedagogical education issues in India:

- The most significant challenge within the education system in India is the quality of education delivered. Most of the knowledge is generally theoretical, and it lacks the practical aspect.
- Of the student population in India which is over 315 million, shockingly small 8.15% students only actually graduate from colleges.
- Indian education system has more exam focused learning than a practical approach. Poor grades cause a feeling of discouragement in the scholar turning him/her away from inquisitiveness and interrogative personality, invention, and criticism.

- The system creates packages of rote knowledge focused on cracking examinations.
- Developing creative and unique aspects of the educational curriculum is uncommon.
- The teachers are not qualified enough to give variety in teaching and are mostly stuck to textbooks and in a rush to complete the syllabus.
- Education gets restricted to structured curriculum, completion of syllabus, timed exams and mostly one-sided teaching.
- Due to heavy syllabus students are left with no choice but to memorize the content and teachers are left with no choice but to brush through quickly. Such pedagogy goes very less scope of understanding the concept.
- Distinctive lack of creativity in pedagogy because most of the training programs don't cater to such methodologies.

3. Study design and Methodology

- Case-control Study
- Case Reports and Series
- Ideas, Editorials, Opinions

We have gathered reports and information from organizations into e-learning space to understand, read and analyse on how is e-learning is making a shift in the pedagogical education system in India. There are several case studies as well which show the impact along with facts, figures, and statistics before and after the introduction of e-learning in the education system. We have also interviewed teachers both from private as well a public/government schools to understand their views on the introduction of e-learning in the education system, and we have got some fantastic responses which we have incorporated in our paper as well. It was also interesting to take opinion and views of students both from upper as well as lower strata of the society and know their opinions on how e-learning is and will impact the current pedagogy. Another significant finding was on how few organizations are

making a remarkable shift in the entire age-old pedagogical education system of India and how e-learning has made an entry in almost every house.

4. Conclusion

The present century is the century of digitalization and information. E-learning supports the widespread use of educational training. E-learning has various advantages over the traditional techniques of learning and is superior. E-Learning is the most convenient way to pursue a degree in higher education. A lot of these students are attracted to a flexible, self-paced method of learning to attain their degree. Some experts refer to the education in the 21st century as a multimedia network education. E-Learning is the mantra for knowledge creation, involvement, pedagogical shift, improved teacher's training, less expensive and better way of learning, maximum reach, therefore, better quality of education which is a need in India.

Promoting Sociocultural Awareness in Different Social Patterns: Focus on English and Chinese Greetings

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Abstract

As a universal phenomenon of human life, greeting is part of the daily encounters between people. Greeting can be described as the exchange of expressions, pleasantries or good wishes between two people interacting for the purpose of fulfilling social obligations, or for the establishment of interpersonal relationships. It takes place at the opening of an interaction or as a marker of its closing. They are linguistic routines that form part of the repertoire of politeness. While such routines have been studied in disciplines such as sociology, anthropology, sociolinguistics and discourse analysis, there has been not enough quantitative and qualitative study on the use of greetings in and across different languages, cultures and social patterns. Consequently, the present study aims to undertake such a research in English and Chinese. The main purpose of this study is to examine what strategies are employed in English and Chinese greetings and how to promote sociocultural awareness in different social patterns. To achieve the objectives, researcher will seek answers to the following questions: (1) Whether English and Chinese greetings have significant differences? (2) What are the differences in the frequency, degree of politeness and distribution of greetings? (3) What factors could promote sociocultural awareness in different social patterns? The survey was carried out from 80 native English speakers who study or work in the United States and in the UK, and 100 Chinese speakers who study or work in China through the Internet. The subjects were chosen randomly. The valid questionnaires are altogether 94 from 47 English speakers and 47 Chinese speakers. Results of the empirical study will be presented relating to the questions and hypothesis of the study from both quantitative and qualitative perspectives. The implications of greetings in both languages and their underlying social pattern factors, cultural factors and philosophical sources factors are also explored. Due to the different socio-cultural norms and values, the connotations of politeness, its manifestations and judging standards vary cross-culturally. It seems reasonable to assume that the concept of politeness, which represents an abstract social value, is most probably universal in some form or other. Social power and social distance are considered two major factors influencing the choice of greeting. Variables determining the selection of a greeting form are numerous, including not only the qualitative characteristics of the speakers—age, sex, kinship relation, occupation, wealth, education, family background—but also more general factors: for instance, the content of the conversation, the presence of the third person. Since western culture stresses individual rights, freedom and independence, showing respect to one's liberty, rights and independence is considered polite. Individualism is also deeply rooted in western culture and is highly valued by English people. To achieve harmony, Chinese people emphasize implicitness, indirectness, ambiguity and self-restraint. Collectivism remains at the very core of Chinese culture. As opposed to "individualism", "collectivism" is a cultural pattern, consisting of closely linked individuals who see themselves as part of their collectives and give priority to group goals over their own personal goals. The most important dominant orientation—equality and human rights in English countries and the principle of Ren and Li—the key concept of Confucianism in China actually act as shapers of the patterns of interpersonal relationship, they are also the philosophical sources which affect interactions and communications such as greetings.

Education for All – A Constitutional Agenda A Study of Poverty and Education in the Urban Slums of Siliguri Municipal Corporation and Raiganj Municipality in West Bengal

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Abstract

The formation of slums in the cities of the developing countries like Siliguri Municipal Corporation Area (SMCA) in Darjeeling district and Raiganj Municipality in Uttar Dinajpur District of West Bengal is closely linked with sustainable growth and development. The rapid urban population growth and lack of attention to urban poverty has exacerbated multi-dimensional deprivation particularly in education among the urban poor. Education for all is a Constitutional right, but the education picture of India clearly indicates that the educational opportunities and attainment for the urban slum dwellers are significantly lower than that of the affluent section of the society. Poverty and low earnings of the slum dwellers adversely affect the quality and quantity of education not only at the macro level but also at the household level. If this scenario is allowed to continue, the agenda of eradicating illiteracy as prescribed in the EFA Agenda by the UNESCO shall be severely thwarted. If the mid-term appraisal of 2015 regarding MDGs is any indication, illiteracy is still a burning issue which needs to be tackled in the light of circumstances of unsustainable urbanisation prevailing in the cities of developing countries. In order to facilitate fuller use of the human capital of the poor and empower them with land and equity capital, framing of a comprehensive feasible policy for eradication of illiteracy is now a compulsion rather than an option. Therefore, the paper will try to seek an overview of the socio-economic condition and deprivation in education among the migrant slum dwellers in SMCA and Raiganj Municipality.

1. Introduction

Cities are potentially the places where access to infrastructure, services and employment can allow human beings to satisfy their basic needs and realize their ambitions and aspirations. As the globe is urbanizing and globalizing at the most rapid pace, the slum dwellers also continues to grow enormously both within the inner-cities and in the outskirts. The locus of poverty is moving from rural to urban areas and recently this process is termed as the ‘urbanization of poverty’ (UN-HABITAT- 2003). The agenda for globalisation is to lift this distressed population out of poverty. Living in an urban environment is clearly a distinct experience from life in a rural setting. Yet despite

the contrasts in terms of context, there is one factor that remains unchanged: people themselves. Wherever people live, they retain essentially the same human needs, and the desire for the same entitlements or rights.

In general, the people living in informal settlements are educationally, economically and socially excluded and deprived section of the society. Education in all the society, communities is an important instrument not only in nation building but also for economic development. Education is the foundation for a vibrant democracy, growth of productivity and income and employment opportunities (Planning Commission Report, India Vision 2020, Government of India, (2002). UNESCO (2012) also estimates that the youth population in urban areas is larger than it has ever been and is growing. However, in one out of every five countries, poor young people living in cities have less education than those in rural areas. Investing in young peoples’ skills is a smart move for economic growth, as estimates show that every USD 1 spent on a person’s education yields USD 10 to USD 15 in economic growth over that person’s working lifetime.

In the developing countries, poverty alleviation and universal education is crucial for policy issues in many of the cities of different size and classes. Various studies reveal that education positively correlated with the alleviation of multidimensional poverty and it is unfavourably affects the quality and quantity of education. Accordingly, if education fails to enable poverty alleviation, schooling of the next generation may be adversely affected and thus lead to vicious circle of education poverty [1].

A large number of slum dwellers are illiterate and as a result they cannot provide their best to make a good quality of life. The poor in these settlements do not possess the skill or education to enable them to find well paid and secured employment in the formal sector and due to lack of opportunities in the formal sector they tend to be absorbed in informal employment. Studies reveal that urban slum dwellers in Bangladesh are marginalised than that of the rural poor. The problem in access to education faced by slum dwellers is fundamental [2]. The net enrolment ratios in the non-slum areas has increased but decreased in the slum areas in countries like Tanzania, Zambia and Zimbabwe. In Bangladesh, Nepal and Pakistan, less than 40 percent of the children in the poorest socio-economic

quintile completed primary education compared to 70-80 percent in the richest quintile. In, 35 percent children of Nigeria are less likely to attend school than those from non-slum areas. Similarly, in Bolivia, only 10 percent of children in poorest quintile complete primary school as compared with 40 percent of those in non-slum areas [3].

Urbanization in developing countries have already shown a red signal, particularly due to increasing number and proportion of city residents who live in informal settlements either in the heart of the cities or in the peri-urban areas. Most of the cities like Siliguri Municipal Corporation Area (SMCA) in partly Darjeeling and partly Jalpaiguri district and Raiganj Municipality in Uttar Dinajpur district are changing typically in terms of demographic, economic and social relationship due to rapid pace of urbanization. Large scale migration of poor unskilled job seekers from rural areas of the neighbouring districts and states took place resulting in unprecedented growth of population in Siliguri town. Expansion of urban infrastructure facilities have failed to keep pace with rapid population growth leading to proliferation of slums and mushrooming of poverty pockets both in the inner and fringe areas of the city. The poor in these settlements are living in inadequate over crowded shelters, suffers from diseases, lack of clean water, sanitation and pollution. They are vulnerable socially, educationally, economically and environmentally.

All types of livelihood assets are important for subsistence of the urban poor especially for the squatters or slum dwellers in the city areas. Among all the livelihood assets, education as human capital is most important contributing factor for socio-economic development and wellbeing of the poor. According to various livelihood approaches, education, skills, knowledge enable the slum dwellers to pursue and achieve different livelihood strategies. Education is the most effective means to achieve social and sustainable development. Rapid growth of urban population and lack of attention to urban poverty has exacerbated multi-dimensional deprivation including deprivation of education among the urban poor. A major problem in relation to quantify the school dropout among the urban poor in many of the cities of the developing countries like SMCA and Raiganj Municipality is that it is sometimes not seen in the statistical data. Therefore, the objective of the study is to investigate the attainment and deprivation in education in relation to poverty of the slum dwellers in SMCA and Raiganj Municipality.

2. A Brief Review of Literature

Human capital is directly related to economic growth and in turn growth further leads to high human capital base through skill and knowledge. Contrary, education, skill and knowledge are one of the important components of Human Development Index. Human capital is directly related to economic growth and in turn growth further leads to high human capital base through skill and knowledge. Contrary, education, skill and knowledge are one of the important

components of Human Development Index. As per United Nations HDR report, 2016, Human Development Index of the country went down to its overall global ranking at 131 (out of the 188 countries) as against 136 (out of 186 countries) in 2013. Education plays a crucial role for the socio-economic development of the society. Education is considered as one of the important asset for human development and thereby to reduce poverty and social exclusion [4]. Deprivation in education is a serious matter of concern not only for the general people as a whole but it is a serious problem particularly among the lower income groups in the society. In this respect, the urban poor in Africa are struggling with the multi-dimensional poverty to make a living [5]. Among them education and ensuring social development for their children is secondary. The high degree of illiteracy among the slum children in Patna was primarily due to lack of educational facilities [6]. Lack of motivation on education among the slum children in Madras and aspirations lead to dropouts [7]. Educational attainment and dropout is directly linked with the poverty of the households. In this context, an empirical study found that that the higher the level of education achieved by the household head in Delhi slums, the lower the probability that the family will fall below the poverty line [8]. Another study shows that years of schooling are statistically significant in explaining earnings among low-income workers from homeless and slum families [9]. A number of studies highlighted that there is a positive correlation between poverty and dropping out from school [9], [10]. A similar study by tried to find out the barriers for children's school enrolment in Tanzania and found that the main barrier to sending children to school is financial. There was a little evidence regarding negative attitude towards school on the part of the children themselves [11]. In contrast, a study in Mumbai and Delhi to focus Poverty and primary schooling highlighted that the children not being in school was less due to their economic constraints than that of the school system's short comings [12]. The inadequacy of the school system was unable to motivate children towards school and it was more important than the economic condition of the households [13]. Poor households withdraw their children from school as part of their supplementary income and often in order to work at the home. Various researches pointed that economic backwardness along with the education of the parents was most important determinants of school attainment and dropout behavior [14]. This finding is consistent with the observation by and that besides financial constraints parental education is important determinants of child education. Higher parental education is positively linked with higher access to education and lower dropout rates [15].

So far as enrolment in primary education among slum and non-slum population of south Asian countries is concerned, the latest data available from the State of the World Cities: 2011/12, it was found that the enrolment in primary education for both male and female slum population was highest in Nepal at about 92 and 86 percent respectively, followed by Bangladesh at around 78 and 81

percent, India at around 78 percent each and Pakistan at about 77 and 74 percent respectively. When compared to India, the position of Bangladesh was far better in case of primary enrolment in slum areas. Expectedly, slum enrolment in primary education was lower than the non-slum enrolment.

As per report it was evidenced that around 48 per cent of the school students from slums in the Union Territory are dropping out from schools [16]. It is also reported from a sample survey of non-slum and slum areas in Pondicherry that about 3 percent students from slums dropout before 10 years, 8 per cent before 14 years and 35 percent after 14 years. Low family income was the reason for the dropout for 20 per cent of the total drop out children in slum areas. A report of the Government of India pointed out that around 17 percent of children from 6-14 years of age are still out of school in 2004/05 [17]. In this context, it can be concluded from various reports and studies that the implementation of Right to Education Act has failed to show a satisfactory picture particularly among the school students in the slums of India.

3. Methods and Methodology

North Bengal region comprises with seven northern districts in the state of West Bengal is relatively more backward in terms of various development indicators. There are one Municipal Corporation and 21 Municipalities in the seven district of North Bengal region. The main thrust of the study was to investigate comparative analysis on livelihood, development of the slum dwellers between two cities of class A and Class B-1, where slum population are highly concentrated. Among the districts of north Bengal, Siligui Municipal Corporation Area (SMCA, 'A' Category city) with 5.13 lakhs population in Darjelling district and Raiganj Municipality ('B' One category city) with a population of 1.84 lakhs in Uttar Dinajpur District was selected as a study area due to higher concentration of slum population compared to the other Municipalities in the north Bengal region. The slums in SMCA and Raiganj Municipality were scattered across almost in all the wards. Therefore, total municipal area has been divided into four parts namely *North-east, North-west, South-east and South-west*. From each of the part or region a fixed number of 75 households have been taken randomly covering inner and outer boundaries, where both the older and relatively new migrant slum dwellers reside. As a whole, 300 sample households have been surveyed from each of the municipal areas. An exhaustive survey was conducted through a well-structured questionnaire. The survey was made through personal interviews with the households during the period ranging from July, 2015 to December, 2015.

4. Analysis of Findings

Siliguri is situated in the plains of Himalayas. The city is popularly known as the gateway or the chicken neck of North-east India because its corridor is connected with the

north-eastern states to the rest of India. The town showed its vital potentiality as it grew as a centre port for the trade between India, Sikkim, Bhutan, Nepal and Tibet. The growth of the town received momentum just after independence of India. In 1947, thousands of refugees poured in from East Pakistan when the country was divided and from Assam who lost their home to anti Bengali riots in 1960. The 1962 war with China, 1965 war with Pakistan and ultimately 1971 with West Pakistan and creation of Bangladesh, each of these events contributed to the major inflow of refugees to the town. The annual growth rates of SMC till 2001 were overwhelmingly high than that of the growth rate of all other municipal corporations in the state and the country as a whole. Siliguri was a tiny village of less than 800 populations in 1901. Due to its typical geographical location and potentiality as a transit town to the Hill Stations, and as a potentially a strategic town for urban growth and development, it received its recognition in 1931 and found a place of urban map in West Bengal as non-municipal urban centre. It was declared as a Municipal town in 1950 taking an area of 15.54 sq. km with the population of 32480, which was substantially increased to 40.91 sq. km with the population of 472374, when it was upgraded to Siliguri Municipal Corporation in 1994. The Siliguri Municipal corporation area is covered with 47 Municipal wards, having 154 notified slum and squatter settlements with a population of 175012, spread over 33 Municipal wards (Census 2001). As per Census, slum population in SMCA reduced sharply from 175012 to 122958 spreading over 23 wards.

The town of Raiganj is situated in the narrow strip which joins the Northern and Southern portion in the state of West Bengal, has come up in prominence as a result of partition of India. This town in pre-partition was a small village dependent upon the larger urban centers. The partition of Bengal has suddenly left this town on its own. Other such villages have either shifted their dependence to other town in the state of West Bengal or have started growing themselves. The town of Raiganj belongs to other category. It was merely a Mouja under Dinajpur Maharaja Administration and was Bandar meaning a river based halt post of merchantable commodities from far and near villages. Before independence this was rather a neglected area. In 1951 immediately after independence the town barely had a population of 17000 persons. Since then this town has grown up faster. Raiganj is the District Head Quarter of Uttar Dinajpur due to its location importance. The town has obtained the Municipal status in the year 1951 on 15th August. The town is a 'B' category one covering an area of 10.76 Sq.km with the Population of 183612 covering 27 municipal wards as per census 2001. Raiganj has been characterized as a regional Centre for economic growth and employment with a vast rural hinter land. The present Uttar Dinajpur district was once a part of the larger West Dinajpur formed in 1786 in an undivided Bengal. West Dinajpur district was a district of the state of west Bengal from 1947 to 1992. At India's independence the former Dinajpur district of undivided Bengal was partitioned along religious lines and West Dinajpur became

one of the 14 districts of West Bengal. The other part of the district continues as Dinajpur district in Bangladesh. On 1 April 1992, the West Dinajpur district was divided into Uttar Dinajpur district (north) and Dakshin Dinajpur district (south). With the States Reorganisation Act of 1956, some Bengali-speaking areas from Bihar were added to this district. West Dinajpur is different from the other neighbouring districts owing to its strategic position in the region. It was formed as a separate district only after partition of Bengal in August 1947. With the rapid growth of urban population, the slum population in the Raiganj Municipality has also increased unpredictably till 2011. But, the slum population increased slightly from 67175 in 2001 to 72501 in 2011. High concentration of slums in Raiganj Municipality in Uttar Dinajpur district was mainly due to rural-urban migration from the neighbouring district, states and especially from the neighbouring countries Bangladesh. Illegal cross border migration in both the Municipal areas are still continuing.

In an aggregate, the sample households in SMCA and Raiganj Municipality comprises with 1598 (48.9 percent male and 51.1 percent female) and 1341 slum population (49.70 percent male and 50.3 percent female) respectively. Out of total sample households in SMCA and Raiganj municipality, 39 percent and 68 percent are living below poverty line. The average length of residence or migration of the slum households was around 24 years in SMCA and 29 years in Raiganj Municipality. Average family size of the squatter households was around 6 and 5 in SMCA and Raiganj Municipality respectively, higher than that of the national and state level which indicating that the family planning among slum dwellers are not popular still in the neo-liberal regime. The age of the female marriage in both the slums of the sample study area was at the age of 16 to 17 years. One surprising point is that they become a mother of kids at the age of 17-18 years. At the very early stage of their life they become married and have lots of responsibilities to do. So, girls are deprived in every phase of their life. Various studies show that the sex ratio, number of females per 1000 males in the population are declining in India, while in the sample slum areas, it is significantly high because of higher birth of females due to cultural gender parity as well as lack of access and inability to bear the expenses for pre-natal diagnostic. The child sex ratio was also overwhelmingly high in both the municipal areas. The higher the birth order, the lower is the percentage of children not being enrolled or dropped out as also reflected in a study [18].

The study observed that more than fifty percent of the slum dwellers belonged to the General Caste, followed by SC and OBC and ST in SMCA. The proportion of SC squatters in Raiganj municipality was much higher primarily due to influx of SC refugees from Bangladesh. Both study areas are dominated by Hindu religion, followed by Muslims and Christians. In the social domain, marital status reflects the socio-economic conditions of the family or a community. In economics and other disciplines, the dependency ratio is simply an age-population ratio of those who are not in the labour force. Dependency ratio is one of

the most important factors that determine the human wellbeing of the urban poor slums. Various studies reveal that a high dependency ratio exerts economic pressure on the households and thereby reduces wellbeing of the poor squatters and slums dwellers. In the present study, total dependence ratio of the slum dwellers was around 20 percent in SMCA, while it was significantly higher around 49 percent in Raiganj municipal area. Significant male and female dependency ratio is also observed between the municipal areas. The sample households with higher family size and economically dependent members, when the father and a small number of mothers are the only earning members, working in low paid, irregular, insecure, informal sector, then meeting the basic necessities becomes quite a difficult proposition to the family. In such a situation the probability of providing education to their children to continue their studies become affected to a large extent. If State initiative is lacking, it will only add up to the illiterate population and increase the number of out of School children.

4.1. Infrastructural Facilities of the Slum Dwellers in the in the areas of Sample Study

A close investigating the sample areas of the study, it is observed that when a family or a person arrive in the cities, they initially takes shelter either at the house of friends, relatives or fellow villagers. In most cases, due to socio-economic backwardness and high price of urban land, the rural poor migrants are forced to purchase or occupy the government, private vacate land mostly located in the unhygienic areas like river bed, road side, railway land etc. from the local leaders or “Dadas” who are directly or indirectly linked with the high command political leaders. It implies that the local government is not sufficiently equipped (the quality of enforcement is a matter of concern) to accommodate the rural migrants and as a result they get settled in the squatter settlements either in the inner city or out-skirts creating their own shelters with the deplorable living conditions.

The type of house used by the slum dwellers is a primary indicator of wellbeing. The house is one of the most important assets for the urban poor and it can be used to access other funds and opportunities like loans and credit. Shelter for a human being not only protects his life but also help to grow socio-economically. Right to shelter includes sufficient living space, safe and good structure, clean surroundings etc. Therefore, right to shelter means right to “a roof over the head” of the people necessary to live a life as a human being [19]. The case study of the two municipal areas shows that 76.7 percent to 86.3 percent of the households have their ownership of house, but so far as the status of tenure of housing land is concerned, majority of the households in both the municipal areas have *holding number which is not a legal right of the residential and ownership status*. This also implies that the slum dwellers are deprived from the “right to shelter”. On the contrary, financial inclusion has become a distant dream due to lack

of their residential status. This issue has become more serious as the new Government has embarked upon the concept of e-governance through which the essential status is checked out before grant of Government schemes for the urban poor. As per definition of the slums by UN-HABITAT, no one can be removed from slum areas due to unsatisfactory condition particularly with regard to durable housing, sufficient living area, and access to improved water, access to improved sanitation facilities and secure tenure. The study observed a higher percentage of the households living in *kaccha* houses with open kitchen inside the room. The slum dwellers are also suffering from two or more than two shelter deprivation as per UN-HABITAT measure.

As per reports, 21 percent of the world's urban residents do not have access to proper sanitation. Health and sanitation are the initial criteria for good standard of living.²⁰ Good hygiene is determined by some of the important physical amenities for example proper sanitation, safe drinking water, fuel sources for cooking etc. The study shows that 23-24 percent of the households do not have sanitation facility. An adequate supply of safe drinking water is universally recognized as a basic human need. Yet millions of people in the developing world do not have access to an adequate and safe water supply. In the study area, 33percent of the households in SMCA and 72 percent in Raiganj Municipality do not have access to safe drinking water, considering the fact that the water of tube wells and wells are not regarded as safe drinking water. Higher percentages of the households, particularly females are affected by serious health hazard due to smoke emissions arising out of the use of wood as a major source of cooking medium. Food is cooked in the open kitchen inside the room. Around 17 percent and 31 percent of the households in the study areas do not have any electricity facility. Therefore, the study reveals that the slum dwellers in both the municipal corporation and Raiganj Municipality are deprived extremely from the infrastructural facilities.

4.2. Economic well-being of the slum dwellers in the in the areas of Sample Study

Economic status of the households in general depends on the quality of jobs as well as the number of persons engaged in working activities. In the cities and towns, the growth rate of labour force working in the organized sector is generally lower than that of the population growth rate, which leads to inevitable growth of informal sector. In an urban set up, most of the slum dwellers remain engaged in informal sector activities due to lack of skill and basic education i.e., informal sector is the entry point of the rural poor migrants living in the sample slums areas. The present study shows that the Work Participation Rate (WPR) in SMCA is alarmingly lower at around 32 percent than that of the Raiganj municipal area at about 41 percent indicating the high incidence of unemployment among the young youth in SMCA. The lower WPR in the sample population in SMCA is due to higher family size because the average

number of workers per households are almost equal (1.8 percent) in both the municipal areas.

Table 1. Descriptive Statistics of the Economic Variables in the areas of Sample Study

Variables/ Measures	Siliguri (MC)		Raiganj (M)	
	Mean	SD	Mean	SD
HHs Income	7700.8	3186.3	5461.2	2567.9
Saleable value of the physical Assets	12600.5	16305.3	6333.7	7285
Expenditure on Food Items	4773.1	1872.1	3405	1522.6
Expenditure on Non-Food Items	4479.8	1761.1	3140.9	1536.8
Total Expenditure	7679.8	3057.3	5280.8	2375.5
Savings	21	480.1	180.5	474

Source: Field Survey (Author's Computation)

The slum dwellers are the source of cheap labour force in the cities of SMCA and Raiganj Municipality. They are largely dependent on cash income to meet the basic needs and it directly comes from the informal sector activities. In these settlements, poverty is characterized by inadequate income. Due to inadequate earnings they are often unable to meet the basic needs. An increased earning leads to a better nutrition plan, improved health, better education and savings, i.e., well-being or standard of living. The quality of life of the slums dwellers is ultimately determined by the level of income. In this context, the income, expenditure and savings pattern of the squatter households have been examined by descriptive statistics shown in table (1). The mean income, saleable value of physical assets (as per NSSO measure), expenditure on food and non-food items and total expenditure is much higher in SMCA compared to Raiganj Municipality. The only exception is found in the savings pattern, where it is about 9 times higher in Raiganj Municipality. The lack of savings in the SMC area is evident from the fact that the slum dwellers spent more on recreation prevalent in one of the fastest growing cities in the world (SMC Area). From the descriptive table it is also observed from the value of Standard Deviation (SD) in SMCA that the variation in all the variables except saving is very high which implies that the deviation from means are significantly higher as compared to Raiganj Municipality. The table also illustrates the high variation in income, physical assets, expenditure on food, non-food items in SMCA due to low, irregular income of the households. From ANOVA analysis it is also observed that all the variables between the groups is highly significant at $p < .000$.

Table 1 shows the proportion of expenditure and savings to the total income in the study areas. The proportion of expenditure on food, non-food items, total expenditure, savings, liquor consumption, medical, education, fuel and mobile purposes between the municipal areas shows no significant difference.

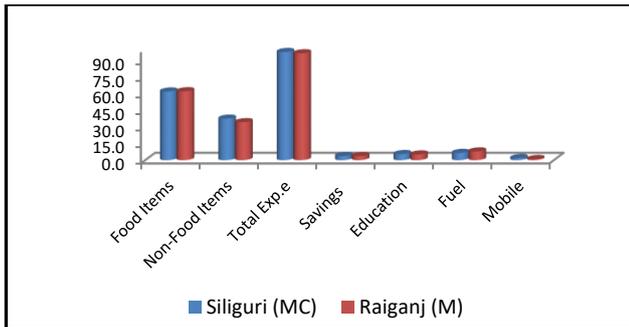


Figure 1. Proportion of Income (in Rs) spent on various items in the areas of the Sample Study *Source: Field Survey (Author's Computation)*

But, the savings patterns of the slum households in both the municipalities were very poor. This is because after meeting the expenditure on necessary items for basic needs, nothing is left for savings in of the most cases. The proportion of income spent on education ranges from around 5 percent in both the municipal areas under study. This further raise another question that whereas education is free from class I to class VIII under universalization of free education, then why 5 percent of total income have to be spent by the parents of the school going slum children? If so, then what is the impact of free elementary education under 'Right to Education for All' and quality of education in the schools? There may be a separate issue associated with this. Do the Guardians have to cough up this additional burden on "Private Tuitions" accepting the fact that there is severe lack of commitment from Teachers in Government Schools so as to compel the Guardians to resort to private coaching?

Or there is a severe shortage of Government Schools in the urban clusters so as to compel the students to admit themselves in Fee based Private Schools? As per statement made by finance Minister Arun Jetley (Annual Budget, 2013-14) expenditure on education has gone up from 2.9 per cent in 2008-09 to 3.3 per cent in 2013-14as a percentage of GDP. Therefore, there is an urgent need to address the qualitative issues of education. The statement bears ample proof that quality of education at the primary or elementary level is not satisfactory.

A close examination of the study found that the variables relating to income, expenditure, savings, fuel consumption and expenditure on mobile phones are significantly correlated with the literacy rate. A household with high family size and dependency ratio of children and aged person and under situation where the father and mother (in few cases) working in informal sector with irregular low income happen to be the earning member, it becomes a difficult task to meet the bare basic necessities of life. The per capita monthly income of the sample households in both the SMCA and Raiganj Municipality was around Rs.1442 & Rs.1222 respectively. The monthly per capita expenditure on necessary food items was around Rs.896 and Rs.762 in the municipal areas of Siliguri and Raiganj respectively. Monthly per capita expenditure on

medical purposes (Rs. 91 and Rs 63) and on fuel consumption (Rs. 94 and Rs. 96) was higher compared to the expenditure on education (Rs.79.5 and Rs. 62.5) in both the sample areas of the municipality. Now let us think about the expenditure pattern on education for slum children. Does this justify a healthy financial plan to put education in the priority list? If so, what is the role of the Welfare state to ensure facilities for Education and Health, particularly so when these issues have been a Constitutional agenda for decades? The poverty estimates, as per recommendation of the Rangarajan Committee, Planning Commission, 2014, the Monthly Per-capita Consumption Expenditure (MPCE) of ₹.1407 in urban areas constituted the new poverty line at the all- India level. On the basis of this estimate, around 91 and 92 percent of the slum households in the SMCA and Raiganj Municipality respectively are living below poverty line. Apart from this, according to the proposed International Poverty Measure (MPCE of \$ 3.10 per capita per day for Urban India, PPP –values, World Bank, 2014) all the households in both the study areas are living far below poverty line.

4.3. Census Literacy Rate among Slum & Non-Slum population in the sample Study Area

As per Census Report of 2001 and 2011, Figure 2 illustrates the literacy rate of slum and non-slum population in SMCA and Raiganj Municipality.

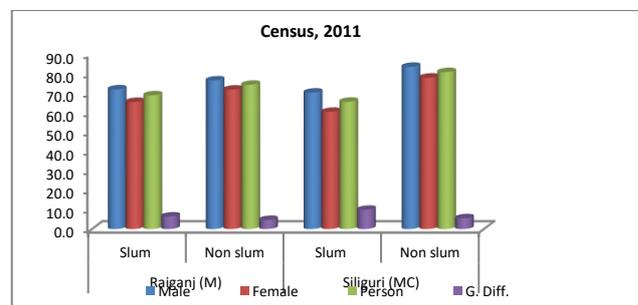
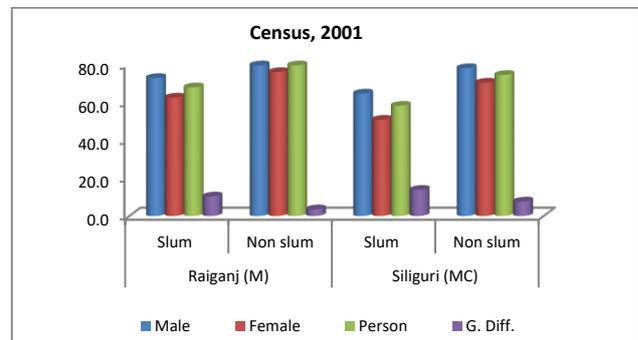


Figure 2. Literacy Rate among the Slum & Non-Slum Population *Source: Computed from slums of India, Census 2001, Vol. 1 & II, Government of India*

In 2001, the literacy rate among the slum and non-slum dwellers in SMCA is lower than that of the Raiganj Municipal area. In 2011, the literacy rate in Raiganj Municipality remains the same implying the failure of universalization of education, but in Siliguri Municipal Corporation, the literacy rate increased slightly in both the slum and non-slum areas. The gender differentials in literacy rate exists in both the slum and non-slum areas, where it is clear that the gender difference of slum and non-slum dwellers in both municipal areas have declined sharply, may be due to changes in economic status, familial cultural norms and gender roles.

4.4. Literacy and dropout Rate (excluding 0-6 yrs. age) in the areas of the Sample Study

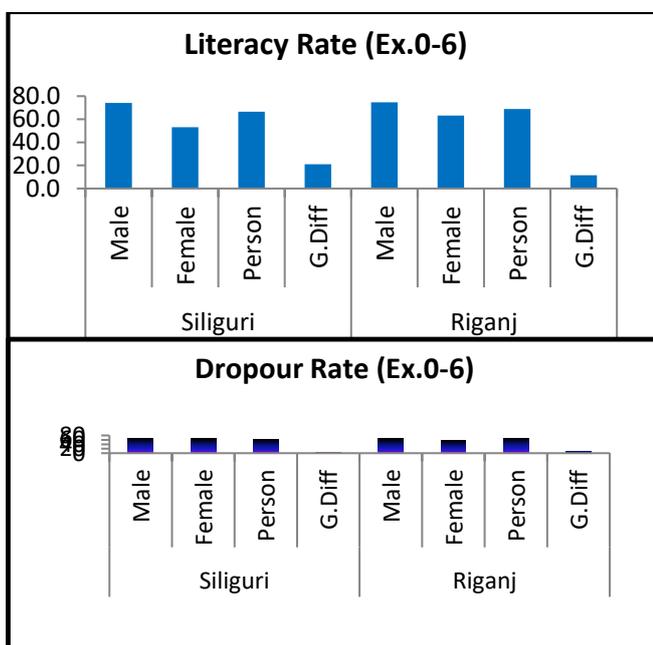


Figure 3. Literacy and dropout Rate (excluding 0-6 yrs. of age) in the areas of the Sample Study *Source:* Field Survey (Author's Computation)

Information generated from the sample respondent depicted in Figure 3, the literacy rate among the slums in SMCA at around 66 percent slightly lower than that of the literacy rate of the Raiganj municipality area at around 69 percent with positive gender differentials implying that females are less educated compared to the male counterpart in both the municipalities, but in Raiganj Municipality females have higher literacy rate. So far as dropout rate is concerned, Raiganj Municipality recorded a higher percentage of dropout rate compared to SMCA, while one significant point to be pointed out that the dropout rate of females in Raiganj Municipality was much lesser than that of the SMCA and it is clearly predicting that mothers education play a vital for the academic achievement of their children.

The study also found that the literacy rates not only lower than that of the census literacy rate of slums in the state and the nation, but it was significantly lower than that of the slum literacy rate in the million plus cities like Mumbai, Delhi, Kolkata and Chennai (NIUA, 2008). Therefore the study revealed that in terms of educational achievements, the slum dwellers in SMCA and Raiganj Municipality are particularly deprived in education compared to the state and other "million plus" cities in India.

4.5. Level of Education (ex. 0-6 age) in the areas of the Sample Study

The number of illiterate and functionally literate taken together to the total slum population excluding 0-6 age group, ranges from 31.1 to 31.5 percent between the municipalities.

Table 2. Level of Education (excluding 0-6 yrs. of age) in the areas of Sample Study

Level of education/ Study Area	Siliguri (MC)		Raiganj (M)	
	Person	G.Diff	Person	G.Diff
Illiterate	326 (25.3)	-9.2	251 (21.3)	-11.1
Functionally Literate	80 (6.2)	-2	115 (9.8)	-0.4
Primary	540 (41.9)	6.4	312 (26.5)	3.7
Upper Primary	216 (16.8)	2.8	276 (23.5)	3.7
Secondary	86 (6.7)	1.2	131 (11.1)	0
Higher Secondary	25 (1.9)	1	41 (3.5)	0.6
Graduate & Above	15 (1.2)	1.8	50 (4.3)	3.5

Source: Field Survey, Author's Computation

(Figures in the parentheses indicate the percentage of total population (excluding 0-6 age). **Note:** Functionally literate are those who can sign only, Primary = Up to Class V, Upper Primary = Up to Class V-VII Secondary = Up to Class X, Higher Secondary = Up to Class XII, Graduate & Above=Class XII+II or III) and above.

In both the study areas primary education is the clear preference among the slum dwellers followed by upper primary, secondary, higher secondary and education at the college level. The level of education other than primary education in Raiganj municipal areas is significantly higher compared to the SMCA especially due to positive aspiration of education towards children. The illiterate and functionally literate females dominate over their male counterparts. But literacy at other different level of education, females is dominated by male counterpart. Primary level of education is the clear preference among the slum dwellers in both the study areas. Higher secondary and college level education is simply luxurious to them primarily due to socio-economic backwardness as well as lack of aspiration.

4.6. Percentage of Dropout at all Levels of Education (Ex. 0-6 yrs. of age) in the Areas of Sample Study

Community and individual education is a basic right and more importantly a vital catalyst for economic and human development. Educational attainment is not only a crucial route to escape from poverty but also a major contributing factor to get an employment, to establish rights and entitlements in order to influence health consciousness and help for the expansion of cultural assimilation. But many studies highlighted that basic education as a fundamental right.

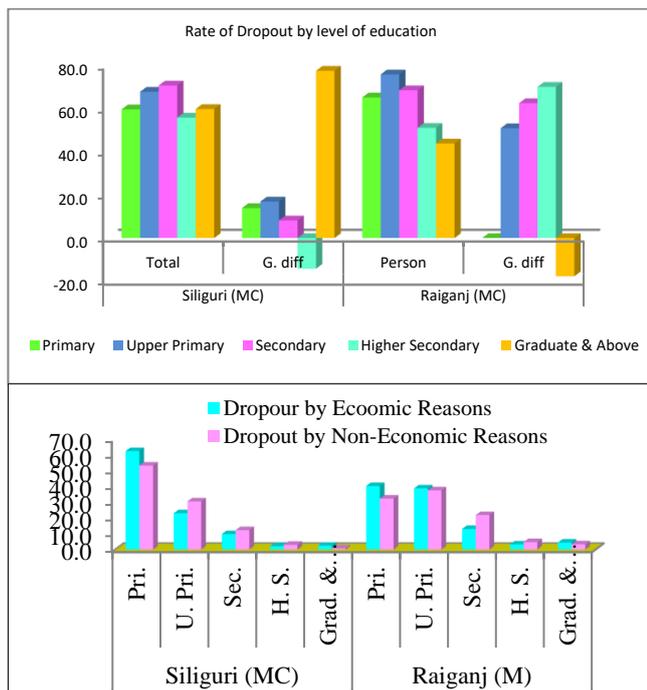


Figure 4. Dropout rate at all levels of Education (excluding 0-6 yrs. of age) in the areas of Sample Study
Source: Field Survey (Author's Computation)

Even after the framing of the Right to Education Act, and adequate provisioning for free primary schooling with Mid-Day Meal Schemes, the performance of the slum people particularly the children in attainment of Primary educational standards was much below the expected levels Figure 4 illustrates the percentage of dropout to total literate persons of the slum dwellers (excluding 0-6 yrs. of age) at different levels of education in the sample study areas.

According to National Council of Educational Research and Training (NCERT) school dropouts has been defined as "A dropout is a pupil who leaves school before the completion of a school stage or leaving at some intermediate or non-terminal point of a given level of education (school stage)". A well-structured pretested questionnaire was used to collect information regarding the socio-demographic factors, literacy profile, reasons for school dropout etc. From the Figure 4, it is evident that out

of total slum dwellers in SMCA and Raiganj Municipality, the dropout rate was 62.8 and 67.5percent respectively. Almost at all levels of education, the proportion of male dropouts was significantly higher in both the Municipalities. On the demand side, incentives for poor families can include stipends, scholarships, free textbooks and learning materials, safe and affordable transportation schemes, and community awareness campaigns. On the supply side, it is for public authorities to build more secondary schools in poor urban areas or, alternatively, add boarding facilities to existing schools. Furthermore, direct linkages between secondary education and local work opportunities are required if graduates' employment prospects are to be enhanced. This type of scheme can boost both enrolment and achievement for all downtrodden, excluded section of the society, including girls and children from poor urban areas.

So far as a reason for dropouts is concerned, various types of reasons have been clubbed into economic and non-economic factors. A higher percentage of dropouts among slum dwellers in both the municipal areas were mainly due to economic reason which include income poverty followed by inability to pay school fees, books, tuition fees etc., economic support to family. Among the non-economic reasons, the main factors were frequent break in studies, lack of interest, familial disputes, early marriage, poor academic performance, catering to younger siblings, migration, negative aspiration towards education in the sense that education would not be helpful in future, sicknesses and distance of school.

4.7. Literacy Rate and Dropout Rate by Age Group (Ex.0-6 Age) in the Sample Areas of the Study

It has already been mentioned that dropout is a serious problem in the developing countries like India. It is not only spread over all parts of the country but more importantly across different socio-economic groups in the society. There are also inter-regional and location differences in dropouts particularly among those who are living in the slums.

Table 3. Level of Education by Age Group in the Areas of the Sample Study

Age Group (yrs.)/ Study Ares	Siliguri (MC)			Raiganj (M)		
	Male	Femal e	Person	Male	Female	Person
7--14	143 (47.7)	157 (52.3)	300 (34.0)	99 (51.0)	95 (49.0)	194 (24.0)
15-24	125 (50.0)	125 (50.0)	250 (28.3)	133 (49.6)	135 (50.4)	268 (33.1)
25-44	160 (58.0)	116 (42.0)	276 (31.3)	139 (56.0)	109 (44.0)	248 (30.6)
45-64	31 (73.8)	11 (26.2)	42 (4.8)	55 (66.3)	28 (33.7)	83 (10.2)
≥ 65	10 (71.4)	4 (28.6)	14 (1.6)	10 (58.8)	7 (41.2)	17 (2.1)

Source: Field Survey (Author's Computation)

They are more likely to dropout at any level of education due to various socio-economic factors. In this regard a

study highlighted that an economic variable plays a crucial role in the enrolment of primary and secondary level of education in the state of Orissa [21]. On the other hand, the findings of the study pointed out that the family and school related factors, poverty and financial constraints were responsible for dropout in the slums of Delhi [22].

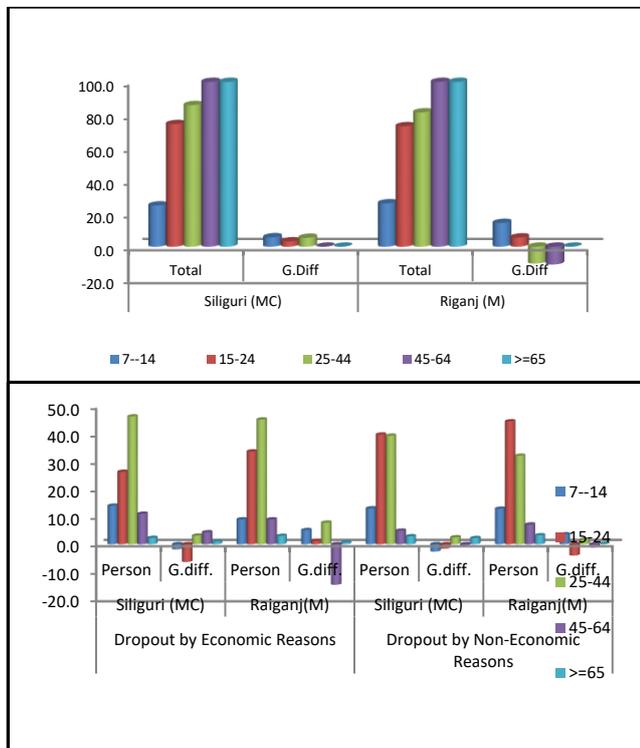


Figure 5. Dropout Rate by Age Group (ex. 0-6 age) in the areas of the Sample Study *Source: Field Survey (Author's Computation)*

With regard to the sample survey in the slums of SMCA and Raiganj Municipality, it is seen (Table 9) that the highest literacy rate in SMCA belonging to the age group of 25-44, followed by 7-14, 15-24 and 65 and above. Contrary, higher literacy rates in Raiganj Municipality have been housed by 15-24 age groups, followed by 24-44, 7-14 and 65 and above age group. The gender differential shows that in SMCA the female literacy is higher than males only in the 7-14 age groups. In contrast, the females dominated the male counterpart in literacy only in the 15-24 age groups in Raiganj Municipality. Relevant research opines that urban poor in all Asian countries are characterized by low levels of education. High degree of illiteracy among the slum dwellers was also due to the lack of educational facilities and economic backwardness.²³ In Asian countries. But, it is not true to a large extent that the children living in slums are lacking educational facilities due to unavailability of schooling access facilities in the Municipal areas.

If we turn our eyes to school enrolment, percentage of dropouts among the children living in the informal settlements in study area, it is to be seen that many of slum

children enroll their names in the school but are unable to complete primary and secondary level of education due to multi-dimensional problems that are directly linked with the way of living of the squatters. Figure 5 clearly predicted that the percentage of school dropout of the children was much higher at around 27 and 22 percent of 7-14 age group in SMCA and Raiganj municipality respectively. This age group normally belongs to primary and upper primary level of education. In the age group of 7-14, school dropout children by economic and non-economic reasons were higher in SMCA at about 14 and 13 percent compared to Raiganj Municipality with 9 and 12.9 percent respectively. The economic and non-economic factors for dropouts are more or less same in both the municipal areas. In Raiganj Municipality, on-economic factors are more responsible for school dropouts. Earlier, it has been mentioned that primary education of the slum dwellers is clear preference and thus the most important contributing factors of school dropouts in SMCA at the age group of 7-14 was non-economic. The young youth of 15-24 age groups shows a alarming dropout rate at around 66 percent in SMCA and 65 percent in Raiganj Municipality. In SMCA, out of total dropouts in 15-24 age groups, 26.3 percent was for economic reasons which include income poverty, inability to pay school fees, books, tuition etc. and economic support to the family. In contrast, about 40 percent of the dropouts was due to non-economic factors like frequent break in studies, lack of interest, early marriage, poor academic performance, family disputes (domestic violence), catering to younger siblings, migration, sickness etc. As per report of the respondent in the study areas, it was observed that a large number of family members around 41 percent are suffering from acute problem like Gastric/Abdominal pain,, Asthma, Heart diseases,, Gynaecological problem, High Blood Pressure, Paralysis, Arthritis, Tuberculosis, , Eye problem , mental problem, Skin diseases prescribed by the doctor either in the public hospitals or private physicians during the periods of six months when the survey was conducted. The children have mostly faced by fever, cough diarrhoea and pneumonia for six months. High prevalence of acute diseases affects inversely the socio-economic condition and educational attainment of the households.

4.8. Skill Insecurity of the Slum Dwellers

According to a Government of India skills gap analysis, by the year 2022, there will be an additional requirement of 109 million skilled workers in 24 key sectors of the economy. The program will, therefore, include partnerships with industry and employers for increasing their engagement in skills programs and scale up their delivery. Financial incentives will also be given to states to encourage them to undertake market-relevant training programs and upgrade their labour market competencies. The country has a substantial challenge ahead. According to Government data only 2.3 percent of the total workforce in India has undergone formal skill training, compared to

68 percent in the United Kingdom, 75 percent in Germany, 52 percent in the United States, 80 percent in Japan, and 96 percent in South Korea. In addition, the skills forecast study indicates that 298.25 million members of the current farm and no farm sector workforce will need to be skilled, re-skilled, and/or up-skilled to increase labour productivity.

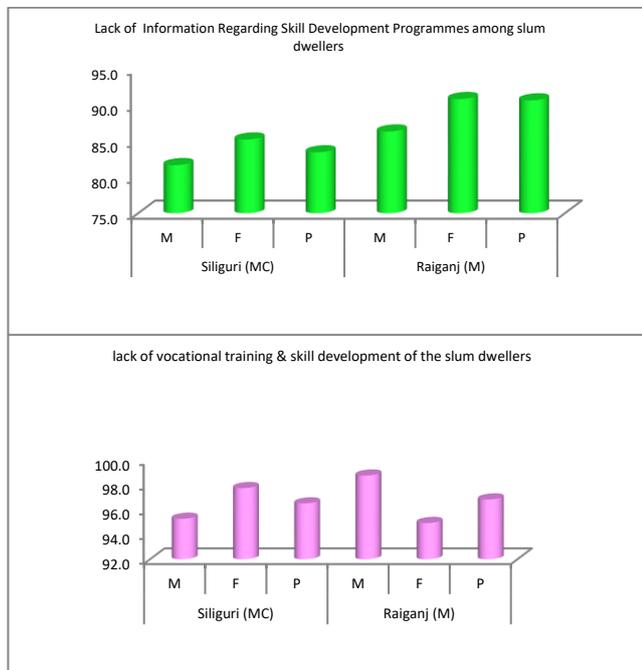


Figure 6. Lack of Skill Development and Vocational Training of the Slum Dwellers in the areas of the Sample Study *Source:* Field Survey (Author’s Computation)

Skill and knowledge are one of the important human assets of the human being. Skills are a necessity and a form of security to improve the employability of the workers. Skills improve human capital and ensure income security for the workers, particularly for the less-educated workers. A major insecurity faced by informal sector workers, particularly those from poor slum households, is the lack of marketable skills. Most of the workers in both the study areas have very low or limited skills. Improved skills help them earn more income for the household. This also helps people increase their confidence, particularly for those who cannot access formal education, due to lack of resources.

Information and vocational training obtained by the slum dwellers above 14 years of age is illustrated in the Figure (15.1). It is observed that the slum dwellers do not have any information regarding Skill Development Schemes for human development which plays a significant role for social-economic development. The percentage is alarmingly high; around 83 percent in SMCA and 98 percent in Raiganj municipality. Lack of information of Skill Development for Income Generation in the sample study areas was mainly due to lack of awareness and weak vertical networks. This further raises the question regarding the role of the local government to create awareness regarding the importance of skill development and various

schemes initiated by the State to improve the employability of the urban poor. On the contrary, around 96- 97 percent of the slum dwellers above the age group of 14 are lacking from the vocational training in the both municipal areas. Various studies show that around 2.5 million vocational training seats are available in the country and 12.8 million people enter the labour market every year. This significant gap confirms that large number of youths do not have access to skill development for improving their employability. These initiatives aim to improve the employability of the working population including school drop-outs, semi-skilled and un-skilled workers. The urban youth who live in these slums are not aware of this development.

5. Discussion

Rapid growth of population in the cities of the developing countries like SMCA (‘A’ category city) and Raiganj Municipality (‘B-1’ category city) has witnessed an increase in the proportion of those people who are living in dilapidated conditions in the slums. The people in these settlements are struggling extremely with multi-dimensional inequality and poverty. Poverty among them happens to be crucial factor for non-enrolment and dropping out of schools. In their struggle for survival, parents are unable to bear the direct and often indirect costs of education. Since independence, education under the Constitution of India falls under the “concurrent list” with sharing of responsibilities between the Centre and States. Expansion of elementary education in India during the last two decades have seen the emergence of a number of education-specific support institutions, like District Primary Education Programme (DPEP) and Sarva Shiksha Abhiyan (SSA), State Councils of Educational Research and Training (SCERT), District Institutes of Education and Training (DIET), Block Resource Centres (BRC), Cluster Resource Centres (CRC). It is important to note that there is also a programme of pre-school education, early childhood care and education (ECCE), mostly provided through the Department of Women and Child Development (DWCD), through Anganwadi Centre Infrastructure, Operation Black-Board. Mid-Day Meal scheme etc., including Right to Education Act 2009, which means that every child has a right to achieve elementary education with equality in a formal school. Education is an important human capital and most effective means to achieve social and sustainable development. Education is not only the catalyst for poverty alleviation strategy but also for empowerment of the urban poor particularly for women. Women, who are living in the slums can be characterised as an economic powerhouse of the nation as well as at the household level. Basic education for them is not the only solution. Skill, knowledge, awareness and capacity building is equally important to enable them to participate both in public and private spaces for taking decisions on matters (right and entitlement) which affect their quality of life. Education of the slum dwellers can enhance power;

power may lead to take collective and organized action which in turn leads to empowerment. Empowerment thus empowers them the freedom to escape from poverty. In this regard, a lot of commitment and programmes including community participation programme was made to empower elementary education in the 1990s. Free and compulsory basic education from 6-14 years of age, as a fundamental right has been legislated in 2009. But, the scenario of educational attainment and dropout rate of the slum dwellers between the municipal areas indicate that the slogan "Education for All" is an incomplete task even today. It is noteworthy that the national agenda to eradicate poverty and attain literacy for children and adults through State initiative were in a proper place. The basic idea behind the massive shift of various welfare and service-oriented strategy with regard to poverty reduction and educational development in the light of post Millennium Development Goals (MDGs) was to improve accessibility to free and compulsory primary education. But, the overall impact on the incidence of urban poverty and universalisation of education remains unaffected to a greater extent till date. The government has failed to reach out to the urban slum clusters in an effort to bring the slum children toward meeting the prescriptions of MDGs. Education for all is a Constitutional right, but the education picture of India clearly indicates that the educational opportunities and attainment for the urban slum dwellers are significantly lower than that of the affluent section of the society. Education is a pre-requisite for attaining sustainable development. It is also true that poverty or low earnings of the slum dwellers adversely affect the quality and quantity of education not only at the macro level but also at the household level. If this scenario is allowed to continue, the agenda of eradicating illiteracy (EFA) by the UNESCO shall be severely thwarted. If the mid-term appraisal of 2015 regarding MDGs is any indication, illiteracy is still a burning issue which need to be tackled in the light of circumstances of unsustainable urbanisation prevailing in the cities of developing countries. Thus, there is the need to ensure access to education and health services and distribution them well; to facilitate fuller use of the human capital of the poor and to empower them with land and equity capital, training and job opportunities made possible by opening to trade, investment and ideas. Unfortunately, over the decades the poverty alleviation and universalization of education has simply been a political slogan with a lot of lots of political confusion. Thus, if a large section of the of slum population, particularly the children and women living in the slums remain isolated or excluded to achieve the elementary and other level of education, a literate society with sustainable development can never be achieved.

6. Conclusion and Policy Recommendation

Thus, there is the need to ensure access to education and health services and distribution them well; to facilitate fuller use of the human capital of the poor and to empower

them with land and equity capital, training and job opportunities made possible by opening to trade, investment and ideas. Unfortunately, over the decades the poverty alleviation and universalization of education has simply been a political slogan with a lot of lots of political confusion. Thus, if a large section of the of slum population, particularly the children and women living in the slums remain isolated or excluded to achieve the elementary and other level of education, a literate society with sustainable development can never be achieved.

On the basis of information collected during the period of field survey and the preceding analysis of the study, the following policy suggestions can be recommended.

1. Poor people living in the slums suffer most from the vicious circle of poverty. Thus, there is an urgent need for community learning programmes to provide educational services not only for slum children but also for youth and other members of the community in order to enable them to participate in the development process; socially, economically and politically.
2. As economic backwardness of the slum dwellers is the root cause of illiteracy and dropout from school, therefore, more and more income/employment generation and poverty alleviation programmes should be implemented properly under strict monitoring system so that the economic condition of these vulnerable sections of the society is improved which in turn lead to better access to education and reduce school dropout of the slum children.
3. Direct participation of the Urban Local Bodies (ULBs) in educating the slum children through sponsored programmes can encourage children to attend school rather than participation in the domestic work.
4. School dropout of children in the slums is mostly characterised by economic constraints, hence school going children may be given scholarship without any discrimination by castes, religion up to that level of education where they can reach.
5. The study suggests the campaigning and awareness programme for the slum dwellers especially for the parents regarding implication and outcome of education. Local urban bodies and policy makers should take steps to universalize elementary education and reduce the incidence of dropouts.
6. A partnership programme of the Urban Local Bodies (ULBs) with NGOs can be initiated to organise and mobilise remedial teaching in the slums. Monitoring and implementation of policies and programmes should be strengthened and effective for improving the socio-economic conditions of the weaker sections particularly for the slum dwellers.

As has amply been demonstrated in our study, non-participation of slum children in school stems out from the fact that they are involved in the world of work. It is most unlikely that child labour will disappear from the urban scene. But State initiative is necessary to bring them back to School. Thus, schooling facilities and proper provisioning fine-tuned with the prescriptions of the EFA, can address some fundamental issues related to the

production sector. Transition will take time but then policies related to the welfare of the urban child has to be realistic and Government's emphasis on public schooling can adequately respond to the problem.

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The Seismic Transformation in Higher Education in the 21st Century: The Case for Data Analytics and Student Success

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Abstract

Changes are constantly sweeping many higher education institutions across the globe. They are more rapid than was ever projected for the twenty first century higher education. These institutions are out of sync with the demands of the twenty first century economy. Consequently, current college graduates are facing very difficult times landing a meaningful entry level job within the workforce. The inability to find jobs makes them unable to have financial freedom following graduation. This trend is real and ongoing because the graduates are lacking basic job ready skills. The endless list of many problems that have been chronicled to be wrong with higher education include but are not limited to lack of accountability, the constant budget woes, the ever-increasing declining trend in enrollment, retention, cost, and deficient basic job ready skills for graduates. Data analytics as a management tool as applied in industries holds promise in addressing many higher education issues. As a way out, transcripts are gradually being promoted as credentials in their own right. This paradigm shift has led many experts to predict the proliferation of badges, and expanded transcripts in place of diplomas for the professions and fields that are not easily certified. This study examined the spectrum of data analytics as a management tool in higher education: recruitment/retention, budgetary issues, degrees vs. badges and credentials, student success, supportive infrastructure, customer service, cybersecurity, predictive models/algorithms, and achievement of institutional effectiveness/goals. Further, it addressed advantages of data analytics, getting the right data at the right time, data informed learning design and key changes in higher education for the future.

1. Introduction

Data analytics is at the center of focus for student success and involvement in higher education. There is an increased interest in higher education institutions to utilize data on their students to identify and measure academic success, retention and potential for graduation. Predictive analytics is the actual term that is gaining an enormous amount of attention. The role

has changed for the institutions; it is around success of the student as a learner. Higher education institutions are compelled to review the graduation completion rate of all students. Educators have come to realize now that the role is more than learning, it is moving above and beyond the threshold of learning. The more institutions are able to gather data on students use and access, learning impacts how educators teach and learn. Having the accessibility of integrating data provides the appeal for educators to understand how students engage within the academic experiences that have been designed for them specifically relative to the chosen major or minor. Some of the key challenges being faced now consists of enrollment, budget, and retention. Many institutions are finding out that they are not able to meet the enrollment goals, less amount of students are graduating, and mainly the large budget cuts that have been reducing higher education institution goals globally. What does this mean for the future in higher education? How can we maintain the status quo and prepare students for the workforce? Some of the major concerns for students to consider coming to college is financial support. Higher education institutions are going to have to optimize closely and set goals that can be met successfully. Higher education has been late in adopting the management tool of data analytics for learning. Data analytics has been used for many years in the area of consumer behavior. There is much research that use the term data analytics and/or predictive analytics. For this research, the term data analytics is used. Data analytics for this study defines data as innovation and meaningful communication patterns in data by way of assorted tools and techniques employed to provide a quantifiable number in the performance of students, make predictions and to use results to design strategies to improve academic success of students. This can be done in many ways. Higher education defines analytics as being the utilities or systems engaged on both sides of the coin for administrative and academics to improve student learning and performance. At this point, the professor is at the forefront and plays a major role as to the efficacy and management of student enrollment and budget

justification [1]. The reasons for the role can be linked to the increase in institutional accreditation requirements, lack of funding, competition, assessment, state and federal regulations demands. These are some of the major contributing factors to the adoption of analytics in higher education. [2] suggested that higher education institutions have always gathered data on learning, but the data is not being analyzed adequately and interpreted into useful data. Since 2007, according to [1], governmental systems, accrediting agencies, parents and students made a call for the implementation of new and efficient ways to improve and monitor students' retention and academic success. For many years the focus was on retention, reviewing formulas by looking at high school transcripts and standardized test scores to determine the success of a student, but it has been proven over time that learning and teaching at institutions is so diverse and can be a complex experience for students. Data analytics affects the whole higher educational system. Learning Management Systems (LMS) is at the core of academic analytics in higher education. LMS has the ability to record all staff and student's information along with results within a system. Once the LMS is added, it generates meaningful information in such an array that is beneficial to the competitive range for different information systems [3]. [4] recommended that institutions gather meaningful information from a collaborative perspective, otherwise, the data will remain to be a total waste. Almost every institution uses surveys in order to gain a better understanding of the community at large which leads to better enrollment figures towards future education. It is imperative for future enrollment and trends, that institutions move towards use of a more sophisticated analysis. Such change will aid in better future actions that will lead to optimal choices and successful progress towards student academic success.

2. Recruitment and Retention/Budgetary Issues

Many institutions are facing an array of continued financial difficulties ranging from a smaller class sizes of high school students to a decrease in state and federal dollars toward higher education. For instance, in the United States the state of Louisiana has recently limited the dollar amount that students receive for the Taylor Opportunity Program for Students (TOPS). [5] reported that higher education institutions are facing turmoil that will impact pedagogy, teaching and learning, content delivery method, tenure and promotion for the future. The driving force for using data analytics has to do with the need for improvement in retention rate among college wide students. For years retention has been focused on support and for students especially during the freshman year. Recruitment will continue to be a driving force for

universities in spite of the financial shortfalls. The challenge is no longer retention, but the new problem is engagement. It is a necessity for higher education to review their student populations and determine what can be done to increase student retention and engagement. Student success is based on what the institution does for students as well as what students can actually do for themselves. The academic rigor of universities continues to remain important for academic and student success. Studies have reported students who are actively engaged within the learning process tend to be more likely to remain at a college or university [6].

Higher educational systems have put into place over the past several years strategies to collect enormous amounts of data relative to graduation rates and student surveys. To analyze that data does not gear towards positive results of change and determination to face the financial and educational budget woes within the system. Currently, higher education institutions are reviewing the success and process in which Netflix, Pandora, and Amazon utilize data analytics. Some institutions are planning on implementing familiar tools and features specifically to assess advisement and the registration process. It is highly recommended that higher education focuses their attention on college freshman and learning engagement. According to [5] higher education is one of the fastest changing markets ever. College students enrolled in higher education are anticipated to be more than double to 262 million by 2025. This process can be categorized as how to identify the low to high risk student and have them to be part of the groups for retention consideration. The Figure 1 shows the predicted low to high risk student retention for academic success.

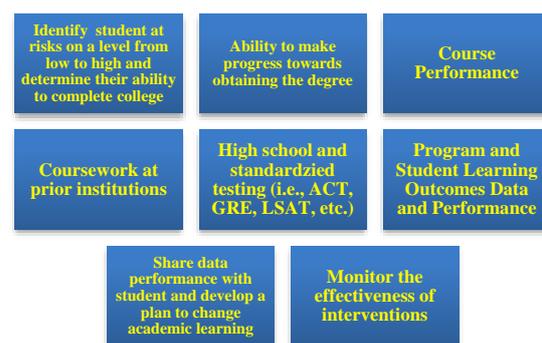


Figure 1. Predictions from Low to High Risk Student Retention for Academic Success

3. Degrees vs. Badges and Credentials

Most higher education institutions have established their own method to provide evidence about the college experience of their graduates such as the Diploma. The Diploma and Degrees conferred by accredited colleges still command some sense of

dignity and respect to employers and the general public. Today's students live much of their lives online. Currently, many institutions are still printing, typing and mailing to students. For most students to receive a transcript today, it requires them to fax or email the request, mail a check or money order and wait in line to receive an envelope or receive it via USPS mail. Higher education is in need of a transformation in order to figure out how to find specific ways and measures to transfer information to students and their employers. Colleges and universities are the beneficiaries to this growing credentialing society due to the fact that they are the caretakers of many of those credentials. Basically, higher education has a challenge to figure out how to credential better in more ways that are accessible, digital, and most of all transferable.

Presently, job demands have become higher and technically more complex than ever. More information is needed for the higher standards within the workforce so students can be better equipped. The question to ask ourselves is does the degrees offered at the bachelors and master level correlate with the requirements of many of the jobs within the labor market? Higher education has moved into a new era where some industry and nonacademic certifications stand out more than the diploma. Employers are telling students they want more than a college degree and transcript [5]. Transcripts have become the norm for credentials within and higher education institutions are using badges to offer employers information about students' abilities in many ways diplomas can no longer attest to [5].

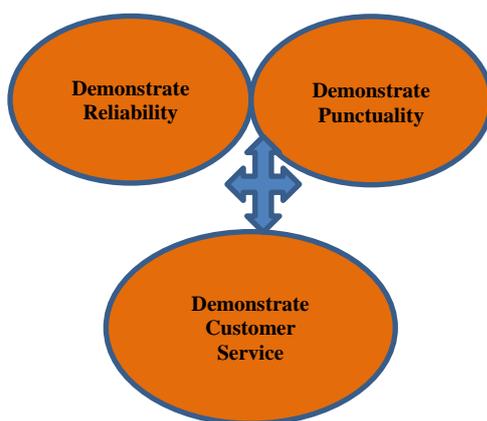


Figure 2. Students Readiness to Work

Decades ago, the high school degree was all a person needed but as many people obtain more education, a graduate degree such as a masters and/or specialist/doctoral degree will become the employment differentiator. Employers are requiring students to be better prepared for the workforce. We are seeing a rise in expectations from both students

and employers for more comprehensive credentialing that documents skills, abilities, and knowledge across the lifespan. Unfortunately, most universities have not come close to the bargaining table to meet the expectations for workforce ready. Students must be prepared and ready to meet specific employer needs (see Figure 2).

Additionally, higher education can plan for teaching teamwork, problem-based learning, and case study based approach for students entering the workforce. It is imperative that students learn how to work well with others, be creative, and think outside of the box. Higher education institutions will need to work harder and more competitively to prepare students to invoke their creativity, and innovation within the workforce [5]. Students will need to go above and beyond the role of using computers in knowing how to navigate the world of computing. Due to the compelling need to operationalize a paradigm shift in teaching and learning, the move has made faculty to take into consideration 21st century skills for students [6]. This allows the teaching and learning to focus more on creativity, diversity, flexibility, motivation, critical thinking, and problem solving. Some of the future trendsetters are robotic instruction, artificial intelligence, and coding classes. 3-D printing is already common, but by 2030, printing a replacement for a broken part of your bathroom cabinet may be the norm. Possibly the need for truck drivers will be no more due to driverless car technology. Many computer jobs will be around from robots to artificial organ farmers-a person that grows new livers, kidneys and spleens like peanuts or roses in a garden. There will continue to be advancements in the 21st century such as e-learning. These e-learning environments can aid our higher education systems to customize the learning environment and personalize the realm of delivering audio/visual and graphical content in order to enhance and improve higher order thinking skills and abilities. By doing so, it prepares students for the mobile workforce. [5] indicated that the flipped classroom approach is challenging within the learning environment, but the outcomes leads to improvements with the actual engagement of students and feedback in order to measure what works.

4. Conclusion

It is quite important for boards at the university level to understand the reasoning behind data analytics. Competition in higher education continues to be fierce and the continued efforts in running an institution is constantly challenging. Data analytics will assist universities with meeting the calls to legislators, government officials, accreditors, community and public at large about their management operational systems along with student learning outcomes. Data about student learning will definitely improve teaching and learning in ways that

help students to achieve and yield better results. The learning process is the key for consideration of credentialing. Credentials do matter because they provide a marker for perilous life outcomes for a digital world. Higher education today must capture the entire educational experience of the student in order to create both a course and campus-based achievements. By so doing, this protects, enhances, innovates, preserves and limits access to data but in the long run make the data portable, available and actionable for 21st century learners, graduates, its institutions, and employers. Lastly, the ultimate goal for all students is to be able to manage their lives and function as responsible members of a society. Data analytics holds great promise for helping colleges and universities make good decisions impacting student life cycle. Data analytics must start with a top down processing approach including the President and Provost. Lack of this, institutions will be unlikely to have the resources to build such a campus-wide effort. Data analytics is still new in higher education. However, there are many compelling reasons as to make the investment and commitment, including recruitment and retention performance, consider the improvement of students' lives, and review the needs for accountability. Data analytics will continue to influence higher education. Future studies should assess the best and effective tools for determining student success, identify the types of things you would like to track and measure about students, and consider how to design a learning environment that is helpful in producing useful data. We can simply imagine a future where students are in control of the data and documenting the learning across lifetime.

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Session 27: Higher Education and Pedagogy

Title: The Pedagogical Preparation of Chinese Students to Realize Pedagogical Competency: An Examination of Chinese Students' Experiences of English Language Programs in China and Australia
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Title: Unmasking Gendered barriers to Academic Help-Seeking: Perspectives of Male Undergraduates at a South African University
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Title: A Quality Management Framework for Vietnamese Higher Education Institutions
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The Pedagogical Preparation of Chinese Students to Realize Pedagogical Competency: An Examination of Chinese Students' Experiences of English Language Programs in China and Australia

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Abstract

Existing studies mainly focus on the learning shocks among Chinese students who obtain cross-national education in English-speaking countries, which involves in language incompetency, academic culture shocks and psychological frustrations. Within these difficulties, this study particular investigates academic culture shocks relating teaching pedagogies which are not fully investigated in existing studies. The results suggest that Chinese students experienced different levels of difficulties towards teaching strategies. Therefore, better preparation before Chinese students studying abroad perhaps need to emphasize more on those teaching pedagogies they are unacquainted with and do not competent to participate in.

1. Introduction

In terms of the pedagogical practices of English-speaking classrooms, this study employed Roy Killen's [8], [9] theoretical framework which summarised the different teaching strategies, based on the characteristics of the teaching and learning activities. Killen [9] noted that the techniques that have been used to facilitate learning are regardless of a specific discipline. According to Killen [9], there are seven different teaching strategies that are commonly used in Australian classrooms: direct instruction, (whole) classroom discussion, small-group work, cooperative learning, problem solving, student research, and performance activities.

Based on Killen's work, this research divides these seven teaching strategies into three groups: presentation-based teaching strategies, interaction-based teaching strategies and inquiry-based teaching strategies. The rationale for this division involves a consideration of the major skills that are required for student participation in these teaching strategies. However, the traditional way of grouping these strategies is teacher-centred or student-centred [9]. He suggested that direct instruction is the most teacher-centred, while student performance activities (e.g., writing) are the most student-centred. Yet this division received

criticism from Chen and Sit [6], who argued that the central role of teacher and student may shift during the process of teaching and learning. Alexander [1] believed that the division of pedagogical practices into teacher-centred and student-centred is a simplified binary and went on to argue that mainstream pedagogical research needs to abandon this dichotomy. Taking into consideration these criticisms, this study re-categorised these teaching strategies into three groups: interaction-based, inquiry-based and presentation-based. The interaction-based teaching strategies include small-group work, classroom discussions and cooperative learning. The inquiry-based teaching strategies are problem solving and student research. The third group is presentation-based teaching strategies and includes direct instruction and performance activities. The aim of grouping the teaching strategies in this way was to allow the researcher to identify the central characteristics of the classroom teaching. It could further assist the researcher to explore the common pedagogical challenges that the Chinese cohort confronted in Anglophone classrooms.

2. The research methodologies and participants

This study employs a mixed methods research approach to examine the international Chinese students' pedagogical challenges and the pedagogical preparations that they received before studying in English-speaking countries. This study involves three groups: (1) Chinese postgraduate students who are studying in English-speaking classrooms to attend in-depth interviews; (2) the English language preparation instructors and the Chinese students who are in the process of preparation in Australian universities completed surveys and classroom observations; and (3) College English instructors and students at Chinese universities also completed surveys and classroom observations. The multiple types of participants allow the researcher to develop a critical understanding from different perspectives [3]. For example, one cohort of Chinese students who are

Table 1. Current preparation programs in China and Australia

Teaching	College English (China)		Language centres (Australia)	
	Teaching focus	Language and skills	EGP	Language and skills
	Pedagogy	No	Pedagogy	No
Instructional strategies	Presentation-based	Yes	Presentation-based	Yes
	Interaction-based	Limited use	Interaction-based	Frequently used, but needs to be improved
	Inquiry-based	Little preparation	Inquiry-based	Little preparation

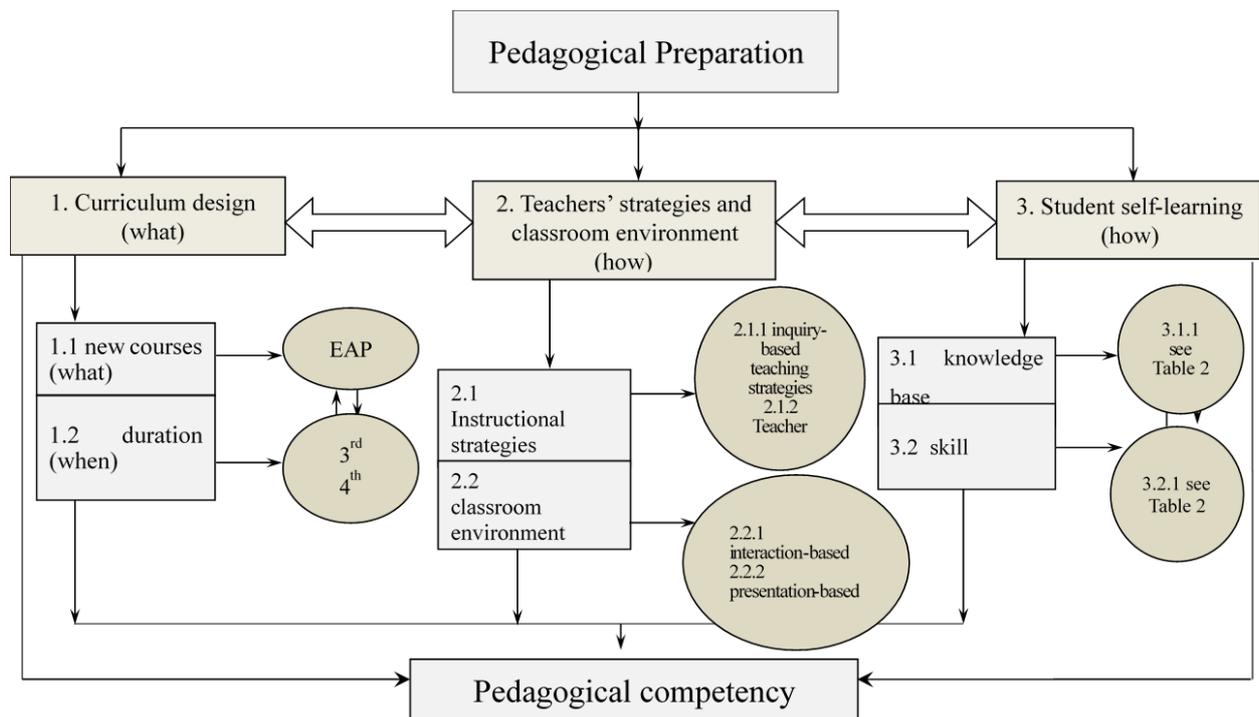


Figure 1. Multi-participatory model of pedagogical preparation

undertaking postgraduate study in Australian universities was interviewed to understand their initial pedagogical difficulties. Two other cohorts in Chinese universities and Australian language centres were surveyed and observed in classrooms

to understand how Chinese students are prepared before undertaking their cross-national education. The results from these investigations provided the researcher with a thorough comprehension of these issues.

Table 2. Recommendations regarding the Multi-Participatory Model

Dimension One: The design of curricula	Recommendation One: The current College English programs could become more inclusive in three stages: from the current general English to English for special purposes, and then to English for academic purposes. In the EAP courses, more attention should be given to the pedagogy, which is particularly relevant to students' aspirations to undertake cross-national education.
	Recommendation Two: College English curricula need to consider providing ongoing training after the two years' teaching duration. In particular, the curricula need to identify groups of students who are studying for the purposes of cross-national education.
Dimension Two: Teachers' strategies and the classroom environment	Recommendation Three: The pedagogical preparations for future Chinese students should be a part of the EAP teaching within the third and fourth year' classes and can involve diverse teaching strategies delivered in a progressive way.
	Recommendation Four: With regard to the preparation of inquiry-based teaching strategies, the following three steps need to be included in the preparation process: teacher presentations; student practices, and teachers and students' assessments of the preparation.
	Recommendation Five: College English teachers need to build collaborative learning communities in classrooms to build the students' readiness for interaction-based teaching strategies.
	Recommendation Six: In terms of the preparation of presentation-based teaching strategies, College English teachers need to create an inclusive classroom environment. Namely, College English students should be provided with the opportunities for active and meaningful participation in classroom activities.
	Recommendation Seven: College English teachers need to have substantial, ongoing, professional development in pedagogical skills by being reflective and critical teaching practitioners, as well as universities working to facilitate students' pedagogical preparation.
Dimension Three: College English students	Recommendation Eight: College English students need to consciously prepare for strategies to overcome the pedagogical challenges they may confront within English-speaking universities. These preparations will include self-constructing a solid knowledge base and vigorously developing different types of pedagogical skills.

3. The results

The empirical data showed that the preparations in Australia have flaws in relation to the pedagogical preparation of Chinese students. As such, Chinese students cannot afford to wait until they study in Australian language centres to be prepared (see Table 1).

4. Recommendations: The Multi-Participatory Model for pedagogical Competency

A multi-participatory model includes three dimensions: the curricula of the College English programs, and the teachers and students who are conducting the pedagogical preparation (see Figure 1).

These three dimensions are interrelated, and each contributes to the pedagogical preparation of Chinese students. Two recommendations are related to the curriculum design of College English curricula, while five recommendations are related to the College English teachers and the classroom environment, while one recommendation is pertinent to the Chinese students themselves (see Table 2). The aim of pedagogical preparation is to help students to establish their pedagogical competency, which includes two aspects of the abilities that students are expected to have established with their pedagogical preparation. These abilities are a solid knowledge base and vigorous pedagogical skills. With regards to the knowledge and practices of pedagogies, scholars often analyse these from the perspective of teacher preparation [10], [9]. However, this study highlights the significance of the students' pedagogical preparation. A better preparation can potentially contribute to the learning outcomes of students and their academic performances in English-speaking classrooms. Additionally, it can potentially also facilitate the intangible values for students when they study in English-speaking classrooms, including positive emotions in the classrooms, self-confidence and a dedicated intention to engage in teaching strategies.

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Unmasking Gendered barriers to Academic Help-Seeking: Perspectives of Male Undergraduates at a South African University

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1. Introduction

Retention and success of male students at universities has become a global concern. Diverse explanations have been offered to understand male students' attrition, including institutional factors such as epistemological access and challenges related to instructors, as well as personal factors such as material deprivation, health issues and low academic goals [5].

2. Literature review

This presentation departs from the three theoretical frames which are commonly used to explain student attrition, namely, the adjustment framework of student retention, stage model of student progression and epistemological access [6], by focusing on gendered constructions which influence male students' academic support seeking behaviours. Men's reluctance to seek academic support has been found to be a significant barrier to male students' success at universities. Male students' endorsement of and compliance with hegemonic masculinity ideology has been linked to their reluctance to seek academic support [7]. Avoidance of support seeking has been linked to masculinity variables. Male students at universities have been found to struggle with masculine gender role strain. Male students' compliance with traditional norms of masculinity result in multiple forms of strain.

This presentation will focus on male students' constructions of masculinities, and how this influences their potential for progress at universities. It draws on theories of masculinity as it seeks to answer the question: What are the gendered barriers which inhibit male students from seeking academic support? [4] Connell has worked in the field of gender and masculinities, and highlights the diversity of masculinities, the interplay of different forms of masculinity, the patterns of hegemony and contestation and the embedding of masculinities in economic and cultural contexts. She also points out that in addition to recognizing multiple masculinities, we must also be aware of the relations that exist between the different kinds of masculinities: relations of alliance, dominance and subordination [3]. This view is similar to that of [1] who reject an essentialist view to masculinity and contend that "masculine gender roles are socially constructed from stereotypes

and norms, are multiple and contradictory, and create problems for individual men and others." Young men feel that they are constantly being judged and evaluated for their actions as men as they negotiate their lives through sometimes conflicting versions of masculinity [2]. Ratele also writes about men being judged by others and themselves when he states that "we live in an age of masculinity as a self-conscious art of sorts" [8]. He explains that self-conscious masculinity does not apply uniformly to all men.

3. Methodology

We studied the influence of the constructions of masculinities on male students, by using non-probability sampling techniques to survey opinions of male students at a South African university. In keeping with trends for notoriously low response rates to online surveys, we achieved a total of 265 completed forms. We invited these respondents to voluntarily participate in face to face, individual interviews, and four male students acceded to our request. In this interpretive study, we used a mixed methods approach to report on selected data from this survey, as well as data from four interviews.

4. Preliminary findings

The findings are discussed within themes that emerged from the data associated with barriers to help seeking. These themes, including male students' conceptualization of independence and success, are linked to one another. Many of the survey participants strongly agreed that they strive to be more successful than their fellow students. However, the findings reveal substantial challenge to this masculine ideology in some interview responses, where male students valued co-operation over competition. A majority of the participants viewed the generation of financial wealth as a masculine trait, and as a sign of success. This is embedded in the historical construction of men being highly suited to the economic sphere. Independence and self-reliance were also valued by these participants. Where academic support seeking is associated with dependence and weakness, support is not likely to be sought. The findings from this study draw attention to

socio-cultural contexts within which students are nested that have to be considered in the planning and delivery of academic support aimed at enhancing academic achievement.

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UiTM Dental Graduates Self-Perceived Preparedness Level and Educational Environment Experience

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Abstract

Objectives: This study aimed to (1) determine the preparedness level of the graduates of the Faculty of Dentistry, Universiti Teknologi Mara (UiTM) upon entering the workforce, (2) to explore the perceptions of the educational environment experienced during their undergraduate years and (3) to determine the association between perceptions of educational environment and their preparedness level. Materials and Methods: a cross-sectional survey was carried out using self-administered questionnaires distributed to all graduates of the Dental Faculty of UiTM. Graduates' preparedness for dental practice was determined using a survey adapted from Yiu CKY et al., 2011, where respondents rate from 1=very poorly prepared to 4=very well prepared for 59 aspects of dentistry across 9 domains and dichotomized into well prepared (score 3 and 4) and poorly prepared (score 1 and 2). The Dundee Ready Educational Environment Measurement inventory (DREEM) was used to quantify their perceptions of dental educational environment. Independent t-test was used to compare the mean DREEM scores between graduates who rated well prepared and those who rated poorly prepared. Results: Preliminary results of 60 participants show 75% of the graduates had good self-perceived preparedness level. General Patient Management and Drugs and Emergency Management domains had the highest proportions of graduates who rated well prepared (95% and 90%) while Periodontology and Public Health and Oral Rehabilitation domains had the lowest (33.3%). The mean DREEM score was 144.75 indicating that the graduates perceived their educational environment as more positive than negative. No significant difference was found in the mean DREEM scores between well-prepared graduates and those who were not (independent t-test, $p:0.25$) Conclusions: This study found that although most graduates had good preparedness level and a positive perception towards their educational environment, there were a few weak areas that need to be addressed. The outcome of this study can serve as a guide for subsequent curriculum amendments.

A Quality Management Framework for Vietnamese Higher Education Institutions

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Abstract

This paper advances research-based insights into effective internal quality management in higher education institutions (HEIs). It argues for the need to improve internal infrastructure and capability. It presents a quality management (QM) framework that is relevant and specific to the Vietnamese tertiary context, which can be used to evaluate quality and institutional performance in Vietnamese HEIs. The research commenced by distilling a literature-driven framework based on: examining Vietnamese higher education; reviewing definitions and concepts associated with quality and management; analyzing 23 articles filtered from the five previous meta-analyses. This framework clarified dimensions and their corresponding items relevant and specific to Vietnamese higher education QM. Next, for empirical validation, a review based on the Delphi Method was administered to 49 international and Vietnamese experts on higher education and quality management in higher education. The outcome yielded a theoretically informed and empirically validated framework on QM for Vietnamese HEIs.

1. Introduction

Over the past thirty years, political, economic and socio-cultural drivers have contributed to major changes in Vietnamese higher education, which in turn have spurred the need for more formalised approaches to quality. Many ideas, suggestions and policies have been issued and many measures have been implemented, all aimed at assuring and enhancing quality. There have been some initial achievements but university education outcomes are still low and do not meet the needs of the society let alone adequately addressing the challenges facing a developing country. This paper advances research-based insights into effective internal QM. It argues for the need to improve internal infrastructure and capability. It presents a QM framework that is relevant and specific to the Vietnamese tertiary context, which can be used to evaluate quality and institutional performance in Vietnamese HEIs.

2. Vietnamese higher education

Among 445 HEIs, 88 are private; and 16 universities, which account for nearly two thirds of all university enrolments in the country, are entitled 'key' universities with a higher focus on research. Since 1986, HEIs are allowed to open different full-time and revenue-generating part-time programs to accommodate different types of students. This contributed to the dramatic enrolment from 133,136 in 1987-1988 to 2,363,900 in 2014-2015, which caused a widespread concern on quality to the whole society. Since 2003, Vietnam has greatly managed to sustain all its resources to build up a relatively complete quality assurance (QA) system. Though this process is a stepping stone to the awareness of QA and QM, current selection of appropriate approaches to External QA and establishment of Internal QA units do not guarantee quality improvement since obstacles remain when change is externally rather than internally driven. The creation of these QA structures, though an essential prerequisite, is not necessary a sufficient condition. A HEI needs effective QM to make its operation more efficient, to improve quality, to enhance the effectiveness of the QA system and to make sure that it can provide the society with a qualified human resource. What is needed is the development of an Internal QA system embedded in an effective QM system that runs smoothly from the institutional level to the program level. After all, quality is the responsibility of a HEI. Hence, there is a research niche for Vietnam's higher education QM appraisal when policy on quality improvement has been already in place. In other words, with the seemingly increasing commodification of HE in Vietnam, it is argued that the competition and pressures on quality will drive greater need for insights into how QM is interpreted and implemented in Vietnamese HE context. However, as QM is contextually dependent, a QM framework which is relevant and specific to the Vietnamese tertiary context is needed as criteria to evaluate what is going on from the QM perspective.

3. The literature-driven framework

In one of the very rare papers attempting to review researches on QM in HEIs, Brookes and Becket [1], remark that HEIs promote QM frameworks due to growing external demand for accountability and efficiency and consequently many end up with adopting or testing QM frameworks developed for business and industry. However, they also highlight the ill fit of these frameworks in the education context with the core functions: education and research although these frameworks may contribute to the improvement of accountability. What frameworks from business and industry lack, “is their recognition of the centrality of the student learning experience” [1]. Nevertheless, the industry frameworks can be food for thought and a starting point for a HE QM system. Thus, numerous efforts have been made to adapt or create QM frameworks with special focus on the core activities and other aspects directly related to HEI missions. Though no models can provide an ideal solution to specific organisational requirements as QM is contextual dependent, a rich variety of existing theoretical and conceptual approaches to QM in higher education may inform the proposed framework under study.

In this sense, the author attempts to make a synthesis of the best features of different frameworks and consequently the proposed framework is a blend of the approaches to QM from different frameworks designed for QM in HEIs in diverse national contexts. To ensure the widest coverage in the review, the research employs six significant articles reviewing the literature on QM at institutional level that advances key QM enabling frameworks and dimensions through different periods: TQM in higher education - a review [15]. A comparative analysis of quality management in US and international universities; Quality Management Practice in Higher Education [1], Quality Management in Higher Education: Towards a Better Understanding of an Emerging Field [16]. The integration of quality management in higher education institutions: a systematic literature review [17] and Trends in quality management research in higher education institutions [18]. The collection of papers from these grand reviews provides all the contributions to date on QM at institutional level from all the corners of the globe, creating a large database of QM items, dimensions and frameworks used by HEIs. The literature of QM in HE has witnessed many contributions of QM frameworks compatible with HE characteristics and particularities. Though some have modified such business frameworks as TQM, ISO 9000 and Malcolm Baldrige to construct their own, they all specially focus on the primary functions of a HEI. Some are even grounded on educational theories and literature and design QM frameworks from HE rather than from industry.

From this collection, 23 papers were chosen based on the criteria: institutional level focus, peer-review, English language and especially consisting of QM dimensions/ Best practices/ Success Factors/ quality principles and items addressing these dimensions if included. It is noted that the approaches, concepts and frameworks presented in this collection imply the same dimensions though the label and the way they are discussed may be very different. Therefore, the items will help further clarify what a dimension is.

From the content analysis of these 23 papers, eight most common dimensions including Continuous Improvement, Leadership, Information Management, Resource Management, Education and Research Management, Partnership Development and Management and Benchmarking within and with other institutions; and 44 corresponding items used in QM frameworks in HEIs in light of the Vietnamese HE context and HE relevant characteristics are identified. The proposed framework is holistic and comprehensive, which supports the trend of QM involvement and integration recorded in the literature [14].

4. The Finalised Quality Management Framework

After the qualitative review was conducted to understand the phenomenon under study, the literature-based comprehensive framework on QM for Vietnamese HEIs at institutional level, was formed. However, as argued above, QM is culturally and contextually dependent while the literature-based framework above is from the Western perspective and the researcher’s lens. Therefore, for empirical validation, a review based on the Delphi technique was administered to the local experts on HE and QM in HE. This expert review exploration is aimed to reach a consensus on a specific and relevant conceptual framework for revealing QM practices in Vietnamese public HEIs. The Delphi method is characterized by anonymity, feedback, and summary of responses. The key rationale for exploiting this method is to get rich data from a group of experts in the topic area and to maintain the advantages of group decision-making without suffering from potentially complicated group interaction. For the purpose, the purposive and snow ball sampling is used together with the Likert Scale Instrument.

The data revealed the demographic information of the expert panel whose combined professional experience and background are closely related to the subject of study, which met the requirements of the research. These high-profile cases would be definitely beneficial as a reliable feedback resource leading to the consensus-building goal of the study.

Table 1. Experts' Profile

Experts' Profile	49	%		49	%
Gender			Highest degree earned		
Female	17	34.7	Master	14	28.6
Male	32	65.3	PhD	35	70.4
Title			Years of experience in HE		
Lecturers & Senior Lecturers	16	32.7	3 – 9	5	10.2
Assoc. Professors & Professors	18	36.7	10 – 19	20	40.8
Officers & Senior Officers	15	30.6	21 – 30	15	30.6
			>=30	9	18.4
Cultural Background			Years of experience in HE QM		
Vietnam	35	71.4	1-3	9	18.4
Other ASEAN countries	7	14.3	4-9	16	32.6
Other countries	7	14.3	>=10	24	49.0
Current position			Years of experience in the current position		
Quality Expert & Assessor	23	46.9	1-3	22	44.9
HE Expert	9	18.4	4-9	16	32.7
QM Leader	17	34.7	>= 10	11	22.4

Based on the preliminary instrument i.e. the literature-based framework, the two round Delphi survey permitted the experts to rate all dimensions and items on QM at institutional level via a Likert scale from 1-unimportant to 4-very important and present their opinions through open-ended questions. Both the internal consistency of each subscale and the whole questionnaire were tested based on the responses using SPSS. For exploratory purpose, a mean cut off value of 3.0, a lower than 1 standard deviation, a minimum of Alpha of 0.6 and minimum item-total correlation of 0.3 is needed for reliability. This is used to determine the dimensions and items to be retained for the design of the QM framework at institutional level. It should be noted that this is not intended to be a full-scale statistical validation as it is the numerical summary treated as some form of a broader qualitative analysis thanks to the limited number but high-profile participants and rich data from responses to open ended questions. Therefore, any dimension or item with the indicator below the minimum should be considered being modified or removed for reliability in reference to experts' comments for content validity as qualitative analysis based on the open-ended questions and answers were also emphasized. The rich responses from open-ended questions were content-analysed, categorized and translated into generic statements. This is used to determine the dimensions and items to be revised, discarded or added for the design of the QM framework. The result of the expert review has contributed to finalizing the QM Framework for Vietnamese HEIs of 8 dimensions and 45 corresponding items (Appendix 1). As the Vietnamese experts are from across the country and most foreign experts have researched and worked on Vietnamese higher education and QA, the framework

is locally adapted. It provides all-around, institutional-level dimensions and items. The framework agrees with the definitions that QM can be regarded as a holistic management philosophy and an aggregate of practices for institutional management that focuses on the maintenance and enhancement of all the institutional functions to satisfy or exceed stakeholders' current and future expectations [6]. That is to say, QM in HEIs is quite comprehensive and comprises all components of quality work: quality planning, quality control, quality assurance and quality improvement to ensure fulfilment of the quality policy, quality objectives and responsibilities [13].

5. Discussion

The framework has tried to highlight general aspects of QM, that have been adjusted to the specific Vietnamese context to meet (i) the need for a sound, valid and reliable information system with institutional research capacities (ii) the need to develop, at each managerial level, the capacity to provide sound management practices to balance between what is academically desirable and what is economically feasible. (iii) the need to involve and encourage faculty and staff in QM. These needs have been acknowledged but have not been actively promoted or addressed fully in Vietnamese HEIs. This framework has been developed in accordance to the combination of the collegial theory, New Public Management (NPM) theory and Hofstede's cultural dimensions theory. In this collaboration, the NPM approach helps design a top-down quality management system with all its essential principles while the collegial model contributes to the development of a bottom up involvement of all the teaching and administrative staff, the process of which should take into account the Vietnamese national cultural features including high power distance and collectivism, moderate long-term orientation and feminism and low uncertainty avoidance.

Continuous Improvement: means commitment to continuous quality improvement and developing an operational procedure of transforming inputs into outputs. Applying a more formalized approach in HEIs in the Vietnamese context requires a large amount of change of the culture in the institutions, which has proven to be most complex and difficult to achieve. Understanding the national profile and applying the QM practices accordingly would be most beneficial to the institution. The framework requires an extensive change strategy developed and pursued by resourceful leaders who are willing to facilitate active full participation from all the teaching and support staff. Together, these leaders and staff facilitate research, program design and delivery, and service performance

Leadership: requires capable and committed leaders who can accommodate fundamental institutional needs and negotiate between internal and external partnerships at different levels to provide a high quality of teaching, research and community outreach through professional autonomy and scholarly activities. In the culture of high power distance, the role of the leaders is more emphasised. Therefore, QM implementation should start with the leaders at all levels. Leaders should be aware of the national culture to avoid the confrontation of values and take advantage of the national characteristics enablers to build up a new quality culture based on the QM concepts. The process may be complicated depending on the leaders' vision, knowledge and capability.

Information Management: examines whether data and information related to daily operations are gathered and utilized effectively and efficiently to support the different processes concerning QM and to inform decision makers at different levels. In a low transparency environment like Vietnam, research institutional capacity building is highly required.

Resource Management: facilitates institutional performance to achieve its goals by allocating institutional scarce resources to support the development and implementation of QM in a sustainable manner. This dimension will explore the most controversial aspect in Vietnamese higher education.

Education and Research Management: is centred on an educational institution's operations such as education curriculum and delivery and other practices that are concerned with teaching, learning, doing research and performance metrics. Literature indicates that HEI roles and responsibilities of today are still in line with the development of institutional patterns for half a millennium. The mission of HE has traditionally been focused on three core areas: education, research, and service. In the contemporary socioeconomic context and knowledge-based society, to sustain the balance between these roles and responsibilities is the driving ambition of most universities. Among these, one of the most important tasks of HEIs is to ensure the professional and personal development of students. In other words, they have to provide knowledge and skills which assist students to respond well to workplace challenges. The increase of the proportion of practical training, the participation in projects and teamwork and the exchange programs could contribute to students' self-confidence when joining the workforce. This can help Vietnamese students become successful in more performance-oriented organizational cultures when entering the labour market.

Stakeholder Focus and Satisfaction: examines stakeholders' needs and expectations and the levels of these needs and expectations; and checks if the QM principles and fundamental concepts of the institution

are transferred to the workforce to attain maximum benefits and desired goals; and if faculty and staff empowerment is in alignment with the institution's mission and vision. The framework demands full involvement of all the staff through team work, consensus, participation and concern for people. Long term personnel development and trust (a form of tenure) should be valued. The leader should work as a mentor, facilitator, and even a nurturer to encourage motivation and cooperation. Different perspectives should be communicated and relevant information should be shared by those affected before any decision is made. The staff involvement and the supportive leadership attitude can help create a family oriented environment which eventually leads to higher staff commitment and loyalty. This can be feasible when taking advantage of the culture profile.

Partnership Development and Management: examines the process of establishing internal and external partnerships at different levels. This also requires the university to start thinking about internationalization of the curriculum, teaching and learning foreign languages for faculty and students, exposing students to different cultural or international experiences, including faculty and student mobility, etc.

Benchmarking within and with Other Institutions: examines how the institution compares its process to best practices within itself and with others, and how it emulates those best practices in its own context. There should be a comparison between the results of self-assessments and external reference points especially the ones in the country and in the region to close the loop of the PDCA cycle.

As a backbone for the framework, the Deming cycle can stimulate steady improvements [4] and is applicable to every aspect of a HEI to meet the challenges of being responsive, effective and efficient. For example, the curriculum, teaching, learning, examination and evaluation design and processes should be performed effectively in accordance with the designed plan following the PDCA cycle.

It is essential to note that the framework requests for committed leadership and professional support with a more people-centred management style and practice. This is in alignment with the concept of Quality Culture, which is generally defined as shared values and collegial responsibilities of all the individuals developing the academic community through experiences, expertise, values, and behaviours from the grass root level [8]. That is to say, this Quality Culture engages both top down (management commitment) and bottom up (grass-root involvement) approaches to institutional quality.

6. Conclusion

The outcome yielded a theoretically informed and empirically validated framework on QM for Vietnamese HEIs, which serves as a tool for analysing QM implementation in Vietnamese universities in a larger project. This paper has examined the architecture of the QM framework, paying particular attention to the role of leadership and institutional culture that put in place new foundations and prospects for quality improvement. The study proves that the characteristics of theories and practices from the West and Vietnamese sophisticated socio-political and cultural contexts can blend in harmony. The framework is directly applicable to Vietnamese HEIs but it can be an important implication for QM practitioners in other countries that have similar socio-political and cultural contexts. The research's findings are framed to facilitate ongoing dialogue aimed at comprehensively and effectively addressing the achievement of relevant and worthwhile tertiary education outcomes, and supporting current attempts to implement systematic reform in universities.

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8. Appendix

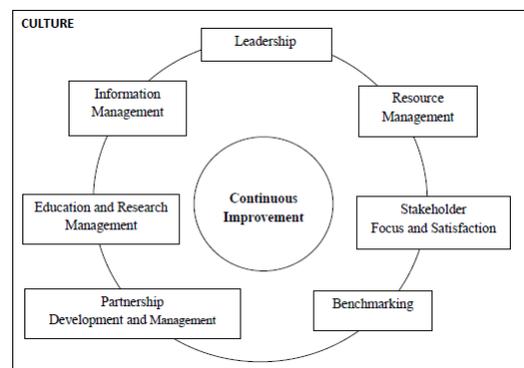


Figure 1. QM framework for Vietnamese HEIs

Session 28: Curriculum, Research and Development

Title: Requirements of the 21st Century for Teachers' Curriculum as Praxis: A Theoretical Perspective
(Authors: Marisa M.C. Verster, Elsa Mentz, Charlene du Toit-Brits)

Title: Teachers' Broken Relationship with Teacher Education: Living the Reality and Rethinking Practices
(Authors: Mohammad Manasreh)

Title: Co-constructing Learning in the Early Years Using Project-based Learning
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Title: A Study on Teacher's Attitude towards Continuous and Comprehensive Evaluation in Telangana State - India
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Requirements of the 21st Century for Teachers' Curriculum as Praxis: A Theoretical Perspective

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Abstract

The focus of this paper is to discuss the requirements of the 21st century for teachers' curriculum as praxis. It is evident from the literature that the 21st century is quite different from the previous centuries, in that learners have to be prepared for ongoing, unpredictable and rapid changes that also influence the knowledge that are relevant for the 21st century. The ongoing dynamics influencing education also implicates the curriculum and the requirements for teachers regarding the ways in which they could be teaching to prepare learners for the 21st century. Educational and curriculum changes are philosophically underpinned, leading to changes in the requirements of the 21st century for teachers' curriculum as praxis. In this paper we will argue that if teachers could adapt their curriculum practices to become more praxis oriented, it will assist them in effectively utilising the requirements of the 21st century for their curriculum as praxis.

1. Introduction

A larger doctoral study, which is still in the process of completion, underpins the development of this paper; therefore, this extended abstract will include a short overview of the background of this study as well as the philosophical underpinning of curriculum, where after an understanding of curriculum as praxis will be shared and finally the requirements of the 21st century for teachers' curriculum as praxis will be emphasised. Many scholars argue that teachers need knowledge about the philosophical background of education and curriculum to be able to justify their educational practices; otherwise teachers do not know how to justify their own decisions [1]. Although the major, educational and curriculum philosophies indicate progress towards postmodernism, reconstructionism and critical theory for the 21st century, we argue that these philosophical underpinning would still be too vague for teachers. For the purpose of this paper, we will only focus on the philosophical underpinning of curriculum and how these underpinning have had further influences relevant to the requirements of the 21st century for teachers' curriculum as praxis. To

contextualise these thoughts, we will follow with a brief overview of the larger study.

2. Background of the study

The 21st century is much different from the previous centuries, which has multiple influences on the world, specifically also education because of the ongoing, rapid changes experienced in the 21st century [2]. These influences also caused changes in the requirements of the 21st century for teachers, because learners need to be prepared for the constant, dynamics and changes of the world [3]. The contemporary world of the 21st century could be explained by the developments that occurred philosophically from the major schools of philosophy and how these influenced educational philosophies [4] and curriculum philosophies [5]. The philosophical developments also provide a basis for why curriculum as praxis is needed for education in the 21st century.

The doctoral study that this paper emanated from, inquires how a self-directed learning capability approach can enhance teachers' curriculum as praxis. This inquiry is situated within the context of the 21st century with the capability approach applied as theoretical framework and the conceptual framework constituting curriculum, praxis and self-directed learning. Accordingly, the research design will be directed by realist evaluation as philosophical orientation and a basic qualitative research as methodology. Next, the philosophical underpinning of curriculum will be discussed to illustrate the development that guided curriculum changes.

3. Philosophical underpinning of curriculum

Exploring the philosophical underpinning of curriculum, we realised how the major philosophies (idealism, realism, pragmatism, existentialism and postmodernism) have influenced the educational Philosophies (perennialism, essentialism, progressivism, reconstructionism and critical theory) [4] as well as the curriculum philosophies (scholarly

academic, social efficiency, learner centred and social reconstruction) [5]. Mainly these philosophical developments could be divided into two distinctive eras, being the traditional era and the contemporary era [6], [7]. Traditionally viewed, idealism and realism caused perennialism and essentialism [4], which in turn influenced the scholar academic and the social efficiency philosophy of curriculum, as it was described by Schiro [5]. During this philosophical era the main thoughts were learning and acquiring the universal truths and values. These truths and values were universal only because of the unchanging world people lived in. Education was aimed at teaching learners these utopian, universal ideas and teachers were expected to be the knowledgeable people who could teach these ideas to the learners, which were compiled in a very prescriptive and predetermined curriculum. More recently, the contemporary era developed, constituting the major philosophies of pragmatism, existentialism and postmodernism, which influenced the educational philosophies of progressivism, reconstructionism and critical theory [4].

The curriculum philosophies, caused by the contemporary philosophies, are the learner centred philosophy and the social reconstruction philosophy [5]. The main thoughts of this philosophical era started with pragmatically viewing knowledge construction, through problem solving and using the scientific method. The learners' experiences and experiential learning became vital, as opposed to rote learning, lesson recitation and textbook authority. In the contemporary views, the curriculum should be interdisciplinary, and the teacher should act as a facilitator guiding the learners in creative and collaborative ways in order to develop vital skills for the 21st century. Similar to pragmatism, reconstructivists also believe that education should be a social construction, rather than being merely academic, through creating a new, more democratic, more humanitarian, and more reasonable society [4], [1]. Therefore, the reconstructionist education should reconstruct, reform, and renew the existing society [4]. The curriculum should include reform strategies, to keep up with the social-economic-political education, because society is changing and so should the curriculum [7].

4. Curriculum as praxis

Drawing from Schwandt's [8] explanation of practical wisdom or praxis, practical wisdom could be realised where people live and act together, learning from and influencing each other. Practical wisdom differs from the firm control and fabrication of the productive activity [8], which resonates much more with the older, more traditional technical views on education. Grundy [9] explains that curriculum as praxis imply a dynamic interaction between action

and reflection; that praxis takes place in the real world; that praxis operates in interaction with the social and cultural world; that the world of praxis is constructed; and that praxis assumes a process of meaning-making.

These characteristics of curriculum as praxis, resonates with the expectations of education in the contemporary era, where education should focus on being learner-centred and be oriented around reconstructing relevant and applicable knowledge for the 21st century.

5. Requirements of the 21st Century for Teachers' Curriculum as Praxis

The process of action and reflection of curriculum as praxis should be directed towards bringing forth some change together with having a critical focus [9]. Grundy [9] further explains that the emancipatory interest of curriculum as praxis engages the learner, where the learner is not a passive receiver of knowledge, but rather "an active creator of knowledge along with the teacher". Being a passive receiver of knowledge is very traditional and technical, whereas a learner who becomes an active creator alongside a facilitator, is much more contemporary, learner- and problem-centred, nontechnical and empowering. Hence, curriculum as praxis could assist teachers in understanding the 21st century requirements more comprehensively, because where teachers were previously viewed as the main holders of knowledge, they could now be required to learn alongside the learners. Previously, knowledge was seen as universal and constant, and although all of these knowledge constructs are not irrelevant now, new knowledge should be constructed to cope within the 21st century. Accordingly, Trilling and Fadel [10] contend that the necessary skills of the 21st century, include learning and innovation skills, digital literacy skills, career and life skills, including amongst others, initiative and self-direction.

6. Conclusion

In this paper, we highlighted the need for change in teachers' curriculum as praxis for the purpose of better preparing learners for the 21st century. The largest influence regarding these changes stemmed from philosophical developments, which also explain the relevance of teachers' curriculum as praxis to progress. Theoretically, then, teachers who orient their functioning of the curriculum towards praxis, should be able to adapt easier towards the requirements of the 21st century.

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Teachers' Broken Relationship with Teacher Education: Living the Reality and Rethinking Practices

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Abstract

This research study was an attempt to identify the reasons for teachers' minimal engagement in In-service teacher training and education (INSET) and most importantly to bring about change in the local context. A three-cycle action research design was adopted as an investigative methodology to critically explore the effectiveness of INSET practices in the State of Qatar. The first cycle employed a large-scale survey followed by focus groups to identify reasons possible success factors which informed the improved design of an interventionist INSET course in the second cycle. The third cycle focused on trainer role and employed trainee journals to measure the impact on participants.

1. Introduction

In recent years, there has been an increasing focus on teacher education around the world [4], [8], [10]. Although many research studies on teacher education are published every year, most of them have produced a marginal improvement in the quality of professional development in schools [11]. The unclear pathways in the education and licensure of teacher trainers coupled with the limited research on the impact of teacher education have led to a professional development system of teachers that is 'by all accounts, broken' in most contexts around the world. Although research articles 'trumpeting' the success of a specific method or programme appear practically monthly, and practitioner magazines are full of accounts of the phenomenal improvements in teacher knowledge and skills, still 'most teachers engage in only the minimum professional learning required by their institutions'. Day [3] asserted that teachers fail to see the impact of INSET because it fails to 'connect with the essential moral purposes that are at the heart of their professionalism'. Further research is needed to identify the reasons for this phenomenon and most importantly to bring about change.

2. Context

Qatar has embarked on an unprecedented national reform of public schools called 'Education for a New

Era' [12]. This reform was driven by concerns that the Qatari educational system was rigid, outdated and not producing the desired outcomes [1]. The areas of teacher training and English language learning are seen as the best manifestation of this reform. However, since the start of the reform in 2004, minimal academic research has been conducted on the effectiveness of teacher training programmes offered to practitioners in TESOL (Teaching English to speakers of other languages). Ellili-Cherif et al. [5] is among the few studies that investigated teacher education and licensure in Qatari schools; they reported problematic issues in the system and concluded that relevant policies 'use ambiguous terminology and procedures, ignore local educators' input, provide unrealistic expectations of society, lack consistency, and created resistance on the part of educators'. Their study was mainly descriptive, and thus reported concerns remained unanswered. INSET programmes are one way in which the skills and knowledge of teachers may be revitalised through enhancing their skills and knowledge on specific aspects. In Qatar, there is also an increasing pressure from all parties to for effective INSET.

3. Aims

The purpose of this action research study is to explore critically the effectiveness of INSET practices in Qatar. After that, the findings from the needs analysis stage were used to improve INSET planning, design, and implementation through a three-cycle AR project. Therefore, the main aims of this study are:

- To improve practices in INSET planning, design, and delivery
- To explore the effectiveness of ELT INSET offered to teachers in Qatar.
- To provide a set of clear guidelines and principles for good INSET in a form of a framework informed by teachers' feedback
- To evaluate the impact of a three-cycle AR INSET project in terms of addressing current challenges and improving training practices.

4. Methodology

Action research was chosen as the investigative methodology for this study. This methodology has gained popularity in recent years as a tool for critical investigation [13], which usually results in impact on the area studied [6]. It provides teachers with an opportunity to reflect on their own practice to be the 'energy force' for change [7]. Action research is particularly relevant as it provides practitioners with an opportunity to study their own practices in the hope of introducing change [2]. It puts the practitioner at the heart of the research process, enables an insider view of an appropriate methodology, and has a greater potential for a lasting impact. Because of its flexibility, AR can capture better the complexity of teaching and learning compared with positivist approaches [9].

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Co-constructing Learning in the Early Years Using Project-based Learning

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Abstract

The co-construction of learning is an important part of education in the early years, but new research using digital technologies is showing that supervising student projects can also impact the learning of the supervisor/teacher by creating mutual zones of proximal development. This paper uses evidence from three case studies to demonstrate how multimodality can expand the possibilities for project-based learning with students of all ages.

1. Introduction

There is constant commentary in the media about educational systems, globally, which 'teach to the test' and where quantitative assessment data is used primarily to inform league tables and determine school funding rather than being coupled with qualitative data to inform the development of effective learning and teaching. Quantitative data from standardised assessments is easy to collect and correlate but there is an apparent paradox as advocates for league tables and standardised testing will assert that evidence and assessment are of vital importance to demonstrate improvement. The irony is that the evidence that is collected is often of a very shallow nature and the statistics gathered could more accurately be described as evidence of failure rather than achievement. Co-construction, as opposed to simple cooperation, is much harder to achieve but is critical to creating rich opportunities for learning and engagement as the focus and the design is centred on learning dispositions. Critically, co-construction of learning and understanding provides both the design and the evidence of learning development as, to be effective, it inherently requires key learning dispositions such as critical curiosity, learning agency and meaning making.

2. Theoretical framework

Vygotsky's [7] zone of proximal development (ZPD), where learning is extended through working closely with a more experienced other is one of the most widely accepted theories in education. What is not so well known is that Vygotsky speculated that "what children can do with the assistance of others might be in some sense even more indicative of their [learner] development than what they can do alone" [7]. Co-construction can provide an authentic context for the dynamics of learning by teaching,

particularly when digital technologies are introduced. The concept of learning by teaching has been around for thousands of years but Papert saw the potential of technology to enhance this practice:

'Learning by doing' is an old enough idea, but until recently the narrowness of range of the possible doings severely restricted the implementation of the idea. The educational vocation of the new technology is to remove these restrictions [4].

Education has a long tradition of embracing technology, but often to use new technology to do the same old things with these new tools. Vygotsky's notion of tool use was intrinsic to his understanding of mediated action, as a tool only becomes such when it is used. As Dron has argued, "a tool separated from its use is meaningless: a stick lying in a forest is just a stick" [1].

The use of digital technologies is a theme throughout this paper as each of the three case studies used digital technologies as tools to document and facilitate learning. The case studies are presented chronologically in both the year in which they were conducted and the age group of the participants. Wells [9] conducted a longitudinal study which tracked the development of 3 year-old children for a period of 7 years until they were 10. Jacobs, Wright and Reynolds [2] reported a case study which worked with upper primary school age children in grades 5 and 6 making animations for the sake of their own learning. Academic writing at Melbourne Polytechnic shows how co-construction can be just as vital when working with adults in their capacity as pre-service teachers. Although digital technology played an important role in each instance, *learning* was the focus and particularly how co-construction can enable all participants to take an active role in lifelong learning.

3. Case study A

Gordon Wells conducted the longitudinal Bristol study between 1979 and 1985, where audio recordings were made every 15 minutes of 28 children for a period of 7 years. One of his observations was that parents play a transformative role in their children's education through the deliberate modelling of constructive dialogue. Young children might utter just a few words but a caring and patient parent can guide and build on such

utterances by clarifying and repeating what the child is saying, thereby scaffolding purposeful reflection and understanding. Importantly, it is the child who initiated these conversations according to anything that caught their attention, such as a bird landing in the backyard. Wells lamented the shift in each child's formal education as they entered kindergarten and primary school where the competing demands of multiple students and an obligation to implement a curriculum reduced the educator's ability to be truly child-centred despite their best intentions. He described this as a qualitative change that most children experience. "Instead of the child's interests and goals being the focus of attention when teacher does engage the child individually, it is almost always the adult who sets the agenda, asking questions that are designed to bring the child to the teacher's predetermined answer" [9].

In a recent participatory action research project in Denmark [5] it was found that, while teachers and students understood the 'ideal' of co-construction of knowledge and understanding, they saw their 'real' practice as being more aligned with a transmission model than a co-construction reality. Using the Crick's Learning for Resilient Agency (CLARA) dimensions, the participating teachers and students reflected that they did not identify strongly with the key learning dimensions that would be necessary to create co-construction; in their case the stick lying in the forest remained just a stick, as their practice was separated from their purpose.

This first case study provided a vivid picture of child-centred learning in the early years but it did not involve project-based learning. What was evident throughout the Bristol study was the co-construction of meaning through the ZPD. Project-based learning with genuine student choice has the potential to recapture a child-centred approach.

4. Case study B

Eight boys and girls in grades 5 and 6 participated in an explanatory animation creation project over a period of 17 weeks where they worked on their animation for one hour each week. The children were making these animations for the sake of their own learning and the multimodal nature of their work, combined with the simple practice of saving their work as different date-based files each week, created a digital chronology of their conceptual consolidation embodied in their evolving animation artefacts. The multimodal nature of the data also provided a rationale to present this thesis in its native digital format. This resulted in the world's first digital PhD in the field of Education (www.brendanpauljacobs.com).

The animation platform which was used was Microsoft PowerPoint. The children simply inserted auto shapes and then created duplicate slides of each

slide (i.e. animation frame) before making incremental changes in position to create the illusion of movement. Saving the work as a series of images (such as JPG) resulted in numbered frames. The images were then combined together using video editing software to render a single video file. The children required some technical help with this process but they were also given conceptual help for their topics. Co-construction was a major theme in this study which reinforced the nature of *proximity* with the ZPD as both the student and teacher wrestled with the same pedagogical issues. Although the children were free to choose any topic, 7 out of 8 of the children chose scientific topics as they wanted to know 'how things worked'. Such learning dynamics often result in shared learning for both the teacher and student. When both the student and the teacher are learning they could be said to enter a "mutual zone of proximal development" [3] as collaborative partners.

Some of the greatest educational theorists of the past century such as Vygotsky and Dewey have noted how concepts develop over time and that they are not immediately grasped by the learner. Jacobs, Wright and Reynolds [2] suggested that cross-modal cognition occurs on a continuum between abstract and concrete as ideas become increasingly concrete as they become consolidated. Accordingly, we present Figure 1 as a way to understand the ZPD nuanced with Vygotsky's insight that learning develops over time:

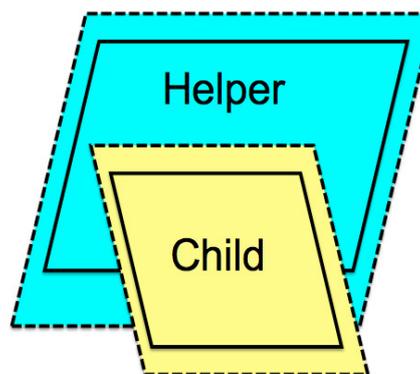


Figure 1. Learning in a mutual ZPD.

The broken lines represent learning that has yet to become consolidated and the solid lines represent consolidated learning. The incongruence of the child and helper shapes indicates that both are in a mutual ZPD and that the child's knowledge can exceed that of the helper in certain instances.

Another feature of this case study was that the children recorded directors' commentaries to document their decision-making processes. This provided a window into their own learning and encouraged metacognition in tangible ways as the

children's voices could be heard discussing their pedagogical decision-making processes and aesthetic choices.

5. Case study C

Pre-service teachers in the Bachelor of Education (Early Years) course at Melbourne Polytechnic conduct practitioner action research in their third and fourth years of study linked to their childcare and primary school placements. Research proposals and literature reviews are the initial assessment tasks leading up to the final research reports. These are submitted in Microsoft Word format, but, rather than writing comments on hard copies or tracking changes within Word, a direct editorial approach is used where strikethrough is put through redundant content and a blue font is used for new content (comments are also in blue but in brackets). These practices continue the pedagogical use of modelling to show the pre-service teacher customised examples of how their writing can be tightened up.

The pre-service teachers were consulted about augmenting the above-mentioned editorial procedures to increase efficiency for both the students and the lecturer before the final research reports were submitted at the end of Semester 1 in 2017. The idea was that the lecturer would make these changes *directly*. This was faster for the lecturer as strikethrough and font colours take extra time, and much faster for the students as they did not have to do anything once their reports were returned to them other than read over them. Of course, the students were graded on what they submitted rather than what was returned to them. Although this was time consuming for the lecturer, particularly when checking over the reference list for accuracy and completeness, the end result was a body of research reports of a sufficiently high standard for publication.

The objective of raising the pre-service teachers' understanding of the potential importance of their research is to encourage them to reformat their research reports at a later date into potential journal articles. In this way these research subjects also function as advanced writing classes where the students are able to repurpose their own research in accordance with the conventions of academic journal writing.

6. Conclusion

It is clear that the critical commonality between each of the case studies was not the newness of the technology, but the use of technology as a tool to make visible the form and purpose of the activity. When students construct multimodal artefacts for the sake of their own learning such as research reports or

animations, they are "faced with a task that can only be resolved through the formation of concepts" [8]. Vygotsky characterised the nature of this link by stating that "the path through which the task is resolved in the experiment corresponds with the actual process of concept formation" [8]. The alignment between purpose and activity illuminates not only the resolution of the issue, but also the connection between the students to themselves as learners. This is where formative assessment data abounds, particularly when working in the digital realm as every iteration of a digital project is preserved and easily accessible for critique by the educator and learning self-reflection by the student.

Reconnecting the pre-service teacher with the kind of exploratory learning practice that they likely experienced as young children is important. Through the case studies, students are encouraged to reconnect with this type of learning through a purposeful, multimodal structure that supports the co-construction of knowledge, understanding and practice. This is of critical importance for the pre-service teachers as it provides a lived experience of co-construction, which they will be better prepared to recreate in their own classrooms.

Co-construction is at the heart of the ZPD as *formative* assessment whereas standardised testing is typically *summative*. In our experience, reintroducing choice to students is a key to engaging them in their own learning, which, to use another famous term from Vygotsky, enables the student to stand "a head taller" [7]. For educators across each of the early years contexts, "the only instruction which is useful in childhood is that which moves ahead of development, that which leads it" [8]. However, the reality of the current and historic discourse around collaborative learning is that it is based on a what can be compartmentalised rather than on the basis of a higher learning purpose. In light of the opportunities afforded by digital technologies, it is our hope that the prevailing learning mindset and practices described in these three case studies can serve as a rationale for focusing on learning rather than achievement. The student acquisition of knowledge and skills is meaningless if it is not placed within a learning context or a learning 'construction zone'.

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A Study on Teacher's Attitude towards Continuous and Comprehensive Evaluation in Telangana State - India

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Abstract

In this scheme the term 'continuous' is meant to emphasize that evaluation of identified aspects of student's growth and development is a continuous process rather than an event into the total teaching learning process spread over the entire span of academic session. It means, regularity in assessment of student's achievement, frequency of unit testing, diagnosis of learning gaps, use of corrective measures, re-testing and feedback of evidences to teachers and students for self-evaluation.

1. Introduction

Education is a dynamic process. However, in the field of education, a number of problems arise at every moment. Persons involved in education have to make a number of decisions at every step. Some of these persons such as Educators, Administrators and Principals, are connected with policy-making bodies. There are some who are in-charge of the actual teaching learning processes. Even parents are connected with the process of education. All these persons face educational problems of a quite varying nature. The ancient literature reveals that the Socratic Method was based solely on the system of oral questioning [6]. The ancient Chinese also used an examination system for their civil service as far back as 2,000 B.C. As their examination system was uniform, it proved very useful in maintaining national integration and political stability in China [1].

Examinations are, however, inevitable. Without examination the works of students and teachers will neither have precision, nor any direction. Butler [3] has rightly remarked: "we cannot abolish evaluation without abolishing teaching for only by evaluating; we can direct the course of learning. It is generally maintained that the examination, whether internal or external, whether subjective or objective, is an instrument for measuring the quality and quantity of learning in a specific field. There is no doubt that scholars, philosopher and researchers from times immemorial have been constantly trying to see the educational implications of a very dominant system of examination under different headings, such as,

selection, categorization, assessment, measurement, evaluation and grading, etc. But it can also be categorically concluded that we have not been able to achieve any tangible result apart from some perfunctory type of generalizations. Consequently, it has led to such a dilemma that we can neither do away with examination nor continue with them, as they are existing in our education system.

The innovative concepts of evaluation emerged in early thirties as a step to broaden the relatively narrow information and skill oriented educational measurement. The tests in the field of education developed in the first quarter of the present century that tended to focus on easily measuring the various fields of knowledge and skills of the learners. However, the emphasis was given on educational philosophy to achieve the goals of education. But much could not be achieved with the help of standardized achievement tests as there were specific yardsticks for measuring students' progress and the quality of educational programme. A moment of objective based evaluation was started by the experts such as, Eurich, Raths, Tylor and Wrightstone, to broaden the appraisal and included attributes such as attitudes, interests, ideals, ways of thinking, work habits, personal and social adaptability. In this scheme the term 'continuous' is meant to emphasize that evaluation of identified aspects of student's growth and development is a continuous process rather than an event bush into the total teaching learning process spread over the entire span of academic session. It means, regularity in assessment of student's achievement, frequency of unit testing, diagnosis of learning gaps, use of corrective measures, re-testing and feedback of evidences to teachers and students for self-evaluation.

The second term 'comprehensive' means that the scheme attempts to cover both the Scholastic and the non-scholastic aspects of student's growth and development. It means that the scheme aims at assessing and promoting pupil's growth in cognitive areas of learning like i) Knowledge ii) Comprehension iii) Application iv) Creativity besides skills of communication and computation. On the non-cognitive side, it aims at assessing and promoting

social and personal qualities like regularity/Punctuality, cleanliness, discipline, etc. It means to promote desirable interests and attitudes like teamwork, leadership hard work, inventiveness, creativity etc.

The third term 'evaluation' means assessment of student's performance for improvement of student's achievement and teaching learning strategies. It starts where examination ends. It is diagnostic in nature meant to provide remedial help to the pupils. The scheme is a curricular initiative and aims at shifting emphasis from 'instruction' to 'education' to nurture the children of the state into good citizens possessing sound health appropriate skills and desirable qualities besides academic excellence thereby and desirable them to meet the challenges of life with confidence and success.

2. Objectives of the CCE Scheme

- i. To make evaluation an integral part of teaching learning-process.
- ii. To use evaluation for improvement of student's achievement and teaching-learning strategies on the basis of regular diagnosis followed by remedial instructions.
- iii. To provide scope for self-evaluation by teachers and students.
- iv. To analyze evidences gathered about the student's achievement to identify, in adequacies in their learning and provide basis for remedial measures.
- v. An attempt to maintain desired standard of performance using evaluation as a quality control device.
- vi. To include both scholastic and non-scholastic areas to asses growth and development of pupils using different techniques of evaluation.
- vii. To de-emphasize memorization.
- viii. To make teaching-learning child centered, activity centered and joyful.

The scheme operates under:

- i. Evaluation in subjects of the curriculum.
- ii. Evaluation of personal/social qualities and attitudes.
- iii. Evaluation of co-curricular activities and interest.
- iv. Assignment and project work.

3. Objectives of the study

In order to carry out the research in a more desirable and scientific way, the following objectives were formulated for the study:

1. To study the attitude of teachers towards CCE.

2. To study the attitude of teachers towards perceived usefulness of CCE.
3. To study the attitude of teachers towards perceived enjoyment of CCE.
4. To study the attitude of teachers towards students influence in CCE.
5. To study the attitude of teachers towards parents influence in CCE.

4. Hypotheses of the study

In view of the objectives, the following hypotheses were formulated:

1. There is no significant difference between the attitude of male and female teachers towards perceived usefulness of CCE.
2. There is no significant difference between the attitude of male and female teachers towards perceived enjoyment of CCE.
3. There is no significant difference between the attitude of male and female teachers towards students influence in CCE.
4. There is no significant difference between the attitude of male and female teachers towards parents influence in CCE.
5. There is no significant difference between the attitude of male and female teachers towards school support in CCE.

5. Limitations of the study

The study was undertaken with the following limitations.

1. This study is limited to a sample of 50 teachers.
2. Due to paucity of time the study is limited to only Bhadradri Kothagudem District of Telangana State.

6. Review of Related Literature

The investigator made a comprehensive search of various related literature on continuous and comprehensive evaluation and this is reported in the forth coming pages. The investigator located 46 students (Foreign and Indian Studies). The studies have been classified as (a) Foreign, (b) Indian in the domain of Assessment, Achievement Testing, Feedback, Examination Reforms and Evaluation, which is the area of interest to the present investigator. The review has been arranged chronologically and overview has been organized with respect to various parameters of evaluation. Newton's study [5] concerns the importance of clarity in thinking and talking about certain core concepts of educational assessment. It begins by identifying three quite

distinct interpretations of the term 'assessment purpose'. It continues by challenging the supposed distinction between 'formative' and 'summative' - arguing that the latter only applies to a kind of assessment result while the former only applies to a kind of use of assessment results. It ends by illustrating the wide range of uses to which assessment results might be put and stresses the importance of not concealing important distinctions by locating multiple discrete purposes within a small number of misleading categories. Bethell and Kaufinane's study [2] describes the key features of the assessment and examination systems of Latvia. A brief overview of the country and its education system is followed by a description of how summative assessment is conducted using a pragmatic blend of traditional school-based practices, standardized tests, and formal examinations which are centrally marked. The system of external examinations is afforded special attention since its evolution from a single subject in 1997 to the current scheme, which forms an integral part of the entrance procedures for higher education, is a potentially valuable mode for other transition countries are now planning reforms with similar objectives. Brookhart and Bronowicz [4] in their study stated that students talk about their classroom assessments; students' own voices describe their perceptions of classroom: the assignment's interest and importance, students' self-efficacy for accomplishing the tasks, and the goal orientations behind their efforts at learning. A multiple case study design looked at seven classroom assessment environments - seven teachers' classrooms - in four different schools, with interviews from 161 students. Student perceptions of assessments revolved around their personal connection with the assessments or their consequences. There were more similarities than differences in students' descriptions across classrooms and assessments.

7. Methodology

7.1. Design of the study

Design of the study is an important part of research which guides the researcher to move in a direction of the study. The present study its teacher was to find out the attitude of teacher's towards CCE. For purpose of study sample of 60 teachers were taken randomly in Bhadradi Kothagudem District in Telangana.

7.2. Sample of the study

The tools used for study constitutes questionnaire on 'Attitude of teachers towards Continuous and comprehensive evaluation' which was adopted from "National scientific research study on Continuous and

comprehensive evaluation (CCE) by CBSE" and modified. A total of 50 items were submitted to the experts along with the purpose of the study.

8. Variables taken for the study

Variables are the conditions or characteristics that the investigator manipulates, controls or observes. The following variables were taken up in the present study.

1. Gender
2. Location of school.
3. Teaching Experience.

Data collection procedure:

The investigator personally visited the schools to collect the data. The data has been collected for the research study from 12 schools. Totally it has been collected from 60 teachers from different locations viz., rural and urban. Data has been collected through questionnaire with 35 questions in 7 areas.

9. Data Analysis and Interpretation

This section is considered as a heart to the research report. The subsequent procedure of research will be on the analysis and interpretation of the data, which leads to the formulation of conclusion and generalization to get a meaningful picture out of the raw information collected. Analysis of the data involves studying the tabulated materials to determine inherent fact into simple parts and they have been arranged for the purpose of interpretation. As the process of analysis requires an alert, flexible and open mind the analysis tables were prepared in advance. Care has been taken to study the data frame in as many angles as possible to find out new facts. Sample statistical technical devices were used for the purpose of study, organization, analysis and interpretation of the data.

Hypothesis 1: There is no significant difference between the attitude of male and female teachers towards perceived usefulness of CCE.

Table 1 indicates that there is no difference in the attitudes of male and female teachers towards perceived usefulness of CCE, the chi-square values with regards to the 11 items are not significant. Hence the proposed hypothesis "There is no significant difference between the attitude of male and female teachers towards perceived usefulness of CCE" is accepted.

Hypothesis 2: There is no significant difference between the attitude of male and female teachers towards perceived enjoyment of CCE.

Table 1. The attitude of male and female teachers towards perceived usefulness of CCE

S.No	Statement	Gender	Yes	No	Chi square value	Level of Significant
1	CCE enables me to accomplish my teaching tasks more quickly	Male	25	05	0	Not Significant
		Female	25	05		
2	CCE improves the quality of my teaching	Male	28	02	0.3508	Not Significant
		Female	29	01		
3	CCE gives me greater control over my teaching.	Male		12	0.6593	Not Significant
		Female	18 21	09		
4	CCE Supports students learning in different ways.	Male	29	01	0.3503	Not Significant
		Female	28	02		
5	CCE supports students learning in different methods in teaching.	Male	30	00	1.0169	Not Significant
		Female	29	01		

At significance value@0.05

Table 2. The attitude of male and female teachers towards perceived enjoyment of CCE.

S.No	Statement	Gender	Yes	No	Chi square value	Level of Significant
1	I find implementation CCE method to be enjoyable.	Male	27	03	0	Not Significant
		Female	27	03		
2	The actual process of using CCE is pleasant.	Male	21	09	0	Not Significant
		Female	21	09		
3	I enjoyed learning new ways of teaching and assessing with CCE for my students.	Male	27	03	0.2181	Not Significant
		Female	28	02		
4	In general, I am hesitant to try out new innovation like CCE.	Male	20	10	1.111	Not Significant
		Female	16	14		

At significance value@0.05

Table 3. Showing the attitude of male and female teachers towards compatibility of CCE

S.No	Statement	Gender	Yes	No	Chi square value	Level of Significant
1	Using CCE will fit with the way I teach the students.	Male	26	04	0	Not Significant
		Female	26	04		
2	Using CCE will fit with the way I teach the students	Male	08	22	0.6932	Not Significant
		Female	11	19		
3	Using CCE to support my teaching is clear and understandable.	Male	26	04	0.1300	Not Significant
		Female	25	05		
4	Overall, I believe that it is easy to use CCE to support my teaching	Male	23	07	0.0888	Not Significant
		Female	22	08		
5	When using CCE to support my teaching, it is easy to get the software tools.	Male	20	10	0.0732	Not Significant
		Female	19	11		
6	It is easy to recover from mistakes when using CCE.	Male	24	06	0.1113	Not Significant
		Female	25	05		
7	Using CCE will fit into my style of assessing the students.	Male	27	03	0.2181	Not Significant
		Female	28	02		

At significance value@0.05

Table 2 indicates that there is no significant difference between the attitudes of male and female teachers towards perceived enjoyment of CCE, the chi-square value with regards to all items are not significant. Hence the proposed hypothesis “There is no significant difference between the attitude of male and female teachers towards perceived enjoyment of CCE” is accepted.

Hypothesis 3: There is no significant difference between the attitude of male and female teachers towards students influence in CCE.

Table 3 indicates that there is no significant difference between the attitudes the of male and female teachers towards compatibility of CCE, the chi-square values with regards to all items are not significant. Hence the

proposed hypothesis “There is no significant difference between the attitude of male and female teachers towards perceived enjoyment of CCE” is accepted.

Hypothesis 4: There is no significant difference between the attitude of male and female teachers towards parents influence in CCE.

Table 4 indicates that there is a significance difference between the attitude of male and female teachers towards students influence in CCE, the chi-square value with regards to all items shows were found significant. Hence the proposed hypothesis “There is no significant between the attitude of male and female teachers towards perceived usefulness of CCE” is rejected.

Table 4. The attitude of male and female teachers towards compatibility of CCE

S.No	Statement	Gender	Yes	No	Chi square value	Level of Significant
1	Students like the CCE method of assessment and learning.	Male	11	19	5.4060	Significant
		Female	20	10		
2	Students like the fact that they are assesses frequently.	Male	13	17	4.3438	Significant
		Female	21	19		
3	Students like evaluation of both scholastic and co-scholastic skills of using CCE.	Male	12	18	8.2971	Significant
		Female	23	07		

At significance value@0.05

Table 5. The attitude of male and female teachers towards parents influence in CCE

S.No	Statement	Gender	Yes	No	Chi square value	Level of Significant
1	CCE data is easily understood by the parents.	Male	11	19	2.0519	Not Significant
		Female	06	24		
2	CCE allows for parents involvement in students learning.	Male	07	23	0.3409	Not Significant
		Female	09	21		
3	CCE provides sharing with the parents.	Male	04	26	0	Not Significant
		Female	04	26		

At significance value@0.05

Hypothesis 5: There is no significant difference between the attitude of male and female teachers towards school support in CCE.

Table 5 indicates that there is no significant difference between the attitudes of male and female teachers towards parents influence in CCE, the chi-square values with regards to all items are not significant. Hence the proposed hypothesis” There is no significant different between the attitude of male and female teachers towards perceived usefulness of CCE” is accepted.

10. Findings of the study

1. Attitude of the teachers towards CCE is high favourable.
2. Most teachers feel the CCE would improve their performance in teaching.
3. Most of teacher’s reports that CCE support in data students learning and teaching methods require adequate training and guidance.
4. There is a significant difference between the attitude of male and female teachers towards issues related to students influence in CCE.

5. Most of the teachers report that CCE procedure is not so easy to share with the parents and data is not understood by the parents.

11. Conclusion

The basic purpose of education is to enable a child to acquire knowledge, develop understanding, skills, positive attitude and value which are conducive for all round development of their personality. To ensure this, the progress of the child is to be monitored and evaluated both in scholastic and co- scholastic areas for future improvement. Evaluation needs to be integrated with the process of teaching and learning, so as to provide feedback to the teachers regarding appropriateness of instructional strategies and evaluation techniques and modify as per need. CCE systematically integrates teaching and learning.

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Session 29: Global Issues in Education

Title: Neighborhood matters! Evidence from Michigan Public Schools
(Authors: Evan Linskey, Kaustav Misra)

Title: Economic Recession and its Psychological Effects on Educated Youth:
A Case Study of Pakistan
(Author: Aroona Hashmi)

Title: Hiring ONLY Native Speakers: The Future for IB World Schools?
(Author: Peter Sagun)

Title: Immigrant Students' Attitudes towards Teaching Methods with a Special
Focus on Different Languages that are Used in Teaching
(Authors: Artëm Ingmar Benediktsson, Hanna Ragnarsdóttir, Susan Rafik Hama, Kriselle Lou Suson
Cagatin)

Neighborhood matters! Evidence from Michigan Public Schools

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Indiana University Bloomington¹, Saginaw Valley State University²

Abstract

Discussion about improving public school performance is not a new debate. Questioning internal factors like teacher quality, gender ratio, class size, and students' socioeconomic backgrounds to improve school performance are well researched, but looking at it from community perspectives is a recently developed interest. Following Misra et al. [1] we are also trying to understand the importance of the community where public schools operate. We randomly select three key community attributes: number of religious institutions, availability of higher education and number of liquor licenses to understand how these external factors influence public school performance. Again, similar to Misra et al. [2] this paper uses Geographical Information Systems (GIS) to develop the community around a public school. We then employed regression analysis to evaluate the relationship between the community attributes and standardized test scores. The results from this paper will provide Michigan policy makers and education administrators a different perspective to deal with statewide public schools' performance.

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Economic Recession and its Psychological Effects on Educated Youth: A Case Study of Pakistan

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Abstract

An economic recession can lead people to feel more insecure about their financial situation. The series of events leading into a recession can be especially distressing for Educated Youth. One of the most salient factors linking economic recession to psychological distress is unemployment. It is proved that a large number of educated young people are facing higher unemployment rate in Pakistan. Young people are likely to get frustrated at the lack of opportunities made available to them. If the young population increases more rapidly than job opportunities, then number of unemployment is likely to increase. The aim of present study was to investigate the relationship between economic instability, growing rate of aggression and frustration among educated youth. The study aimed to find out the impact of increased economic instability on the learning abilities of the students. Data was gathered from six university students of Punjab, Pakistan. The sample of the study consisted of three hundred male and female university students. The data was analyzed by applying Chi-square test. The results of the research indicate that there is a significant relationship between low household income and growing rate of aggression among educated youth. The increasing trend of economic instability significantly influences the learning abilities of the students. The study concludes that feeling of deprivation produce frustration and could be expressed through aggression. Therefore, if factors that are responsible for youth unemployment in Pakistan are addressed, psychological effects will be reduced. The right way of tackling the youth bulge is to turn the youth into a productive workforce. There is a dire need to transform the education system to societal needs. At the same time creating demand for the young workforce is achieved through dynamic changes in the economic structure. The major concern of the study was to highlight the empirical relationship between low household income and growing rate of aggression, frustration and depression among educated youth and the second objective was to investigate the empirical relationship between economic instability and its effects on learning abilities of the students taking the views and answers of the educated youth with this respect in Punjab, Pakistan. This study is conducted in six universities of the Punjab, selecting three hundreds male and female students via convenient sampling technique. In quantitative, two main hypotheses were tested on the basis of collected data. The findings of the study demonstrate that there is significant relationship between low household income and growing rate of aggression, frustration and depression among educated youth. If there is lack of job opportunities for educated people, these indicators stimulate and impulse aggression and frustration that further leads them to look forward illegal and criminal activities for the sustainability and survival in the society. May be many other factors as well active in concern of aggression, frustration, depression, anxiety among educated youth that lead youth to look forward criminal acts but the most important and significant factor is low household income and growing rate of aggression and frustration among educated youth. And on the other hand, there is also too significant relationship between economic instability and its effects on learning abilities of the students. May certain other factors exist there of growing tendency of aggression among the youth like improper nutrition, family breakdown, improper socialization of the children, parents' clashes, peer influence, one parent family, mental illness, depression, familiar of love etc.

Hiring ONLY Native Speakers: The future for IB World Schools?

Peter Sagun
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Abstract

This is a presentation to explore a phenomenon, this is a part of my postgraduate study that investigates the reasons why IB schools prefer hiring native English speakers as lead classroom teachers despite recent claims that both may not have any significant difference at all for learners. This session will also dissect how the IB's mission statement translate into IB schools' hiring protocols as we look into different sample adverts to further investigate the phenomenon.

Immigrant Students' Attitudes towards Teaching Methods with a Special Focus on Different Languages that are Used in Teaching

Artëm Ingmar Benediktsson, Hanna Ragnarsdóttir, Susan Rafik Hama, Kriselle Lou Suson
Cagatin
University of Iceland, Iceland

Abstract

This paper derives from the research project Educational aspirations, opportunities and challenges for immigrants in University education in Iceland (2016-2018) funded by the Icelandic Research Fund. The languages, cultures and religions of the population of Iceland have become increasingly diverse as a result of the growing immigration within the country over the last two decades [5]. A number of studies have been conducted with immigrant students in higher education in the Nordic countries. According to findings, one of the reasons behind immigrant participation in higher education is their positive attitude and motivation for better integration within the society [2], [3]. However, according to the Bologna Process Implementation Report, the percentage of immigrants pursuing and culminating tertiary studies is considerably less than that of native-born students [1]. The theoretical background includes critical multicultural studies, which focuses on the analyses of the position of minority groups in societies from a critical perspective on these societies and their educational systems [4]. Data was gathered through focus groups and individual interviews with 40 immigrant students in three universities. The interviews were face-to-face, in-depth and semi-structured. The interviews were in Icelandic and English. All interviews were recorded and transcribed verbatim. Data was analysed through the qualitative procedures of content analysis, coding and constant comparison of data. The transcripts were read and re-read by the researchers and analysis was collaborative and thematic through discussions. The paper presents some findings from the focus groups and individual interviews. During the interviewing process and preliminary thematic analysis, the research group became aware of a particular issue that many participants pointed out, which is a need of operating in different languages during the study process. This usually includes a need of comprehension of both Icelandic and English languages. Most of the reading material in Icelandic universities is in English so it is often crucial for the students to have a good knowledge of English in order to read the required material. However, the lectures are generally given in Icelandic. Findings indicate that this common situation creates some challenges for immigrant students, who have to operate in both languages in addition to their native language(s), which they also use in daily life. Among the most common situations, that the participants described, are the problems related to translation of the academic terms from Icelandic into English and their native language(s) and vice versa, which in some cases evokes misunderstandings and elongate substantially the self-study time. Presenting this part of the research results is important for the whole research process, because it will shed some light on one of the main themes that continues through larger part of the interviews. It will also help to understand one of the daily challenges that immigrant students face during the education process in Iceland. These findings indicate which improvements are necessary to respond to the growing student diversity in the universities.

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Session 30: Cross-disciplinary Areas in Education

Title: Interpersonal and Institutional Trust: Studying Public Schools at a Brazilian Municipal Educational System

(Authors: Sara Badra de Oliveira, Mara Regina Lemes De Sordi)

Title: Agricultural Education: An Enduring Solution to Farmer-Herder Clashes in Nigeria

(Author: Mahmood Umar)

Title: Cognitive Development and Humor among Preschool and Culturally Different Children

Authors: Juan Guo, Xiangkui Zhang, Yong Wang, Aphrodite Xeromeritou)

Title: Assessing Psycho-productive Skills among Secondary School Physics Students in Nasarawa State Nigeria

(Author: Amuche Christian Igomu)

Interpersonal and Institutional Trust: Studying Public Schools at a Brazilian Municipal Educational System

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Brazil*

Abstract

This article is part of a PhD research, which analyzes how “relational trust” - as a social capital resource - shapes role set relations (teacher - teacher; teacher - management team; teacher - parents; teacher - Department of Education) and influences collective work in a Brazilian municipal school system where a Participatory Institutional Evaluation policy is taking place. Considering trust as a feature of social relations pervaded by respect, personal regard, sense of listening, integrity, competence and support, we developed a Likert Trust Scale embracing all relations above. It was submitted to an axis factor analysis to test whether the items loaded strongly and as expected. We came to the conclusion that all relations are part of the same phenomenon. This article shows the retained items - the final structure of the Scale - and puts some questions, raised from the field research, for further discussion.

1. Introduction

“Trust” has been considered since 1980s an important relational resource, or a property of school organizations, producing consequences for both the effectiveness of the school and its capacity to engage in improving efforts focused on academic learning [1] [2]. In other words, theories highlight the quality of social exchanges between teachers and their colleagues, parents and the principal and its role in determining the failure/success of educational reforms. We analyzed that theory considering a Brazilian municipal school system where a Participatory Institutional Evaluation policy is taking place. This policy has been implemented at Campinas city public schools since 2008, aimed at empowering local school members to collectively evaluate educational quality of their school, so they can set external demands for the Department of Education and commit themselves to achieving negotiated goals. Because “shared responsibility” is the core stone of that Brazilian reality we decided to include a fourth relation (teacher - Department of

Education), not considered by the previous works [1] [2]. Then based on an analysis from thirty interviews conducted with teachers and inspired by the existing measures of trust [1] [2], we built a seven-point (0-strongly disagree to 6-strongly agree) trust scale and applied it to teachers from thirty Campinas public schools de Ensino Fundamental (1st to 9th grade).

2. Partial Outcomes

After axis factor analysis, the following items were retained because they loaded at 0.5 or above on the expected construct. Besides, all tests used to evaluate relations among constructs (Pearson’s Coefficient, T-Student’s, Effect Size (f^2), Predictive Relevance (Q^2), Path Coefficient) confirmed that all constructs are consistently related to each other and are relevant components of a single phenomenon, that we called Trust, comprising both interpersonal and institutional trust.

Construct 1. TEACHER - PARENT 1.

- I can count on parents to do my job.
 - I feel respected by the parents of my students.
 - Parents in this school listen to what we say about their children education.
 - Parents have confidence in teachers’ work.
 - Parents do their best to help their children learn.
 - Parents are interested in the school matters.
 - Teachers and parents in this school are partners in educating children.
 - Parents are close to their children’s school life.
 - Parents in this school are always attending school meetings, parties and events.
- ### Construct 2. TEACHER - MANAGEMENT TEAM
- I can organize my class work autonomously.
 - I can count on principal support to do my job.
 - Principal shares important information with teachers.
 - I feel alone in my daily work.
 - The management team is interested in the professional development of teachers.
 - I look for the pedagogical advisor when I need to talk about my practice.

16. I feel respected by the principal.
 17. Teachers feel comfortable to express their opinion to the principal.
 18. The principal does a good job in assuring adequate working conditions to our school.
 19. Teachers feel their opinions and proposals are considered by the management team.
 20. Principal has confidence in the expertise of the teachers
 21. Principal treats all students with respect.
 22. I feel watched over at work.
 23. The management team encourages the participation of all (staff, families, and students) in the formulation of the pedagogical project of the school.
 24. The principal is committed to the well-being of all students.
 25. The principal's actions are consistent with collective deals.
 26. The pedagogical advisor and teachers are always talking about alternatives to help students who need it most.
 27. Principal discourages collective decisionmaking.
- Construct 3. TEACHER – TEACHER
28. Teachers can count on each other's help.
 29. Teachers in this school respect each other.
 30. Teachers like to learn from each other.
 31. I feel comfortable to talk with my colleagues about the weaknesses of my work.
 32. When a teacher has good ideas, he/she likes to share it with other teachers.
 33. I have confidence in the expertise of my colleagues.
 34. Teachers treat all students with respect.
 35. Teachers in this school never give up on students, doing their best to help them all.
 36. Teachers are committed to improving their own work.
 37. Teachers hardly hear each other, because they do not value other teachers' knowledge.
 38. We use to collectively evaluate our work.
 39. Teachers in this school meet collective deals.
- Construct
40. TEACHER - DEPARTMENT OF EDUCATION
 41. The supervisor knows the reality of our school.
 42. The supervisor is always here when we call his/her help to address some problem.
 43. The supervisor helps us to defend the needs of our school.
 44. The Department of Education creates opportunities to hear teachers about educational matters.
 45. Teachers' voices are considered by the Department of Education in decision-making processes.
 46. The Department of Education fulfills its responsibility to ensure educational quality.
 47. The Department of Education is committed to improving my professional development.

48. Regarding to infrastructure, the Department of Education gives our school good working conditions.
49. The Department of Education gives our school good working conditions, in terms of providing the school with full professional staff.
50. In terms of wage/working journey, teachers of the municipal public system have good working conditions.
51. I am satisfied with the performance of the municipal government in the educational matter.

3. Conclusion

The next step involves doing a deep description of the phenomenon in light of data from field research. We are interested not only in academic achievement, but in outcomes related to social inclusion, towards a socially just school that contributes responsibly to, and benefits from, its external communities [3]. From that perspective, collective work is not a collective affiliation to pre-established goals, but a process pervaded by deliberation, negotiation and conflict. Unlike other researches [1] defending trust is more likely to develop inside homogeneous settings, in Brazil we have school settings pervaded by diversity and inequalities of all kinds, what requires us to conceive social capital as an important resource to promote inclusion and social solidarity while recognizing diversity [3].

4. References

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Agricultural Education: An Enduring Solution to Farmer-Herder Clashes in Nigeria

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Abstract

This paper assesses the role of Agricultural Education in resolving the recurrent farmer-herder conflict in Taraba State Nigeria. Farmers and herders are in constant conflict resulting from competition over the limited available arable land resources. Some of the major causes of these conflicts include the destruction of crops and contamination of streams by cattle, cultivation of cattle routes by farmers and sexual harassment of women by herders. This conflict results to reduction in output and income of both the farmers and nomads in addition to the loss of lives and destruction of properties. A reliable, convenient and complementary approach capable of curbing conflicts for an enduring solution is imperative. This paper proffers approaches using Agricultural Education. A comprehensive definition of the components and indicators that characterize farmer-herdsmen conflict in Nigeria is provided. Through this paper, herdsmen conflict, farming and the implementation of agricultural education curriculum were analysed. The paper maintains that farmer herdsmen conflict can be controlled through the adoption of agricultural education, ranching system of cattle production and also a synergy between security agencies and other relevant stakeholders. The findings are presented along with related policy implications.

Cognitive Development and Humor among Preschool and Culturally Different Children

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Abstract

Researchers agree that cognitive development is the basic element of appreciating and expressing humor. Children's humor from a simple mode to a sophisticated mode demonstrates their increasing knowledge about the world. The present study investigated cognitive development in relation to humor among two culturally different groups of preschool children (Chinese and Greek). Results lead us to conclude that humor is correlated to cognitive development, but affected by the children's cultural milieu. Children in both groups appreciate humor better as they develop cognitively, whereas cultural factors play a strong role in determining the correlation between these two variables.

1. Introduction

Humor is a “hardwired characteristic of the human species” [15], which plays a major role in human life. It has been used in different areas, such as medicine, education, psychology, and advertising, among others, and analyzed within the context of different perspectives, such as anthropological, superiority theory, and psychoanalytic and cognitive theory. What is Humor

People generally think Humor is equal to a laughter or smile. However, not all laughter or smile indicates humor, it may derive from varied types of emotional experiences such as social games, mastery pleasure, facade of some feelings (e.g. embarrass). Similarly, there are many instances of humor that do not result in laughter due to the mood of the appreciator, the social context and so on [37]. Cognitive-based theorists generally agree that humor is a perception of incongruity in a playful context and that the usual response to it is a smile or laughter. Incongruity refers to an incompatible occurrence of expectations and what actually occurs and is the basic element in the appreciation of humor. Laughter or smiles is the social indicator, recognition of incongruity (e. g., the child could correctly relate or point to what was funny in the picture) is the cognitive indicator of humor [32], [33], [35], [36], Pien & Rothbart, [43]. Developmental Stage of Humor McGhee [36] proposed the following four stages in

the development of humor, based on Piaget's theory of cognitive development: (a) incongruous actions towards objects, which appears at about 18 months of age; (b) incongruous labeling of objects or events, which appears at about ages 2 to 3 years; (c) violation of important characteristics of objects, which appears at about 3 years of age; and (d) linguistic ambiguity and jokes, which appears at about ages 7 to 8 years with the onset of concrete operational thought. This last stage is the beginning of adult humor. Some decades later, McGhee [38] proposed the following, specific stages of humor development:

Stage 1: Laughter at the attachment figure (6 to 12 or 15 months): Humor in the first year of life is reacted to, rather than created [38]. The earliest form of humor experienced by infants involves things parents do. By the age of six months, infants laugh at abnormal behaviours or sounds of parents, such as abnormal face expressions (e.g., rolling eyes), unusual ways of walking (e.g., walking like a duck), or unusual voices (e.g., barking, meowing). McGhee's position, as stated above, is consistent with research on laughter in the first year of life by Sroufe and Wunsch [54].

Stage 2: Treating an object as a different object (12 or 15 months to 3, 4, or 5 years). In contrast to his stance in 1984, in 2002 McGhee reported that this stage first emerged appeared 6 months earlier. Here, with the advent of symbolic play, children start to experience the humor of treating one object as another (e.g., using a spoon as a mobile phone). For example, Johnson and Mervis [21] found that an infant at 14 months pointed at a toy bear on his father's head and said “hat.”

Stage 3: Misnaming objects or actions (2 to 3 or 4 years). At the second year of life, the development of language skills creates new opportunities for humor-misnaming objects or actions, when, for example, mummy is called daddy, dogs are called pigs, and so on.

Stage 4: Playing with word sounds (not meaning), nonsense real-word combinations, and distortion of features of objects (3 to 5 years). The development of humor is related to development of language [4], so that children gain pleasure from manipulating the sounds of language. Thus, a new way of playing with words emerges at age 3 or sometimes a bit earlier. For

example, the child says “tomato, potato” or “shoe, show.” Children also begin putting real words together in nonsensical combinations known to be incorrect. For example, the child laughs heartily when saying “I want to eat car, I want to eat chair, and I want to eat table.” Thus, Chaney [9] observed children played with word sounds and nonsensical word combinations at 24 months (e.g., “Milk and milt”; “I want carrot ice cream, I want chicken ice cream, I want mud ice cream”). McGhee [36] notes that, the violation of the concept of an object is another form of humor among 3 to 5-year olds, such as distortions of the object’s features (e.g., a cow with women shoes), exaggeration of objects (a boy with huge hat), and incongruous behaviours (a mouse mother pushing a carriage containing a baby cat inside).

Stage 5: Pre-riddle, transition period (5 to 6 or 7 years). By the age of 5, children become interested in the verbal humor of older children around them. They typically laugh when they repeat the older children’s riddles or jokes, but they don’t really understand their meaning.

Stage 6: Riddles or jokes (from 6 or 7 years). By the age of 6 or 7, children start understanding the concept of double meanings, and it is then that they start to really appreciate jokes and riddles. This stage is the beginning of adult humor. Children’s Humor in Relation to Cognitive Development Humor is an exclusive and complicated human phenomenon, which depends on many factors [41]. Researchers agree cognitive development is the basic element of appreciating and producing humor, a variety of cognitive functions including attention, memory, problem solving and social cognition are involved to it [4], [21], [28], [32], [33], [35], [36], [43], [52]. McGhee’s stages of children’s development of humor give evidence that it is closely tied to their cognitive development. Children’s early humorous responses seem to parallel to children’s thinking, because when children recognize incongruities, they are demonstrating what they already know about their world. For example, when children laugh at parents’ silly facial expression, exaggerated sounds, abnormal body movements, it indicates that they have ‘ve already known the normal forms of them. When children engage in teasing and clowning, it indicates that they have in mind some expectations of how others will react—in other words, they must predict how others will react to their clowning and teasing, which is related to the concept of “theory of mind”.

Theory of mind is defined as the ability to understand that others have minds that may be thinking different things [31], [39], [57]. Children’s humor, from a simple mode (e.g., clowning, teasing) to an increasingly sophisticated mode (e.g., appreciating cartoons, funny pictures, and funny stories, telling riddles and jokes) demonstrates their increasing knowledge about the world. For example, when children tell riddles or jokes and can explain

why they are funny, it implies that they have concept of the funny things in their mind, evidence of their knowledge in the area. Literature Review of Children’s Humor in Relation to Cognitive Development

Following the literature review, most of the work on humor in relation to cognitive development focused mainly on the individual’s processing of incongruity and its resolution, a few on social cognition and cultural comparison. Humor Researches on Perception of Incongruity During the 1970s and 1980s indicates that most of the work on humor was conducted within the context of cognitive development and focused on children’s perception of humorous incongruities [1]; McGhee, [32], [33], [34], [35], [36], [53], [52], [53], [54]. A majority of the studies dealt with humor appreciation, comprehension, and cognitive development, and were conducted in experimental settings, using graphic stimuli as materials and smiling and laughter as indicators of humor. For example, Shultz [54] used cartoons in an investigation of the role of incongruity and resolution in children’s appreciation of humor. From the 1990s, some researches focused on retesting cognitive-based humor theories [9], [19], [21], [26], [27], [45], [46]. Researchers, for the most part, investigated young children’s humor using observation in natural circumstances. For example, Loizou [26] examined the humor of young children under the age of two by observing them in a group childcare setting via an open and flexible method.

Humor Researches on Social Cognition The literature on humor and social cognition has appeared recently. Most of the work researched humor with theory of mind impairments and proposed that individuals with deficits in theory of mind have difficulty in humor comprehension, especially in the resolution of humor (the ability to “make sense” of incongruity) [2], [6], [28], [29], [51], [50]. Some investigated theory of mind of normal individuals through humorous tasks [17] [22], [31], [49]. For example, Mayes et al. [31] investigated the effect of humor on children’s developing theory of mind using humorous false belief tasks as materials and found that older children did more often identify the false belief in the humorous situation. Humor researches on Cross Culture Cross-cultural studies of humor mainly focused on uses of humor and sense of humor, most of them used multidimensional sense of humor scale as the measurement. [7], [8], [10], [16], [55], [56]. Researches, for most of the part found that there are cultural differences on humor. For example, White women were found to have a higher sense of coping humor than Black women [55]. Americans were found to have a higher sense of humor in the area of creativity than their Spanish counterparts [56]. Chinese university students, as compared to Canadian norms, were reported to have significantly lower scores on humor styles and coping humor [10]. In

Western cultures, especially American culture, humor plays a main role in creativity and personality, unlike in the Chinese culture humor where it plays the least important role [59].

However, there has been little cross-cultural comparison of humor as it relates to cognitive development. Cultural psychologists view culture and mind as inseparable and argue that there are no common rules pertaining to how the mind works [18], [21], [23], [29], [58]. Thus, what is found to be humorous in one culture may not be viewed as such in another culture. Humor is a fundamentally relational phenomenon, we can know a lot about socio-cognitive and cultural skills of young children through humor [4], [37], [47]. The present investigators researched humor among Chinese and Greek preschoolers within the context of cognitive development. Specifically, they examined two questions:

1. Is children's humor correlated to their level of cognitive development, and
2. Is the correlation trend between humor and level of cognitive developmental consistent across the Chinese and Greek cultures.

2. Methods and Materials

Participants: The kindergartens. The Chinese kindergarten in the study that is affiliated with Northeast Normal University (NENU), was contacted with the permission of NENU and agreed to participate. This kindergarten has around 300 children.

Two Greek kindergartens were contacted with permission from the Laboratory of Special Education and Psychology in the Early Childhood Education Department of the University of Patras. One kindergarten has 56 children in three classes—two morning classes and one whole-day class, the other has 40 children in two morning classes.

The Chinese kindergarten sample. Chinese data were collected for about one month in QuanYing Qu ShiYan Kindergarten. The researcher carried out the investigation for 8 hours daily. A total of 76 Chinese children, 39 boys, 37 girls, aged between 4½ and 5½ ($M = 5.12$, $SD = 0.39$), and eight teachers participated in the study.

The Greek kindergarten sample. Greek data were collected for about one month, with the researcher working in the schools daily during all school hours. A total of 50 Greek children, 23 boys and 27 girls, aged between 4½ and 5½ ($M = 5.01$, $SD = 0.45$), and six teachers participated in the study.

Given that this was a comparative cross-cultural study, because the Greek sample only included 50 preschoolers, 55 of the 76 preschoolers in the Chinese sample children were randomly selected for the final data analysis, 29 boys, 26 girls, aged between 4½ and 5½ ($M = 5.06$, $SD = 0.36$).

Instruments: Tasks of cognitive development. The tasks of cognitive development were based on Linder's [25] latest version of the Transdisciplinary Play-Based Assessment (TPBA2) (see also Linder, 1993), which was sent to the researcher by the author. This assessment tool has been used internationally and has well-established validity, reliability, and applicability. In addition, it makes it possible to use data from researcher's observations, interviews with teachers, and some simple tests to obtain the developmental level scales of children. The newer second edition is improved and more precise compared with traditional psychometric methods.

Tasks of humor. The tasks of humor were developed by the researcher based on Bariaud [1] and McGhee [37] and, initially, were drawn from preschool children's books, magazines and internet. Based on work by Johnson and Mervis [21], Loizou [27], and McGhee, as well as the current research requirements, four criteria were taken into account in choosing the tasks:

1. Level of difficulty of the incongruity;
2. Familiarity with the content of the joke;
3. Applicability across cultures;
4. Ethnic respect and influences on children.

The initial pool of tasks was finalized based on the results of the pilot study, described below. The final eight humor tasks were as follows:

Transfer or substitution of features: Picture 1 showed an orange with eyes, nose, and mouth, thus adding human features to a fruit. Picture 2 showed a cow wearing shoes, thus transferring a human object onto an animal.

Distortion of sizes (exaggeration): Picture 3 showed a little boy wearing an enormous hat and very large shoes [37], thus introducing the element of exaggeration. Picture 4 showed a girl sitting in a very tiny chair, introducing the element of a typical distortion of size.

Anomalous behaviours or situations: Picture 5 showed a pregnant mother doing exercises together with the baby inside her body [39]. Here, the first incongruity was the baby-mother relationship, which was presented from an unusual perspective, that is, from inside the mother's body. The second incongruity was the mother and the baby both exercising. Picture 6 showed two mice, one male and one female, pushing a stroller with a cat baby in it. This included two anomalous behaviours: (a) a mice couple pushing a stroller instead of a human couple, and (b) a baby cat in the stroller instead of a baby mouse. In the pilot study, this picture provoked a lot of laughter with some children explaining why they found it funny correctly, indicating that children are aware of cats eating mice

Mishaps and pranks: Picture 7 showed a fish throwing water into the eyes of a man who was not

shown to be injured in any way. Picture 8 showed a cat taking its food out of its bowl and making it messy in order to be able to eat it. Both pictures were meant to indicate a funny mischievous prank (See appendix).

Translating the instruments into Chinese and Greek. The two types of tasks described above—cognitive development and humor—were first translated from English to Greek and Chinese by two translators, and then translated back to English by another set of two Greek and two Chinese English teachers to check for accuracy of translation.

Pilot study. A pilot study was conducted with 11 preschool children—6 Greek children, 3 of each sex, from Kindergarten Ioinias 47 in Patras; 5 Chinese children, 3 girls and 2 boys, from QuanYing Qu ShiYan Kindergarten of JiLin City of Jilin Province. All children in the pilot study were between 4½ and 6 years old.

According to Bariaud [1] and McGhee [36], [38], there are essentially four types of pictorial humor in preschool children:

1. Transfer or substitution of features.
2. Distortion of sizes (exaggeration).
3. Anomalous behaviours or situations.
4. Mishaps and pranks.

A total of 8 pictorial items were chosen for the pilot study. Because these 8 pictorial representations made 10 of the 11 children in the pilot study smile, laugh, and find them to be funny, they were chosen for the formal study. The one child who did not match the others' reactions was a Greek boy of 5 who did not smile or laugh at all, and found nothing funny.

Procedures: Phase 1. In the first phase, children's cognitive development was examined using tasks meant for children aged 5 to 6 years old, interviews with teachers, the researchers' observations, and simple tests based on Linder's [25] TPBA2. There were a total of 51 tasks (5 attention, 6 memory, 4 problem solving, 8 social cognition, and 28 conceptual knowledge items). For example, items such "Can the child attend to stories read without pictures?" and "Can the child recite verses, short passages, songs?" were scored through teacher interviews. If the teacher was confident that the child could do these tasks, the item was scored "1"; if not, it was scored "0." Where teachers could not confidently respond to the items, such as "Can the child consider others' thoughts?" and "Can the child plan how to influence others' goal?" they were similarly scored via the researchers' observations of the children's activities (If the researchers could not agree, then the item would be re-scored following a discussion between the researchers and teachers). The items "Can the child count with one-to-one correspondence up to 20?" and "Can the child remember a sequence of 4 numbers?" were scored via simple tests.

Phase 2. In the second phase, the preschoolers were asked to participate in the humor tasks. Each

child was invited to join the investigator in a comfortable and quiet area of the preschool during their period of free activity. The children were shown the 8 humorous pictures one by one and given enough time to look at it carefully. Children's expressions and reactions were recorded using Pexman, Glenwright, Krol, and James's [44] rating scale (see Figure 1).



Figure 1. Humor rating scale. Laugh very much
Laugh Smile A little smile Neutral

A set of specific questions based on Brown [5] and Loizou [27] are asked of each child: (a) What can you see in the picture? (b) Do you think it's funny? (c) What is funny? The interviews were video-taped. Each interview lasted about 8 minutes.

The children's humor response (social indicator of humor) to the 8 humorous pictures were rated from 5 to 1, where "laughs very much" = 5 and "neutral" = 1. Not all laughter or smiles are manifestations of humor [37], in the present study, only laughter accompanied by the recognition of incongruity was evaluated as a humor response. The frequency of recognition of incongruity (cognitive indicator of humor) was also recorded.

3. Results

Cognitive development. Although the overall mean cognitive development score of the Chinese preschoolers was higher than that of their Greek children counterparts (see Table 1), a t-test indicated that this was not a significant difference ($M = 38.20$ vs. 34.92 respectively, $t(105) = 1.84$, $p > .05$). To explore this pattern further, children in the two groups were then separated into "high" or "low" cognitive levels. The average cognitive level scores for each group were used as the cut-off point so that children with cognitive scores higher than the group mean were categorized into the high-level group and those with scores lower than or equal to the mean were categorized into the low-level group. The numbers of low and high groups' children of Chinese and Greek were 27, 28 and 24, 26, respectively. Mean cognitive score of the high level group were significantly higher than those of the low level group for both Chinese and Greek children, which confirms that the "high" and "low" cognitive levels were, in fact, divided in a valid manner (see Table 1).

Table 1. Mean Scores of Cognitive Development for Chinese and Greek Preschoolers

Cognitive Developme	Cognitive Level	Chinese (n = 55)			Greek (n = 50)		
		M	SD	t	M	SD	t
Attention	Low	4.88	1.59		3.38	2.67	
	High	4.92	0.99	2.33***	4.73	1.87	9.03***
Memory	Low	4.32	1.13		3.26	0.88	
	High	5.96	1.30	1.91*	5.89	1.59	11.98***
Problem Solving	Low	1.73	0.88		0.86	0.89	
	High	2.14	1.03	3.62	2.31	1.27	9.73
Conceptual Knowledge	Low	18.93	3.11		15.59	5.84	
	High	24.03	4.48	13.43***	23.83	3.59	10.62***
Social Cognition	Low	3.32	0.50		2.16	1.07	
	High	5.99	0.77	24.94***	7.09	1.21	23.18***
Total	Low	33.19	3.14		25.25	8.22	
	High	43.04	2.28	9.23***	43.85	4.59	9.98***

*p < .05 **p < .01 ***p < .001

Humor Recognition of Incongruity A Chi Square analysis was respectively conducted to test the differences of the frequency of recognition of incongruity of low and high cognitive levels for Chinese and Greek children, and revealed a significant difference of two cognitive levels for the two cultural groups, $\chi^2(1, N=55) = 392, P < 0.001$; $\chi^2(1, N=50) = 370, P < 0.001$, respectively. Distributions of frequency of recognition of incongruity of two cognitive levels were presented in Figure 2 and Figure 3. As Figure 2 and Figure 3 indicate, the frequency of recognition of humor of high cognitive level group is significantly greater than that of low cognitive level group for the two cultural groups. The Pearson product-moment correlation analysis revealed a similarly pattern (see Table 2).

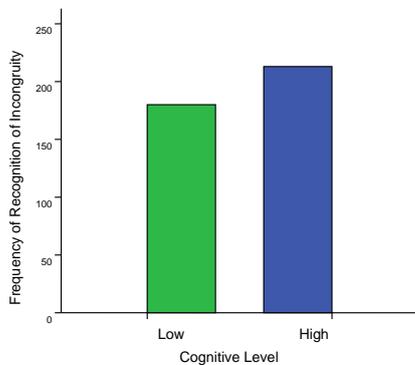


Figure 2. Chi-Square test of frequency of recognition of incongruity of Chinese Children with low and high cognitive level.

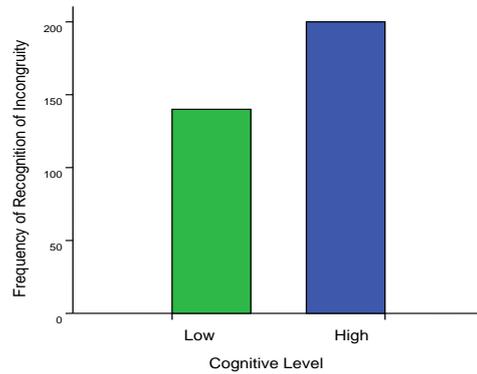


Figure 3. Chi-Square test of frequency of recognition of incongruity of Greek Children with low and high cognitive level.

Table 2. Correlationship of Cognitive Development and Humor for Chinese and Greek Preschoolers

	Cognitive Development		
	Chinese (n = 55)	Greek (n = 50)	
Humor	Laughter	.295*	.398**
	Recognition of Incongruity	.485**	.634**

*p < .05 **p < .01

Laughter. The overall mean laughter score of the Greek preschoolers was significantly higher than that of their Chinese counterparts (M = 2.68 vs. 2.34, respectively, $t(105) = 2.22, p < .05$) (see Table 3).

Table 3. Laughter Scores of Chinese and Greek Preschoolers

Groups	Cognitive Levels	Laughter Scores		
		M	SD	t
Chinese (n = 55)	Low	2.61	0.68	
	High	2.08	0.66	2.95**
Greek (n = 50)	Low	2.40	0.76	
	High	2.93	0.80	-2.42*

*p < .05 **p < .01

As the data in Table 3 indicate, among the Chinese preschoolers, there was a significant inverse relationship between their cognitive development and laughter scores—children in the high cognitive development group scores had lower laughter scores whereas those in the low cognitive development group had higher laughter scores. For the Greek preschoolers, the pattern was the reverse—those in the high cognitive development group had significantly higher laughter scores and those in the low cognitive development group. The Pearson product-moment correlation analysis revealed a similarly different pattern in the relationship of children's laughter scores and their cognitive levels for the two cultural groups (see Table 2). Chinese children's laughter scores had a moderately low and significantly negative correlation to their cognitive developmental level, whereas the Greek children's humor scores had a moderately higher and significantly positive correlation to their cognitive developmental level.

4. Results

Both Chinese and Greek preschoolers' humor recognition frequencies were significantly and positively correlated to their cognitive development. The cognitive development levels of the Chinese and Greek preschoolers were not significantly different, but there was a significant difference between the humor response levels for these two groups. Chinese preschoolers' humor responses were significantly and negatively correlated to their cognitive development in contrast to the positive and significant correlation between these two variables among Greek preschoolers. This finding was confirmed when children in each of the two-cultural group were classified into high and low cognitive level categories and their humor responses compared. Once again, there was a significant and inverse relationship between humor response and cognitive development among the Chinese preschoolers whereas there was a significant and positive relationship between these variables for the Greek preschoolers. Cultural practices and cognitive processes constitute one another, the social, political and economic worlds of different people are different, the content of human minds is indefinitely variable and suggest that the mind develops at a different pace in children raised in different cultures [18], [57].

In the present study, the findings that both Chinese and Greek children's humor recognition is positively correlated to their cognitive development, is consistent with the cognitive based humor theories and researches [4], [35], and is also supported by Piaget's cognitive development theory that the basic cognitive processes work in much the same way regardless of the content they operate. Recognition of incongruity is the basic cognitive processing and the

ability of it is the prerequisite of humor, the child is able to appreciate humor when he can recognize the contradiction between what he encounters and his original expectations [43], [52], this ability develops better with the cognitive development of children, and the pattern of correlation between these two variables isn't affected by culture.

The findings that there is a significant difference of children's humor response levels between two culture groups, is supported by Martin's [30] view that humor and laughter are universal in all cultures, but that cultural approaches may vary. Humor response is a social interaction, humor exists between people rather than somehow in the joke itself [47], when the individuals recognize humor, their responding ways are generally affected by their knowledge about the social world, which is related to social cognition. Social cognition is the understanding of the social world, including other people's behavior, thoughts, and feelings, is a cultural concept and varies through cultures [18], [56]. For example, there exist the cognitive differences between East Asian and Western culture. East Asians attend more to the relationship between the field and the object, Westerners explain the behavior of objects, including that of people, in terms of presumed properties of the object itself whereas Easterners tend to see behavior as due to the interaction of the object with the field [40].

Chinese children's laughter is negatively correlated to their cognitive development, that is, children with a higher level of cognitive development gave fewer humorous responses, could have its source in the Chinese culture. As table 1 indicated, Chinese children with a higher level of cognitive development also have a higher level of social-cognition, and, therefore, may be aware that laughing too much in front of teachers is not considered polite in the Chinese culture. Thus, even though they might have found something to be very funny, they did not express it in the present study. These findings are consistent with those of Chen, Cen, Li, and He [12], Chen, Dong, and Zhou [13], and Chen, Rubin, and Li [14]. Chen et al. [11] suggested that in traditional Chinese culture, shy, sensitive, and restrained behaviour has traditionally been considered indicative of social accomplishment and maturity. Chen et al. [14] and Chen et al. [13] found that shy or wary behaviour is associated with high social competence. Even though Chinese culture is being increasingly westernized since the new policy of 1978, the traditional culture of many thousands of years continues to influence Chinese people's mind and behaviours. Thus, students laughing loudly or making exaggerated body movements in front of teachers is considered impolite.

The findings that Greek children's responses to the humor task were positively correlated to their cognitive development could be because, compared

with the Chinese preschoolers, Greek children with a higher level of cognitive development felt freer to respond to the recognizable the humorous aspects of the pictures. Greek preschoolers do not seem to have a similar degree of cultural restraint when expressing their humor responses. They express their feelings and thoughts in more direct ways and are not hesitant to laugh if they find something funny even in the presence of their teachers.

These findings are consistent with those of Han and Shavitt [24], and Rhee, Uleman, Lee and Roman [48], they found that East Asians are more collectivistic in their socialization practices, values, and social behavior, than people of European culture, who are in turn more individualistic.

5. Conclusion

In this study, the researchers compared humor (humor recognition and response) in relation to cognitive development among Chinese and Greek preschoolers. The results lead them to conclude that humor is correlated to cognitive development, children can recognize humor better as they develop cognitively, the pattern is applicable to all cultures, but the pattern of correlation of humor response and cognitive development is affected by the children's cultural milieu. Given that cognitive development skills have been reported to be essential and basic to appreciating and producing humor [1], [4], [35], the present results imply that children are able to appreciate humor better as they develop cognitively, but cultural factors play a strong role in determining the correlation between humor response and cognitive development. Further research might shed more light on this study's findings by including a measure of social-emotional development in addition to the measures of cognitive and humor development used in this study.

6. Acknowledgements

The researchers extend their heartfelt gratitude to the Greek Scholarship Foundation for their grant and to the teachers of the participating kindergartens for their assistance and support. We also thank to Dr. Gita Brenner for her editorial services and feedback related to this research.

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Assessing Psycho-productive Skills among Secondary School Physics Students in Nasarawa State Nigeria

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Abstract

The assessment of physics students in both process and manipulative skills (Psycho-productivity) through practical work only often neglect the process skills and have practical constraints particularly in large under-resourced classes in Nigeria. A reliable, convenient and complementary instrument capable of assessing psycho-productive skills may provide a solution. The study developed and validated an instrument for assessing psycho-productive skills of physics students. The test characteristics of the developed instrument fell within the accepted range of values suggesting that the developed instrument is valid and reliable to measure physics students' skills in both process and manipulative skills. Using the Psycho-productive Test (PTI) on a sample of 180 students in senior secondary schools in Nasarawa State considering variables of gender, school type and school location. It was found that psycho-productive skills among physics students were not sensitive to students' school type, gender and school location using the developed instrument. It was recommended that the instrument be used for the assessment of psycho-productive skills as baseline, diagnostic or formative assessment purposes for physics students in under-resourced classrooms. Also, the problems associated with use of unreliable instrument (differing from teacher to teacher) to accomplish the task of assessing psycho-productivity by physics teachers is solved.

1. Introduction

Given the growing concern about the standard of education in Nigeria, educational experts have continued to grapple with the task of implementing new systems while maintaining its standards. The aim of the various ministries of education is to ensure that all the children to whom they are responsible, have access to schooling, and also in accordance with Education For All (EFA) goals to ensure that the education provided to them is seen to be worthwhile and of sufficient quality. Quality education depends, crucially, on the teaching and learning process, as well as on the relevance of the curriculum, the availability

of materials and the conditions of the learning environment [1]. Education, whether at the basic, post basic or tertiary level, as a social institution, is subject to change in response to social dynamics. Curricular changes demand for changes in approaches and methods of teaching. The Federal Government of Nigeria [2] posits that, "Any fundamental change in the intellectual and social outlook of any society has to be preceded by an educational revolution". Education exhibits "permanent as well as constant changing attributes that try to adapt to new demands and circumstances [3]. One of these new demands is ensuring the development of science process skills towards actualizing problem-solving and functional living. The place of science in the development of any nation cannot be overemphasized as the level of development of any nation is now measured by the level of scientific activities being practised by its indigenes [4]. No wonder, the National Policy on Education [5] states that science education shall emphasize the teaching and learning of science processes and principles.

It is worth noting that for science teaching to be meaningful and relevant, it must adequately reflect the nature of science. That is, it must not only be process-oriented, but it should also emphasize the products of science (psycho-productivity). It should also promote affective reaction to science and stress attitudes such as honesty, open and critical mindedness, curiosity, suspended judgment and humility which characterize scientists and the scientific enterprise [6]. Science process skills are defined as an understanding of methods and procedures of scientific investigation [7]. The process skill approach is argued [8] as one teaching method that could be employed by teachers in the effort to teach science as inquiry. This is because science process skills are very important for meaningful learning; to find, interpret, and judge evidence under different conditions. Therefore, this suggests why Harlen [9] posits that it is essential for students to be provided with science process skills. The process skill approach focuses on teaching broadly transferable abilities that are appropriate to many science disciplines and are reflective of the behavior of scientists [10]. However, Chiappetta [11]. states that "the acquisition and frequent use of these skills can better equip students to solve problems, learn on their own, and appreciate science".

Lan [12] noted that science process skills are subject specific. This suggests that process skills in physics differ from that in chemistry or biology. However, these skills operate in conjunction with specific knowledge. There has to be a task, some information to be absorbed or a problem to solve so that these skills can be applied. The performance in any task involving the skills will be influenced by the nature of the subject content as well as the ability to use the skill. Clearly, it is not valid to assess process skills in tasks which require conceptual understanding not available to the student. It is important to assess process skills only in relation to content where the conceptual understanding will not be an obstacle to using process skills [13]. Thus, students can use process skills to formulate responses to questions, to justify points of view, to explain events or procedures, and to interpret or describe data.

Nwosu and Okeke [14] posit that science process skills have been described as mental and physical abilities and competencies which serve as tools needed for the effective study of science and technology as well as problem solving, individual and societal development. The American Association for the Advancement of Science (AAAS) classified the science process skills into fifteen. These are: observing, measuring, classifying, communicating, predicting, inferring, using number, using space/ time relationship, questioning, controlling variables, hypothesizing, defining operationally, formulating models, designing experiment and interpreting data. These skills require conceptual knowledge and how they are achieved (performance). In this study, the measure of these skills in physics and how they are carried out is referred to as psycho-productivity.

Unfortunately, the teaching and learning of science does not always reflect the true nature of science [15]. Science students memorize scientific laws and knowledge to pass examination. At the end of the senior secondary school programme, science students merely possess chunks of discrete science knowledge. The major thrust of the science programme in Nigeria is to develop the students' skills in using science processes. The content of science is the accumulated and ever-expanding body of knowledge in any discipline to which scientific inquiry can be applied. By overemphasizing process, teachers may not be preparing students properly for continuing science learning to the higher level. According to Livermore [16], both the processes as well as content are important. Students use science process to learn science content. Psycho-productive skills are involved when conducting investigation or experiments; formulating a hypothesis, identify and control variables in designing an experiment, and making generalizations after collecting data [17]. Accordingly, these skills can be practised in the core science subjects of biology, chemistry and physics.

Mastumoto [18] posits that physics practical skills are basically science process skills. They are taught as part

and parcel of the physics curriculum. Psycho-productive skills are cognitive and psychomotor skills employed in problem solving. They are the skills which sciences use in problem- identification, objective inquiry, data gathering, transformation, interpretation and communication [19]. To be psycho-productive, science process skills are required and can be acquired and developed through training such as are involved in science practical activities. They are the aspect of science learning which is retained after cognitive knowledge has been forgotten. Anikweze [20] posited that teaching and learning in some science and vocational subjects require a lot of drills while measurement of achievements must be performance oriented (psycho-productivity).

Poor performance in the subject could be attributed to poor psycho-productive skills among students due to inadequate assessment of psycho-productive skills. Some researchers (Pollit & Ahmed [21]; Magagula & Madubuko [22] have shown that learners learn process skills better if they are considered an important object of instruction relatable to their environment using proven teaching methods. These researchers advocate for use of locally developed educational materials and assessment instruments that are familiar, and which meets the expectations of learners.

For students to demonstrate skills in physics, assessments using hands-on procedures to determine skill acquisition by students are deemed most appropriate. In Nigerian schools, this is being implemented through practical work. The Ministry of Education in Nigeria requires science teachers to conduct school-based science practical to assess students' acquisition of the science process. Yet, problems of individual competency measures are very time consuming and requires a trained observer. Teachers, policy makers and parents are beginning to recognize that minimums and basics are no longer sufficient and are calling for a closer match between the skills that students learn in school and the skills they will need upon leaving school. The situation whereby little or no skills are developed has also attracted a barrage of criticisms.

In view of the above, this study was set out to assessing psycho-productive skills among physics students in Nasarawa state secondary schools.

2. Statement of the Problem

The assessment of procedural knowledge and skills in physics (psycho-productivity) can be a burdensome task to teachers as it is common to have 40 or more students per class in the science classroom in Nigeria. Besides, the question of reliability and validity of such assessment procedures is of big concern. Assessment of declarative knowledge particularly in practical physics could continue unabated except an appropriate instrument capable of effectively and objectively assessing psycho-productivity is developed and employed.

In view of the above, and considering the relevance of psycho-productivity in physics, the questions that arise are: To what extent have the learners who use the curriculum for practical physics and the related instructional materials acquired psycho-productive skills? Are physics teachers not measuring students' capabilities in the cognitive areas when they mean to measure process skills? Are physics teachers employing the right instrument(s) in assessing psycho-productivity? What is the level of psycho-productivity among physics students? Why are employers and institutions of learning home and abroad getting increasingly skeptical of Nigerian school products particularly in sciences? Finding answers to these questions necessitate the development of an instrument and assessing learners' psycho-productive skills.

3. Objectives of the Study

The purpose of this study was to assess psycho-productivity among physics students. In specific terms the study:

- (i) compared the psycho-productivity of male and female physics students.
- (ii) compare the psycho-productivity of physics students according to school type.
- (iii) compared the psycho-productivity of physics students in urban and rural schools.

4. Research Questions

The following research questions were raised to facilitate the investigation:

- (i) What is the difference in psycho-productive skills of male and female physics students as measured by PTI?
- (ii) What is the difference in psycho-productive skills of physics students in Boys', Girls' and Mixed schools?
- (iii) What is the difference in psycho-productive skills of physics students in urban and rural schools?

5. Statement of the Hypotheses

The following hypotheses were stated to guide the study and would be tested at a significance level of 0.05:

H₀1: There is no significant difference in the scores obtained by males and females using the PTI.

H₀2: There is no significant difference in the scores obtained by physics students in Boys', Girls' and Mixed schools as measured by the PTI.

H₀3: There is no significant difference in the scores obtained by physics students in urban and rural schools as measured by the PTI.

6. Literature Review

6.1. Concept of Psycho-productivity

Anikweze (2010) [20] is of the view that performance tests should be preferred to achievement tests for assessment of learners' development of psychomotor skills or job performance. Accordingly, he highlighted two measurable aspects of psychomotor skills in any performance test as; the process (procedure, skill or techniques) and, the product or result. While the assessment of the product emphasizes the quality of the end product/result, the process assessment stresses the skills demonstrated by the learners in performing the desired procedure. This view suggests that psycho-productivity because it encapsulates procedural activity and result.

The importance of procedural knowledge, as opposed to declarative or factual knowledge, is emphasized in all subject areas for meaningful learning to occur [23]. Therefore, acquiring psycho-productivity skills enables students to become active learners [24].

Based on the objectives of the physics curriculum in Nigeria, it is clear that the evaluation of physics should, in part, be based on practical aspects which emphasize assessment of the student in the psychomotor domain.

7. Methodology

The research employed the instrumentation research design as appropriate for this study. Instrumentation research is seen as a study which aims at introducing new concepts, procedures, technologies or instruments for educational practices (ICEE) [25]. The study also employed the evaluative survey design to assess the psycho-productive skills of physics students using the developed instrument.

The population of the study consisted of all senior secondary 3 (SS3) students offering physics in secondary schools in Nasarawa state. There are a total of 36, 092 SS3 students in Nasarawa state for the 2017/2018 academic session of which 9, 079 offers physics. [(Nasarawa State Education Board (NSEB), [26]. The sample for the investigation comprised 180 SS3 students (90 males and 90 females) selected through random sampling technique. The student sample was selected using the simple random sampling technique. The hat and draw method was employed in selecting 20 students from each of the 9 sampled schools. Ten (10) male students and 10 female students were selected from the mixed school while 20 students each was selected from Boys' schools and Girls' schools respectively. Thus, the total research subjects were 180 physics students. In terms of school type, the schools have 3 each for Boys, Girls and Mixed schools respectively. Also, the schools are dichotomized into urban and rural schools. There are

4 schools in the urban and 5 school in the rural location.

The instrument that was used for data collection was the Psycho-productive Test Instrument (PTI) developed and validated by the researcher and capable of assessing psycho-productive skills among physics students. The instrument was made up of two sections: Section A comprised a 36-item multiple choice questions: and tagged Psycho-productive Skills Test (PST) targeted at measuring physics process skills while section B comprised a hands-on-task tagged: Physics Practical Test (PPT) targeted at measuring manipulative skills in physics

8. Analysis of Findings

Research Question 1: What is the difference in psycho-productive skills of male and female students as measured by the instrument?

Table 1. Result for the comparison of Psycho-productive Skills of Students According to Gender

S/	GENDER	N	MEA	SD	S.
1.	MALE	15	53.23	9.95	2.57
2.	FEMALE	15	54.70	8.13	2.10

Table 1 shows the result for the comparison of psycho-productive skills of male and female students as measured by the PTI. Male students have a mean of 53.23 while female students have a mean of 54.70. This result indicates that female students performed better than the male students in both process skills and manipulative skills.

Research Question 2: What is the difference in psycho-productive skills of students in Boys', Girls' and Mixed schools as measured by the developed instrument?

Table 2. Result for the Comparison of Psycho-productive Skills of Students According to School Type

S/N	School Type	N	MEA	SD	S. E
1.	Boys'	10	52.35	10.29	3.24
2.	Girls'	10	55.45	7.94	2.51
3.	Mixed	10	54.10	9.20	2.90

Table 2 shows the psycho-productive skills of students as measured by the PTI according to school type. The result indicates that girls' schools is highest with a mean of 55.45 while Mixed school follows with a

mean score of 54.10 and Boys' school is least with a mean of 52.35. The result implies that students in Girls' schools performed better than those in Mixed and Boys' schools. However, the performance of the students in the different school types is equivalent.

Research Question 3: What is the difference in psycho-productive skills of students in urban and rural schools as measured by the instrument?

Table 3. Result for the Comparison of Psycho-productive Skills of Students According to School Location

S/ N	School location	N	MEA	SD	S.E
1.	Urban	15	54.03	9.58	2.47
2.	Rural	15	53.90	8.64	2.23

Table 3 shows the result of psycho-productive skills of students as measured by the PTI according to school location. The result indicates that students in the urban schools have a mean score of 54.03 while those in the rural schools have a mean score of 53.90. The implication of the result is that students in the urban schools performed better than those in the rural schools.

Research Hypothesis 1: There is no significant difference in the psycho-productive skills of males and females in the developed instrument (H_01).

Table 4. T-Test Analysis for the Difference in the Psycho-productive skills of male and Female Students in the PTI

S/ N	GENDER	N	MEA	Tcal	Tcritical	Remark
1	MALE	15	53.23	0.428	2.048	NOT SIGNIF
2	FEMALE	15	54.70			

$$\alpha = 0.05$$

Table 4 shows the t-test analysis for the difference in the psycho-productive skills of male and female students as measured by the PTI. The result implies that the calculated t-value of 0.428 at a significant level of 0.05 is less than the critical value of 2.048. This indicates that the calculated t-value obtained is not significant to reject the null hypothesis (H_{01}) which states that there is no significant difference in the psycho-productive skills of male and female students on the PTI. This implies that psycho-productive skills of male students as measured by the PTI do not differ significantly from the performance of female students.

Research Hypothesis 2: There is no significant difference in the psycho-productive skills of students in Boys', Girls' and Mixed schools as measured by the instrument (H_{02}).

Table 5. Analysis of Variance (ANOVA) for the Difference between psycho-productive skills of Students according to School Type

S/N	SCHOOL TYPE	N	MEAN	SD	S.E
1	BOYS' SCHOOL	10	52.35	10.29	3.24
2	GIRLS' SCHOOL	10	55.45	7.94	2.51
3	MIXED SCHOOL	10	54.10	9.20	2.90

SOURCE OF VARIATION	SS	D F	M S	F	SIGNIFICANCE OF F
BETWEEN	5.23	2	2.61	0.33	3.35 ($\alpha = 0.05$)
WITHIN	213.61	27	7.89		
TOTAL VARIATION		29			

Table 5 shows the analysis of variance for the difference in the psycho-productive skills of students according to school type. The F – ratio calculated (0.33) at degree of freedom (2, 27) is less than the critical value of F (3.35) at 0.05 level of significance. This result indicates that the F – calculated is not significant to reject the null hypothesis which states that there is no significant difference in the psycho-productive skills of students in Boys', Girls' and Mixed schools as measured by the developed instrument (H_{02}). This implies that scores obtained by students in Boys' Girls' and Mixed school as measured by the developed instrument do not differ significantly. This result further suggests that the developed instrument is not sensitive to school type.

Research Hypothesis 3: There is no significant difference in the psycho-productive skills of students in urban and rural schools as measured by the instrument (H_{03}).

Table 6. T-Test Analysis for the Difference in the psycho-productive Skills of students According to School Location

S/N	SCH LOCATION	N	MEAN	Tc	Tcritic	Remark
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1	URBAN	15	54.03	0.98	2.048	NOT SIGNIFICANT
2	RURAL	15	53.90			

$\alpha = 0.05$

Table 6 shows the t-test analysis for the difference in the psycho-productive skills of students according to school location. The result shows that the calculated t-value of 0.981 is less than the critical t-value of 2.49. This implies that the null hypothesis (H_{03}) which states that there is no significant difference in the scores obtained by students in urban and rural schools as measured by the instrument (H_{03}) is not rejected. This result therefore indicates that psycho-productive skills of students in both urban and rural schools do not differ significantly. This result also suggests that the developed instrument is not sensitive to school location.

1. Psycho-productive skills of male students do not differ significantly from that of female students in Nasarawa state secondary schools.
2. Psycho-productive skills among students in Boys' Girls' and Mixed school as measured by the developed instrument do not differ significantly.
3. Psycho-productive skills of students in urban and rural schools do not differ significantly.

9. Discussion

The findings on the use of the developed instrument revealed that female students performed better than the male students in both process skills and manipulative skills as shown in their mean performance. However, the difference in the performance between male and female student is not significant. This finding is in agreement with that of Oloruntegbe and Omoifo [27] who found out that gender exerted no influence on students on performance assessment tests. Also, the finding is in agreement with that of Nwagbo and Uzoamaka [28] who revealed that there was no interaction between gender on students' process skill acquisition. This finding is however, not in agreement with Ayang, Edu and Idaka [29] who found out that gender significantly influence students' psychomotor performance in basic electricity. The reason for this could be in the apathy shown by the female gender on the perceived danger in handling electrical equipment. Considering the mean performance of male and female students in the developed instrument, a mean score of 54.03 for females and 53.23 for males shows that performance of the students on both the process and manipulative skills is reflective of the acquisition of these skills by the students. This finding supports that of Nwagbo and Uzoamaka [30] who revealed that practical activity method was more effective in fostering students'

acquisition of science process skills than the lecture method.

The findings of the study also showed that students in the urban schools have a mean score of 54.03 on the PTI while those in the rural schools have a mean score of 53.90. The implication of the result is that students in the urban schools performed better than those in the rural schools. However, Psycho-productive skills of students in urban and rural schools do not differ significantly. The performance of students in both urban and rural school locations indicates that facilities in both urban and rural schools are similar. The slight difference in the performance of students in urban schools may be due to other factors that could enhance achievement in terms of teaching and learning conditions. Nevertheless, Girls' schools has the highest mean score of 55.45 as measured by the PTI while Mixed schools follow with a mean score of 54.10 and Boys' school is least with a mean score of 52.35. The result implies that students in Girls' schools performed better than those in Mixed and Boys' schools. Psycho-productive skills among students in Boys' Girls' and Mixed school do not differ significantly. This finding suggests that female students perform better in psycho-productive skills compared to the male students. However, the similarity in the results also indicates that the instrument is not sensitive to and not discriminatory in regards to the acquisition of psycho-productive skills.

10. Conclusions

The main aim of the study was to assess psycho-productive skills among physics students in Nasarawa state secondary schools using the developed instrument. However, it was concluded that psycho-productive skills among students according to school type, gender and school location do not differ significantly in Nasarawa state secondary schools.

11. Recommendations

Based on the findings of this study, the following recommendations are made:

1. The PTI could be used in different school types and locations to monitor the acquisition of psycho-productive skills of physics students. The result of which could provide feedback on the effectiveness of the physics curriculum.
2. The PTI is a convenient, efficient tool, and may be used by physics teachers for classroom assessment of students' competence in psycho-productivity. It could be used for baseline, diagnostic, continuous or formative assessment purposes, especially by those teaching poorly resourced large classes.
3. The instrument has a multiple-choice test as its integral part and could be administered anywhere at any time by anyone with or without expertise

in the field of psycho-productive skills in physics.

4. Lastly, students and their physics teachers could use the developed instrument to get prompt feedback on their competence in psycho-productive skills, so that they are able to identify areas where they may need remediation.

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Session 31: Language, Reading and Writing Education

Title: Towards a Theoretical Framework for Teaching Reading Comprehension: A Case Study of Three Rural Primary Schools
(Author: Ndileleni Paulinah Mudzielwana)

Title: Transacquisition Biliterate Teaching of Academic English
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Title: Intercultural Communicative Competence Development and Attitudes towards Intercultural Communicative Language Teaching of EFL Learners
(Author: Kanlaya Promwatcharanon)

Title: Teachers' Classroom Strategy in Teaching English as a Foreign Language
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Towards a Theoretical Framework for Teaching Reading Comprehension: A Case Study of Three Rural Primary Schools

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Abstract

The main objective of this qualitative study was to explore how teachers teach reading comprehension to Grade 3 Tshivenda-speaking learners. The study developed a conceptual framework from the literature review, consisting of five phases that were identified and developed. The phases were namely, creating awareness of the reading comprehension challenge, strategic planning, teaching of reading comprehension strategies, self-monitoring and feedback and self-efficacy are interdependent and form a continuous cycle. The study recommended that, parents, principals, heads of departments and teachers need to be actively involved in the education of their learners. The teacher needs theoretical knowledge and be strategic in planning, creating an atmosphere conducive for learning. Teachers must be able to motivate learners to participate actively in the reading comprehension process. Teachers need to develop skills, knowledge, and self-regulatory strategies to support learners until they can read independently.

Transacquisition Biliterate Teaching of Academic English

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Abstract

Kura kaupapa Māori (kura) primary schools have been a cornerstone of the movement to revitalise the Māori language in Aotearoa/New Zealand. However, this has come at some cost to the students' proficiency in academic English as most kura restrict English instruction with some excluding it altogether [1] This paper draws on my doctoral research [2] to describe the theorising, development and evaluation of Transacquisition pedagogy for the biliterate teaching of English. Qualitative and quantitative data was collected during an eight-week intervention with 24 eleven and twelve-year-old students in two kura. The findings show that the kura students' academic language and reading comprehension in English improved significantly as a result of the Transacquisition intervention. The magnitude of their improvement was large at 5.20 weeks improvement per week and their rate of improvement very fast, at 5.87 times faster than similarly-abled English-medium students.

1. Introduction

The founding of Kura Kaupapa Māori (hereafter referred to as 'kura') schools followed the establishment of Kohanga Reo in 1982 as New Zealand's first Māori immersion early childhood education model. Established in 1989 by the Education Amendment Act [16], kura emerged out of a growing concern among Kohanga Reo families that their children's Māori language fluency would be lost, if the Māori immersion approach did not continue into their primary schooling [3]. This 'immersion approach' was predicated on the belief that English would happen automatically since it pervaded every aspect of society. Throughout the 1990s it was strongly believed that the kura student would simply soak up the English language as would a sponge to water. This resulted in the commonly held view that conversational English and academic English were one in the same thing and that English instruction was not required [4]. However, following the turn of the century, [5] Berryman and Glynn published an extensive list of issues associated with the provision of English instruction in kura. In their study, Berryman & Glynn [5] identified the lack of evidence,

resources, monitoring and evaluation information available for kura teachers to transition their students from literacy in Māori to literacy in English. It was clear that a change from the 'immersion approach' was required and in 2005 that change came in the form of the 'separate language approach'. The founding philosophical document of kura [6] states that "Kura Kaupapa Māori accept that there is an appropriate time for the introduction of English at which time there shall be a separate English language teacher and a separate language learning facility". Kura use the practice of delineating English and Māori language zones and the assigning of different teachers for each language to embed the 'separate language approach' as the preferred pedagogical attribute of successful kura [7].

2. Theoretical Framework

Schleppegrell describes academic language as a set of registers through which schooling activities are accomplished, and by which children are expected to learn and participate in [8]. Kura are typically situated in low socioeconomic communities [9] and for the majority of kura students, English is their home language [10], [11], [12]. This means that the kura students are less likely to experience academic English at home. Without explicit instruction in academic English, the students are ill equipped to bridge what [13] Bernstein terms as the "discursive gap" between their home language and the academic language of the school. The need to help the students to bridge the "discursive gap" is the challenge facing kura educators "to acknowledge the importance of English language instruction without

detracting from the priority given to the regeneration of te reo Māori" [14].

The entangled roots of kahikatea (*Dacrydium dacrydioides*) trees were used as the Transacquisition metaphor to gain acceptance in the kura communities for the research to be conducted. The kahikatea metaphor is underpinned by the Kaupapa Māori principles of *tū takitahi* (individual independence), *tū takitini* (collective interdependence) and *whanaungatanga* (interrelationships). These principles are reflected in the distinctive growth

pattern of the kahikatea tree which grows best in stands where each tree entwines its buttressed roots with its neighbours to form a thick, matted footing that supports all the trees together as one. The kahikatea metaphor characterises languages as symbolic trees in the mind of the kura student, which grow and develop individually and collectively in the language and literacy learning process.

The kahikatea metaphor reflects Hornberger's [15], [16] notion of language evolution in which languages live and evolve in an ecosystem along with other languages. The metaphoric depiction of the kahikatea tree root system is used to illustrate the Interrelational Translingual Network (ITN) of the bilingual learner's mind. The ITN concept expands on Cummins' [17], [18], [19] iceberg analogy of the language interdependence principle. The ITN is an evolving organic web of complex interconnected linguistic and conceptual interrelationships. It grows when the bilingual learner engages in cross-linguistic analysis to integrate new knowledge with prior knowledge for increased conceptual understanding. Transacquisition uses the ITN concept to pedagogically operationalise Cummins' [21], [22], [23], Common Underlying Proficiency model in the biliterate teaching of academic knowledge.

3. Methods and Data Sources

A mixed methods approach was adopted to collect both quantitative and qualitative data during an eight-week intervention with 24 eleven and twelve year old students in two kura. This approach was chosen to integrate the benefits of both qualitative and quantitative approaches into the study [24]. Reading running records were used as the standardised pre- and post-intervention assessment tool to compare achievement rates over the intervention period and to similarly abled English-medium students who formed a comparison group. The quantitative analysis was conducted first and then used to inform the subsequent qualitative analysis component [25]. The kura students' perceptions of their metacognitive and metalinguistic processes in English and Māori formed the qualitative data in this study. This data was collected prior to, during and following the Transacquisition intervention programme. The qualitative analysis was a thematic analysis of the kura students' perspectives using constant comparative analysis [26].

Burke Johnson [27] identifies five purposes for mixing quantitative and qualitative data, of which the following four were applied in the study. Triangulation involved comparing the quantitative findings of the reading running record scores with the qualitative findings of the student conferences, think-aloud protocols and reflections during the Transacquisition intervention programme. Complementarity allowed for the qualitative findings

to be used to elaborate and illustrate the quantitative findings. Development allowed for the use of the preintervention English instructional reading level of each student as the starting point for their postintervention running record assessment. Using this process, it was possible to ascertain whether the student had maintained their pre-intervention instructional reading age or whether an improvement in reading age had been achieved. Expansion allowed for the scope and focus of the study to be expanded through the recommendations that emerged from the insights gained in the quantitative and qualitative analyses.

4. Results

This research provides strong empirical support for a pedagogical framework based on bringing the kura student's two languages into productive contact with each other. The comparative findings show that Transacquisition pedagogy prompted productive contact between the two languages to accelerate literacy development in English while enhancing the kura students' pre-existing literacy in Māori. The findings show that the 24 kura students' academic language, academic understanding, and reading comprehension in English improved significantly as a result of the Transacquisition intervention programme. The magnitude of the improvement was large and the rate of improvement very fast, well beyond what would be expected among similarlyabled English-medium students. These results indicate that the Transacquisition intervention programme did have a positive effect on the English literacy development of the 24 kura students.

5. Conclusions

It can be concluded that the students began to use more metacognitive strategies while reading in English as a result of the Transacquisition intervention. The overall improvement in selfcorrection rates suggests that the kura students became more focused on textual features to read more accurately. Further to this, it appears that Transacquisition pedagogy prompted greater awareness in the kura students to recognise their errors and then correct those errors accordingly. This suggests that the students' decoding skills improved between pre- and post-running record assessments as they demonstrated greater perseverance, confidence and skill in risk-taking to improve their levels of reading accuracy in the post-intervention running record assessments.

Furthermore, the kura students not only demonstrated better decoding skills after the Transacquisition intervention programme, they also demonstrated gains in reading comprehension. The quantitative findings of this study show that they

began to make more use of meaning in their attempts to read unknown words. This highlights the pedagogical effectiveness of the transacquisition intervention programme, which enabled the kura students to draw on all their linguistic resources to facilitate meaning making in their reading.

The significant reduction across the whole cohort in non-attempts to read unfamiliar words suggests that the students began to take more risks in their reading after the Transacquisition intervention. Prior to the intervention, the students were not attempting to read unfamiliar words about 25% of the time, whereas after the intervention, they were not attempting to read unfamiliar words only 11% of the time. Interestingly, the girls showed a greater reduction in average non-attempt rates than the boys, highlighting some potential gender differences in literacy development.

6. Scholarly Significance

Transacquisition pedagogy, with its interplay of cognitive and linguistic processing, has the potential to radically re-align the current pedagogical approaches of emergent bilingual learners in Aotearoa/New Zealand and around the world. Transacquisition promotes reciprocal transfer of concepts, skills, and metalinguistic awareness across languages. It provides opportunities for bilingual learners to behave as ‘language users’ to interpret, express and negotiate meaning in both their languages. This research makes an original contribution to Bilingual Education with particular relevance to the education of indigenous and minority-language students. The originality lies in the theorisation of the Interrelational Translingual Network (ITN) to conceptualise cognitive and linguistic processing in the bilingual mind. Its originality also lies in the development and implementation of Transacquisition as a pedagogical approach that draws on the bilingual student’s ITN to promote bilingual and biliteracy development.

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Intercultural Communicative Competence Development and Attitudes towards Intercultural Communicative Language Teaching of EFL Learners

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Abstract

Intercultural communicative competence (ICC) development is seen as one of the integral key skills in the 21st century, so one of the goals in English language training programs is to educate learners to become intercultural speakers who can deal with linguistic and cultural complexity and take part in multicultural situations. However, the integration of intercultural content into English language education is still ignored in Thai context. This empirical study, therefore, endeavored to integrate intercultural content into an English communicative language teaching course to explore learners' attitudes towards intercultural communicative language teaching (ICLT) and their ICC development in the Thai context. It involved English as a foreign language (EFL) learners who were the 4th year students trained for student trainees in a Method of English course at Chiang Mai Rajabhat University in Thailand. Three research instruments, namely, questionnaire, ICLT Model and ICLT test were employed to garner data. The preliminary findings revealed that EFL learners' attitudes towards intercultural communicative language teaching were positively high, and their ICLT competence had significantly developed. This study hoped to shed light to the implementation of ICLT in the EFL context of Thai and other similar settings.

1. Introduction

In the ASEAN context, English is an official language for business, education and culture exchange, so it is advisable that English contents used in ASEAN countries be developed based on the importance of intercultural language education. Intercultural content in new English contents should be explicitly and permanently embedded. It should focus not only on the cultures from English speaking countries but, also those of other cultures around the world, with particularly strong emphasis on the diverse cultures of the ASEAN communities in terms

of visible or tangible cultural content (e.g., food, costumes, places, artifacts) and invisible or intangible cultural content (e.g., values, attitudes, norms of behavior). However, the research results of "Attitudes and Awareness toward ASEAN: Findings of a Ten Nation Survey of ASEAN Foundation" [20] showed that 67 % of Thais agreed to be ASEAN citizens, which was at a low level compared with other nine countries at 76.8 %. This is a reflection that only 38.5% of Thais have knowledge and understanding of the ASEAN community. Thais' attitude, awareness and basic knowledge towards ASEAN was 8 out of 10 amongst ASEAN members with 27.5 % correctly answering questions about the ASEAN community and the least to remember the year in which the ASEAN community was establishment.

In the current context of globalization, the issue of delivering ICC to EFL learners has identified as one of the ultimate goals in the field of English language education (e.g., [2]; [3]; [5]). In an attempt to present learners with cultural differences which help students become inter-culturally aware of their own culture and the presence of others as well as to appreciate and respect them. Moreover, English language education should equip learners with the knowledge of intercultural communication and the ability to use it effectively to bridge cultural differences and achieve more harmonious, productive relations [16].

It points out that "teachers in different classrooms in various parts of the world still ignore the importance of teaching culture as a part of language study" (p. 26) [7]. Teachers do not know how to incorporate culture and intercultural communication in their language classroom since they lack adequate training on how to incorporate culture into their teaching practices as well as how to measure learners' IC and changes in their attitudes as a result of cultural education. Most teachers have limited knowledge about intercultural communication [18]. That is, teachers, endeavor to promote only their learners' language proficiency instead of endowing them with

ICC to function efficiently and appropriately in multicultural situations.

Concerning this matter, the researcher; as a lecturer in the English Education program, found that the institution should train student teachers to be a competent human resource. Nurturing them to have a high capacity knowledge, skills, and being innovative to teach by using the ICLT model, which is developed to facilitate the development of student teachers' (EFL learners) ICC. Following two research questions formed:

- 1) What are EFL learners' attitudes towards intercultural communicative language teaching (ICLT)?
- 2) To what extent is EFL learners' intercultural communicative competence (ICC) enhanced after being taught by the intercultural communicative language teaching course?

2. Methodology

2.1. Course Design

The intercultural communicative language teaching model included in CI 4642: Method of Teaching English course in English Education Program of Chiang Mai Rajabhat University lasting over a period of 10 weeks. The ICLT was taught by a Thai teacher of English (the researcher) who met with the class 3 hours weekly for a total of 30 hours. The thirty-hour model was divided into two parts. The first part contained the lessons taught by the researcher (9 hours of the teaching time) and a group teaching (18 hours of teaching time), and the second part contained the end-of course assessment (3 hours of teaching time).

2.2. Course Design

Additional elements of intercultural content were integrated into the 3-unit English lesson titled "A 4MAT Approach Integration with ASEAN Social and Cultural Links" (ASCL). ASCL contents consist of 3 units, which are; first; Unit 1 "Welcome to ASEAN Community," focusing on the background and national symbols of each member country (flags, currencies, clothes, flowers, and greetings). Second, Unit 2 "Travel through the ASEAN Community", contains information about places to eat and see around the ASEAN communities. Third, Unit 3 "Cultural Wonders", provides content about travel tips and do's and don'ts, when traveling around the ASEAN community.

The participants were taught using the ICLT model and the 4MAT approach. This method affected learning achievement with knowledge sharing through an inquiry process, along with knowledge creation during interactive action learning. Moreover,

it helped develop knowledge presentation and knowledge aesthetics, as well as reflective thinking. This approach has been very well-known for its child-centered approach [10]. There are 8-steps of 4MAT approach; namely;

Step 1: Creating experience

Step 2: Analyzing experience

Step 3: Integration reflection into concept

Step 4: Developing theories and concept

Step 5: Working on defined concept

Step 6: Messing around

Step 7: Analyzing for usefulness of application

Step 8: Doing it themselves and sharing what they do with others

Both the ASCL content and the 4MAT approach were integrated into the teaching model for the participants in the group teaching in order to create the group lesson plan, the teaching aid and trial teaching in the class.

2.3. Participants

The participants were sixty-two EFL learners from the fourth-year students of the English Education Program who studied in the subject course; CI 4642 Method of Teaching English in the 2nd semester of the year 2014 at Chiang Mai Rajabhat University, Thailand. Most of the participants about 80% of them had attitude, awareness and basic knowledge towards ASEAN studies. Only about 20% correctly answered questions about the ASEAN community background which showed lack of adequate knowledge about intercultural communicative competence.

2.4. Research Instruments

This study utilized three research instruments; including; questionnaire, the ICLT model and the ICLT test to collect data. A questionnaire employed to obtain information from EFL learners' attitudes towards ICLT and IC development after the course. The survey content included 20 items designed with a five-point scale (strongly disagree to agree strongly) which showed 4 of IC elements, namely; intercultural knowledge, attitudes, awareness, and skills. The total reliability of the questionnaire calculated by Cronbach was 0.84. The ICLT model designed regarding lessons and approach to teaching with group teaching by learners as student trainees addressing two issues attitudes towards ICLT and their ICC development. The ICLT test used to collect data on learner's language teaching competence was extracted from the assessment of instruction procedures form after taught by the ICLT model. The ICLT competence test included six elements with the total scores of 40, namely; warm-up (5), 3P procedure (15), classroom language and control (5), teaching aid use (5), child-centered approach (5), and measurement and evaluation (5).

2.5. Procedures

The data collection completed in three stages; before, during and after the implementation of the intercultural language teaching course. Before the class, 62 students were required to do pre-test including IC test. During the process of teaching with ICLT model, the participants were required to make their group lesson plans, group teaching aids, and group trial teaching acting as the student trainees, while the others were students, and the researcher was a student teaching supervisor who graded the ICLT competence scores. After the course, these participants were asked to do post-test on IC test and questionnaire.

Concerning the data analysis, the statistical methods (descriptive statistics; means and standard deviation) were employed to analyze the quantitative analysis from the questionnaire. All research instruments piloted before the primary study to increase the validity and reliability.

3. Findings

3.1. ELF learners' attitudes towards intercultural communicative language teaching and their intercultural communicative competence

With regard to the quantitative data collected from the questionnaire, it is evident in Table 1 that the mean score of the EFL learners' attitudes towards ICLT after a ten-week course was 4.77 (out of 5), which indicated that there was a significantly strong agreement in learners' perceptions of ICLT. Accordingly, this concluded that students felt the most positive about ICLT after their course as their attitudes toward it were increased significantly.

Table 1. EFL learners' attitudes towards ICLT

Items	μ	σ (N=62)	Level of Satisfaction
20 items	4.77	0.37	Strongly agree

More remarkably, learners were aware of the elements of the IC (see table 2), which consists of knowledge, attitudes, awareness, and skills. That is why they were certain that it was necessary and important for learners to have knowledge of foreign cultures ($\mu = 4.90, \sigma = 0.29$), to develop their curiosity, openness, and readiness to learn about foreign cultures ($\mu = 4.72, \sigma = 0.44$), to raise their awareness of cultures ($\mu = 4.90, \sigma = 0.29$), and to be taught how to communicate with people from different countries effectively and appropriately ($\mu = 4.58, \sigma = 0.49$).

Table 2. EFL learners' attitudes towards IC

Items (N=62)	μ	σ	Level of Satisfaction
Knowledge	4.90	0.29	Strongly agree
Attitudes	4.72	0.44	Strongly agree
Awareness	4.90	0.29	Strongly agree
Skills	4.58	0.49	Strongly agree
Average	4.77	0.37	Strongly agree

Additionally, all four ICC indicate the same pattern of a high level of satisfaction agreement. However, these results revealed that learners found intercultural knowledge and awareness much easier to improve on than attitudes and skills.

3.2. ELF learners' intercultural communicative language teaching competence

After a ten-week course of using ICLT model, consequently, there was a noticeable change in learners' ICLT development as evident in Table 3. The score the EFL students' ICLT competence was at 98.46 percentage, which indicated that the vast number of the learners believed in the importance, necessity and the roles of the integration of foreign cultures. Especially ASEAN Social and Cultural Links (ASCL) with the multifunctional teaching method of A 4MAT Approach into English language education and well aware of the ICC.

Most of the learners improved towards the essential competence of English language training program which educated students to become intercultural speakers who can deal with cultural complexity and take part in multicultural situations. This denotes that EFL learners' ICLT improved significantly after the ten-week course concerning the highest average score of a trial teaching of 98.46 percentage.

During the ICLT course, all the learners had to work in groups to make the group lesson plan with group created-teaching aids or materials according to each unit of the ICLT model or ASCL lessons (See figure 1). Not surprisingly, learners knew how to deal with culture and intercultural communication in the classroom since they had adequate training on how to incorporate learning into their teaching practices.

Table 3. EFL learners' ICLT competence

Items/(N=62)	Total Scores	Scores
Warm-up (5)	310	310
3P teaching procedure (15)	930	892
Classroom language & control (5)	310	310
Use of teaching aid (5)	310	310
Child-centered approach (5)	310	310
Measurement & Evaluation (5)	310	310
Total	2480	2442
Total Percentage=98.46		

The Grand Palace is a complex of buildings at the heart of Bangkok, Thailand. This palace served as an official residence of Thailand's king from 18th century till 20th century. The location of this lovely palace is on eastern bank of Chao Phraya River. The interior parts of The Grand Palace in Bangkok consist of numerous halls, residences and the buildings that were constructed under the rule of king Rama I.

Indonesia
"Gado Gado"

Gado Gado is one of the well-known dishes from Indonesia. It is vegetable salad with peanut sauce. It is usually served with tomato wedges, bean sprouts, tofu, cabbage and boiled eggs.

Question: How do you find the Grand Palace?
Answer: It's _____

Question: What is Gado Gado usually made of?
Answer: _____

Figure 1. EFL learners' ICLT competence: The example of unit 2 content "Travel through ASEAN Community".

It can be seen from Figure 1 about Unit 2 "Travel through the ASEAN Community," which was one of the cultural lessons examples. This group lesson plan contained information about places to eat and to see around the ASEAN community, mainly; ethnic food and national landmarks while using 1 of 8 steps of a 4MAT approach (Step 4: Developing theories and concept) through mind mapping activity. This meant that during the course the learners' ICLT competence had much improved.

8. Discussion

The findings revealed that the EFL learners' attitudes towards ICLT were positively high after a ten-week course as they were aware of ICC and the importance of the ICC, and believed in the important roles of ICLT. In other words, learners understood what ICC was, what it was for, and how IC is composed. This may be the result of the teacher's awareness-raising teaching strategies through the

training sessions which are the crucial aspect of ICC instruction because learner awareness is one of the necessary conditions for the learning process to take place (e.g., [15]; [17]).

The study also indicated that learners' IC competence developed. This may be because students were motivated to focus more on the learning of intercultural content as this type of intercultural language course was new to them. These results matched those of previous studies (e.g., [13]; [14]. A study using a framework to develop ICC and the proficiency of advanced learners of Arabic found that the proposed lingua-cultural framework not only improved students' abilities to recognize as well as produce Arabic varieties used in Egypt but also fostered their IC abilities (knowledge, attitude, awareness, and skills) [19].

Additionally, the finding of the highest percentage of teaching score at 98.46 by EFL learners' towards ICLT competence were due to a variety of teaching and learning activities during the ICLT model lessons (e.g., warm-up activities, role-play, discussions, mini-project, child-centered teaching approach and use of the variety of visual aids and materials). Learners were engaged in different situations in which ICC was involved. Learners' intercultural communicative competence development reflected the four pillars (1. Learning to know: cross-cultural knowledge; 2. learning to do: intercultural skills; 3 learning to live together: Intercultural attitudes; and 4. learning to be: intercultural awareness) of education for the twenty-first century as identified by the International Commission on Education for the Twenty-First Century [4] and developed as four distinct aims of intercultural education and incorporated in the guidelines on international education suggested by UNESCO [21].

Successfully completed activities in all three units of ASEAN Studies through the 8- step 4MAT approach illustrates the quality process of ICLT model. It is said that "To learn it, do it" associated with the ICLT model, which provides learners with real-life situations for practicing [12]. By the research results, the 4MAT approach affected learning achievements and retention of knowledge of students in science subjects in North Carolina (USA) government's school in term of encouraging students' interest in lessons at higher scores of learning with 0.05 of Standard Deviation (S.D.) [22].

To teach reading skills and to design comprehensive reading strategies, teachers must provide learners with strategies to integrate new ideas before developing new theories and concepts of new vocabulary in a new reading passage. Teachers should give them an opportunity to discuss with peers, to practice by doing, by creating authentic tasks [11]. When learners work with peers in a fun and safe learning environment, they will not be bored due to learning activities in the 4MAT teaching approach.

Cooperative group learning helps to boost a variety of learning skills, particularly, brainstorming, knowledge sharing, inquiry method, and knowledge conclusion through mind mapping or semantic mapping, peer learning, active learning, cooperative learning, and learning by doing [9].

9. Conclusion

Awareness of effectiveness of the developed instruction may prove to be of significant value to trainers, educators, administrators, and particularly practitioners; like student trainees. Therefore, they must get exposed to diverse teaching methods and activities through multiple interpretations and perspectives of a situation. Through practice, learners like a student trainee had experiences in exploring opinions, engaging in discussion with an open mind, handling conflict, negotiating an agreement, accepting compromises, and analyzing and synthesizing information to make sound decisions and conclusion. The explanations were consistent with the concepts of critical thinking [6]. Relatively, when using active learning, learners are engaged in more activities than just listening [1]. Practice is critical to the development of thinking skills in the integration of teaching method of the particular subject matter, or ICC allows greater opportunity for the transfer of learning and development due to more significant opportunities for practice in thinking and education through diverse situations [8].

Therefore, to foster the implementation of ICLT in the Thai context and other similar circumstances, especially for EFL learners; like the teacher trainee, should be a shift from the current teaching approach to an intercultural language approach. First, the teacher trainee should be assisted to gradually acknowledge the importance of integrating intercultural content into standard English language classes. Moreover, they should be encouraged and motivated to be autonomous learners which based on the acquisition process of ICC as a matter of life-long learning. All in all, the teaching materials are chosen for ICLT should promote learners' ICC, and the content of the learning materials should be authentic, up-to-date, informative, and appropriate for learner's age group and interest.

10. Acknowledgement

The author's acknowledgments would go extensively to all anonymous participants for their willingness to participate in this project, and the financial support of Chiang Mai Rajabhat University and the collaboration of the National Research Council of Thailand (NRCT) and the Thailand Research Fund (TRF). Without their willingness, help, and support, this project would never get completed.

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Teachers' Classroom Strategy in Teaching English as a Foreign Language

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Abstract

This study concerns with teaching strategies used in teaching English as a foreign language in Pematangsiantar as one of the cities in North Sumatera Province, Indonesia, especially in primary schools. The objective of this study is to find out the strategies used by teachers in teaching English as a foreign language for Indonesian students at Primary School. The subjects of this research are English teachers teaching English in the private primary schools. The problem of this research is "What instructional strategies are used by the English teachers in teaching English at primary school? To answer the question, some theories are applied, such as, Anthony in Brown [1], [2]; Carter and Nunan [3]; Domke [4]; and Harmer [5]. The participants of the study are some English teachers and students at private schools. To get the data of the research, the writer makes observation and interview to find out the quality of research. From the data observation and interview, it is found out that the teachers of English use strategy in teaching English as a foreign language at their school, although they have different strategies in teaching English. Regarding planning and preparing the instruction, the English teachers do the same stages in teaching, such as they master the material, prepare for the activities, and prepare teaching aids to support the activities. Concerning the implementation of the teaching and learning process, the teachers use games as a teaching method for different purposes such as games only for fun and games as a vehicle for learning. On the other hand, the teachers do not teach English in integrative ways.

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Session 32: Global Issues in Education

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(Author: Madhavi Reddy Kesari)

School Literacy Program for Primary Schools in Indonesia: Equity Literacy

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Abstract

As a global concern, literacy plays an important role in describing people's quality in a nation. Indonesia gives more attention towards literacy condition since some revealed flaws based on international surveys of literacy were reported. The government then proposed a national school literacy program for all primary schools. However, equity is another issue to conquer. This paper is objected to give some more insight for educational stakeholders in terms of the equity literacy, especially the distribution of reading materials, program supervision, and continuous evaluation.

1. Introduction

Literacy is recently considered as a global issue due to its important presence in defining the quality of education for people locally, nationally, and globally. In the field of education, specifically, literacy is seen as one of several main issues which needs attention from educational researchers, practitioners, and even the government or policy makers. As a consequence, literacy is being a high priority in all levels of educational field from early childhood education up to tertiary and adult education. Educational policy institutions in all countries around the world give a big concern towards the quality of literacy in their countries, including Indonesia.

Unfortunately, Indonesia got a quite wretched report regarding to the score in literacy. Indonesia is still considered as a not well-literate nation according to many literacy studies and survey, especially in PISA [4]. Although the report gives a high impact to the government's concern, it is stated that the reports are written to define the word 'literate' as the ability to read (and to write) only, not as the motivation and willingness to read. Indonesian people are highly motivated in reading, it is just unfortunate to admit that the unequal social-economic condition in Indonesia plays an important role towards literacy and education [1].

It is undeniable that equity and equality is a big issue in the field of education. Different condition of schools and students across the country should make

the government aware in making and implementing an educational policy since it needs to meet the principal of educational equity and equality [6]. In literacy, equity is also becoming a global issue which draws attention from educational practitioners around the world.

Equity literacy concerns in the ability of the government as policy maker to recognize, respond to, and redress different background conditions for students to access educational opportunities [3]. People who live in areas with good access to education are lucky enough to have good educational institutions and learning sources. It is also relatively easier for them to purchase good books and learning materials than children from rural areas and low socio-economic status. As a consequence, people with low social-economic status will have difficulties in getting good education, even the ability to read and write. Even if they can read, it will be hard for them to buy good books to gain knowledge and make them literate enough [1].

2. School Literacy Program: Independent Reading

To conquer this complex literacy problem, the Minister of Education and Culture in Indonesia proposed a program named Gerakan Literasi Sekolah (GLS) or School Literacy Movement for all schools in Indonesia. In this program, students are required to read books (preferably narrative books with good values in the stories) silently and independently for 15 minutes in primary school, 20 minutes in middle school, and 30 minutes in high school before classes start [5].

As the Indonesian Ministry of Education and Culture proposed all schools in Indonesia to implement this emerging literacy program, different perspectives occur to give reactions toward the implementation of this program. Despite of the status that makes the program an educational policy in Indonesia, supports and pessimism are given by educational practitioners regarding the continuity of the school literacy program.

In this essay, this paper will be focusing on the implementation of the school literacy program in primary schools where students start to engage with reading. It is believed that this program needs to be supported, especially focusing for primary school students. School literacy program in primary schools is believed to be able to help enhancing children's literacy skills starting at their early age. However, evaluation is also needed to be done towards some aspects in the implementation of the program. The evaluation is related closely to the principals of equity literacy.

The paper also intends to make educational practitioners, educational stakeholders (parents, teachers, and schools), and the government (as policy maker and supervisor) aware of the implementation of this program.

3. Equity Literacy

To begin with, the school literacy program gives freedom for students to choose their reading materials. It is unlikely believed to meet the principal of equity in education. In the context and condition of Indonesian primary school students, specifically, equity is still a big issue to handle. Although the proposed program is objected in achieving the goal of equality in education, it is not yet considered as an equity literacy program.

'The big problem is that, many schools in rural areas where there are a lot of students from low socio-economic status cannot afford to read many choices of good books, they do not even have access to libraries' [7].

Therefore, the government should give more attention and priority to the students in rural areas regarding the books distribution. Having good access and distribution for books in rural areas is indeed difficult and costly. It can be even worse when reaching schools in villages of a very far areas from the city [7]. By supplying more books for them and giving them chance to get proper education, equity literacy seems to be feasible and can be achieved. To make this a realization, the Ministry of Education and Culture can cooperate with the local government in rural areas and make the distribution easier and accessible.

Next, due to the point of supervision, it is important to monitor the students' development and progress while doing the school literacy program continually. For the sake of equality literacy in implementing the program, the government should also consider supervision and evaluation as important aspects of school literacy program. From the report of classroom teachers, handling it to the schools, and then reporting it to the government will be a good thing to do.

Evaluation can be done gradually or in terms (once in a semester or trimester) to know the real situation

and result in implementing school literacy program. Without doing regular supervision and evaluation, a government's policy would be meaningless [8]. In this case, educational practitioners are also encouraged to help in giving proper teaching-learning activities as well as supervising the implementation of school literacy program across the country. It is required since we need to monitor the effectiveness of the school literacy program in a national scale. A good cooperation between the government as policy maker and educational practitioners as the expert can create an ideal achievement of a policy or program, especially in terms of literacy and equity in education [2].

In addition, to achieve the aspect of equity, it must be better if the government could give more attention for primary schools in rural areas. Despite the geographical and socio-economic condition, the government must consider it as a priority because schools in rural areas will obviously need more support and attention in implementing this program. Giving more support as well as supervising the program's implementation will be very useful to monitor the development of school literacy program in rural areas [7].

By continuous supervision, the government will be able to evaluate whether school literacy program can really change the literacy problems in rural schools in Indonesia. Although it will be quite challenging, the cooperation between all educational stakeholders and the government will make this program implemented effectively in enhancing literacy in Indonesia.

4. Conclusion

The decision in implementing school literacy program for primary schools in Indonesia by the Ministry of Education and Culture is being evaluated in this essay writing. It is argued that the school literacy program should be applied continually and supported by all educational stakeholders in Indonesia. Nonetheless, based on the discussion before, the implementation of the program and the principal aspects should be changed and improved. Despite the fact that the school literacy program is a good emerging literacy initiative from the government, the independent reading activities still have to be improved in terms of its distribution of reading materials and the importance of continual supervision and evaluation by the government and educational organizations.

Moreover, in reaching the goal of enhancing literacy for primary school students as early as possible, school literacy program should be highly prioritized by the government and educational practitioners. In the context of Indonesia, it is feasible to do as long as the government give more attention and consideration towards the equity of education in

Indonesia through the educational policy. The wide range of socio-economic conditions in Indonesia problematizes the equity in education and literacy of this program. Therefore, it is suggested that firstly, various reading materials should be distributed well all across the country, from big cities to rural areas in Indonesia. Secondly, all educational stakeholders should be supportive in doing the school literacy program, including parents. Thirdly, educational practitioners and the government should give more support for schools in rural areas, such as employing more experts in teaching and literacy to supervise and help implementing the program. Fourthly, the government should do continuous supervision, observation, and evaluation regularly to monitor and have records of the effectiveness of the program.

All in all, by considering and doing some improvements to the school literacy program, it is believed that this program can achieve its long-term purpose of enhancing literacy for children in Indonesia. In addition, with continual implementation and evaluation, Indonesia would possibly be a nation with more well-literate people.

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Improving Education in the Field of National Security. Cross-Disciplinary Approach

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Abstract

The conception presented here is interdisciplinary scientific toolkit based on a synthesis of humanitarian and natural-scientific methods of the investigation and ensuring of the national security (NS), and therefore it's the most suitable for studying its categories, methods and evaluation criteria.

1. Introduction

The need to improve education in the NS sphere and save due to this strategic stability in the world is caused by toughening struggle of the nations over available natural resources. This fact, as well as the growing problems of international terrorism and the collapse of the bipolar system of international relations, along with the advent of the Internet, of satellites and intercontinental ballistic missiles, which eliminated the impermeability of national borders, point to the desirability of new viewing the sense and the content of activities to study and ensure of the NS.

We can do it only after understanding the nature of objectively existing danger, the appearance of which it is conveniently to associate with the energy-entropic conception explaining their occurrence by the presence of informational, statistical and / or thermodynamic disequilibrium within any systems and attempts of its preserve or increase. This interpretation allows also classify the all objectively existing dangers on the basis of their genesis – of inadequate for whom either the substance or energy streams.

Thus it's logical to allocate next three basic classes: 1) the anthropogenic-social hazards provoked by the misrepresentation or the intentional concealment of information by people with the aim of winning in struggle over any resources; 2) the natural-ecological dangers caused by the disruption of the natural cycles of the substance migration, including due to the various natural disasters; 3) the technogenic-productional hazards related to possibility of the unwanted throw out of the energy stored in man-made objects.

Based on the above assumption, it is logically to define the national security as the ability of the nation to meet the needs of self-preservation, self-reproduction and self-improvement with minimal risk to the basic values of its future generations. Under such values ought to imply the territory of country and the way of life of its population, and under the risk – the measure of danger which simultaneously characterizes both the possibility of causing any damage and it the size.

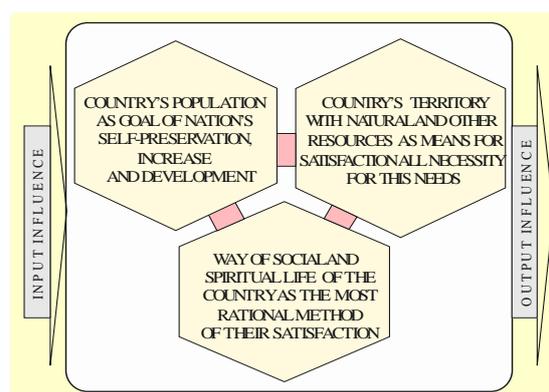


Figure 1. Model of the NS object

It follows that the object of the NS must be large, complex system "the territory of the country - its population - their way of social and spiritual life". The model of this ethnogeosystem is shown in Figure 1, which include not only the nation, but also everything that need for long maintain her viability.

2. The NS cross-disciplinary toolkit

The clarification of the NS basic categories allows justify the composition of methods an adequate to their functionality and to nature the selected object. Because ethnogeosystem consists of parts that are related to many branches of theory and practice, it's indicates to the interdisciplinary nature of scientific instruments. Structure this toolkit showed in Figure 2.

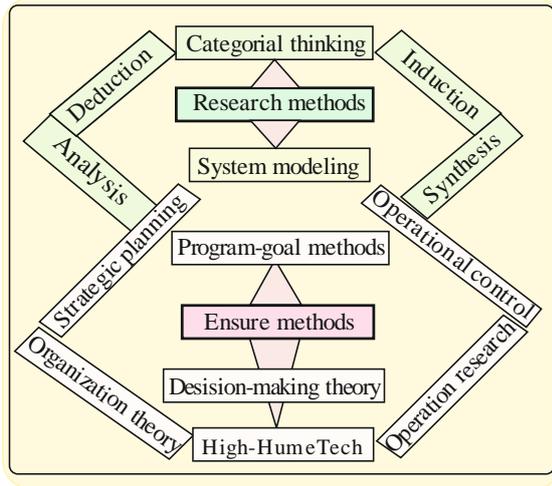


Figure 2. Structure of the NS methods

That is why in composition of the NS research methods it is logical to include the deduction and induction, the system analysis and synthesis on basis of the categorical thinking [1] and of the modeling the dangerous processes in the etnogeosystem. The structure of this approach to the study of the NS may involve three main interrelated stages: a) the empirical system analysis to identify the hazard situations and negative trends in the etnogeosystem, b) the problem-oriented description the specific parts of system and of the goal their research, b) the theoretical system analysis and synthesis of the measures to reduce the risk of hazard situations on the basis of modeling.

When determining the methods of the ensure NS it was taken into account the duration of the existence of the etnogeosystem as well as the wide diversity both the needs and the threats for their satisfaction. Therefore, it was chosen the Program-goal method of the planning and the operative control for process ensuring of the NS, and also the Mathematical theory of organization and the Decision-making theory, using the some instruments of the Operation research, the Mathematical programming and the High Humanitarian Technologies. Application of these methods involves the solution of four interrelated tasks: 1) substantiation of the optimal (for the selected criteria) the NS integral indicators and their limit deviations; 2) ensuring their established sizes in the process functioning of the etnogeosystem; 3) checking the compliance of the current values of these parameters to required; 4) keeping the NS indicators values in the corridor established for.

As for the NS integral indicators they may be divided three groups – see Figure 3. The first of them will characterize the life force (health) of the nation: 1) the volume $M[T]$ of national time, which is calculated by multiplication of average values of the number N of country's citizens and of the duration T of their life in a specific historical period; 2) the

amount of $M[V]$ of the national property, which includes the volumes both the production output in the country MP and it natural resources MR ; 3) the potential $M[P]$ of the nation development, defined by multiplication of the two previous integral indicators.

The second group allows to reflect the quality of life of the nation: 1) the level of satisfaction of the material $U[MP]$ needs of citizens, which is defined as the share of the national heritage owned by each with take into account of the scientifically-based norms of it consumption (factor k); 2) the degree of satisfaction of their spiritual needs $U[SP]$ and the social justice; 3) the dynamics $U' = \partial U[MP+SP]/\partial t$ of changing the satisfaction's degree of the all needs of the citizens.

The third group should include expenditures to parry of the NS calls and threats at the specific historical period: 1) the average cost $M[C]$ activities preventing and softening consequences of possible ES, which depends on the probability Q_i of occurrence and costs C_i on their prevention; 2) the average value socio-economic damage $M[D]$ from such hazards; 3) the share SE of these costs in the gross national product of the country.

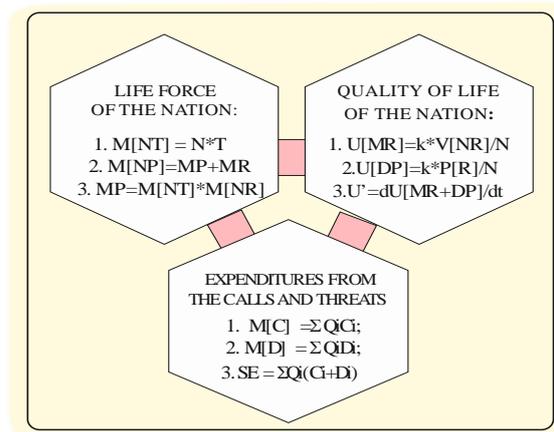


Figure 3. Structure and content of the NS indicators

As to the *units* for the NS indicators measuring they include two types: 1) the *dimensionless* numbers are the most suitable to measure of the probabilities Q_i and of the nation satisfaction degree: 2) the *man-years* of national time – for all other indicators of NS, including any expenditures and damage. National's time is the main resource of the nation, and its costs is appropriate to divide into three parts [2]: 1) positive – the proportion of national time that remains after of the needs satisfaction for the nation simple reproduction; 2) alternative – usually includes costs to the military defense of the country and the maintain of the law order into her; 3) negative – those that reduce the development potential of the nation and do not contribute to her progressive development.

3. Constructiveness of the NS system toolkit

To illustrate the practical usefulness of the proposed above conception let us look the three examples regarding to each of all three components of etnogeosystem. We will do this with help only of little-known but rather effective methods.

3.1. NS research through categorical thinking

This method allows obtain new knowledge, considering any integrity the unity of opposites and applying the appropriate categorical pairs. Let us to demonstrate this for the nation – on the example by system analysis of the concept "NS management" using following five categorical pairs: 1) "control (C) - execution (E)", 2) "goal (G) - means (M)," 3) "intention (I) - result (R)", 4) "spiritual (S) - material (N)" and 5) "leader (L) - people (P)" and starting with next two categorical pairs: (C - E) and (G - M).

So, after their isolation we can identify the four combinations: C|G, C|M, E|G, E|M and six interrelations: a) $C|G \Leftrightarrow C|M$, b) $C|G \Leftrightarrow E|G$, c) $C|G \Leftrightarrow E|M$, d) $C|M \Leftrightarrow E|G$, e) $C|M \Leftrightarrow E|M$, f) $E|G \Leftrightarrow E|M$, which allows to identify, for example, next six possible inconsistencies to interests of the NS ensure: a) the control goal and control means; b) the control goal and execution goal; c) the control goal and execution means; d) the control means and execution goal; e) the control and execution means; f) the execution goal and execution means. Except, each of these same six relationships generates four types of interlinks that form 24 relationships, suitable for identifying those interactions between C and E, G and M, which take into account the nature of the influence (positive "+" or negative "-") of one of these concepts on other.

By marking arrows these signs and studying only relationship $C|G \Leftrightarrow C|M$, we get the next four relations: 1) $C|G \ C|M$, 2) $C|M \ C|G$, 3) $C|G \ C|M$ and 4) $C|M \ C|G$, which helps to reveal a number of important points. The impact (1) takes into account that the NS control goal includes both the purpose of functioning of object and the control body goal. This circumstance does not exclude the contradiction: if the control goal is reduced to self-reproduction and self-maintenance of authority, it will manifest in the redundancy of her means. The joint analysis of (1) and (2) is suitable for substantiation of the composition of the NS control means which appropriates to its goal. The relation (3) helps to identify the NS control resources suitable for deepening his goal, and analysis (4) – the control means which do not affecting the achievement of its goal. Studying all interlinks (1 – 4) can help to optimize the relationships between goals and means of the NS control.

After adding the third categorical pair (I - R), one can obtain next eight combinations: a) $C|G|I$; b) $C|M|I$; c) $C|G|R$; d) $C|M|R$; e) $E|G|I$; f) $E|G|R$; g) $E|M|I$; h) $E|M|R$, which allow us to establish the following important information: (a) and (b) – the alternativeness G and M of the NS control: G of the NS control object does not always coincide with the G of the control facility; (c) – the variants of the NS control G, the consideration of which allows to assess their quality; (d) – the share of the NS control means really used by the NS governing body; (e) – the spectrum of the NS means goals, giving to the performer creative freedom, limiting his actions to the global goal only; (f) – the quality of the strategy chosen by the performer to achieve C; (g) – the potential of the means allocated to him; (h) – the part of these means actually used by the executor.

Continuing the categorical thinking after the addition the fourth pair (S - N), you can get next sixteen relationships: 1) $C|G|I|S$; 2) $C|G|R|S$; 3) $C|G|I|N$; 4) $C|G|R|N$; 5) $C|M|I|S$; 6) $C|M|R|S$; 7) $C|M|I|N$; 8) $C|M|R|N$; 9) $E|G|I|S$; 10) $E|G|R|S$; 11) $E|G|I|N$; 12) $E|G|R|N$; 13) $E|M|I|S$; 14) $E|M|R|S$; 15) $E|M|I|N$; 16) $E|M|R|N$, where (1) designates the scientific and ethical validity of the NS control G, and (2) – the managers abilities which are demanded in determining his G; (1 and 2) – the intellectual and organizational levels of the control body (account of the managers' professionalism when selecting the NS control G); (3 and 4) – the potential and real costs of means for both the NS control process and only the management body; (5 and 7) – the composition of specialists, communications and processing information used in the NS control; (6 and 8) – the degree of real utilization of their potentials.

In conclusion of the demonstration of the categorical analysis possibilities we shall add the fifth categorical pair (L-P), but limit his only by the first two tetrads ($C|G|P|S|L \Leftrightarrow C|G|P|S|P$), and by next four relationships between them: a) $C|G|I|S|L \ C|G|I|S|P$; b) $C|G|I|S|P \ C|G|I|S|L$; c) $C|G|I|S|L \ C|G|I|S|P$; d) $C|G|I|S|P \ C|G|I|S|L$. At the same time we pay attention to their next importance points: the relationship (a) determines the leaders' characteristics excluding their own interest in formation the intellectual-spiritual goals of the NS control; b) – such relationships between the purposes of public and of leaders, which, ideally, should be identical; c) – the possible conflict between these goals; d) – the national leaders' qualities, which adversely affect the NS control results.

Note also that further adding of the categorical pairs until n allows to increase the number of investigated properties of the NS to the value equal $N=2n-1 \times (2n-1)$. This circumstance can guaranty consideration of all significant factors when modeling of the danger social processes, which partially is demonstrate in the monography [3].

3.2. Global threats to the NS many countries

The second illustration concerns the constructiveness of the NS system ensure with take into account of possible global threats to the territory of majority ethnogeosystem. Emergence of this scale threats was predicted at first by US researchers, and then confirmed in the Soviet Union. Their external reason is the increased of pulsations and gravitational-dynamical resonances in our planetary system, and the inner – the changing of the orbit and the Earth's radius, of the orbital velocity and inclination of the axis of its rotation and also the powerful emissions the part of energy and substance from the Earth lithosphere and its internal cores.

Because of this our planetary system entered into next in turn (after about 36 000 years) period of cyclic restructuring, which is characterized by the following main stages [4]:

- the beginning of that transition (1908), was manifested in the powerful explosive gravity-seismic emission from the Siberian lithospheric platform (near the Podkamennaya Tunguska river);
- its intensification (1982 – 1983) in the form of series of the "mini Tunguska" gravity-seismic exhausts and the outbursts of many other Earth's volcanic epicenters;
- the exacerbation of the process (1991) which characterized by series of gravity-seismic emissions and large-scale earthquakes, by the rising surface temperature and a strong decrease of the ozone layer;
- its most intense phase (1999 ~ 2035), already partially are manifested in a noticeable change of the Earth's motion parameters and in different geophysical and climatic dysfunction in the form of explosive emissions of her energy and matter;
- the post-intensive phase (mid of 21st century), when it's projected the weakening of the amplitude pulsation-oscillatory processes and the significant warming of the climate;
- the completion of cyclic transition (first third of the 22nd century) as a result of the tensions discharge and reduce the energy level of the lithosphere, which will lead our planet into a new qualitative state.

Evidences of the possible manifestations the risk of global threats for many countries are, for example: a) the collection and secure storage of the gene pool of majority agricultural plants of the Earth in ice of the Norway, b) the establishment of the protection system of the USA population and periodic test of his readiness for use.

3.3. Decrease of military and other threats

The third illustration concerns the way of life of those nations which are competitors or opponents of some powerful states. This example confirms the need to parry implicit and hostile actions (IHA) with the

aim of changing behavior of these victims into the wrong direction by the appropriate disinformation and of the psychological coercion [5]. The IHA purpose is concludes in the refuse of the reflective behavior, when a person thinks, and in the substitution it by automatic one, which not require involving his mind. And this goal is achieved by the support with the "three elephants" [6]: a) the software and hardware processing of "big data"; b) the behavioral archives (data-Hume) on the population's needs of majority countries; c) the high humanitarian technologies (High Hume Tech) associated with the instrumental mastery of the latest achievements in the neuroscience, social psychology, behavioral knowledge, advertising and PR.

Expanding the range and capabilities of IHA made them the main weapon of modern behavioral wars of peacetime. Their strategic goal-setting is to weaken the enemy by excitation of internal conflicts, to change direction of its development into wrong direction and to create the all-possible traps, and tactical – in creating of the difficulties for functioning socio-economic system or its full submission. The main objects of these wars are moral and ideological unity of the nation (the spiritual aspect), her socio-economic reproduction (material) and the efficiency of all state's management in the NS ensure field (organizational aspect)...

However, the application only of the information and the psychological tools cannot completely replace the power struggle at present time. It's possible only for the Doctrine of guaranteed global stability, which suggest not confrontation, but a real partnership, in the first place – of all nuclear countries. At these conditions their strategic nuclear forces should be treated as one system, and their owners will have interest the efficiency not only of its own nuclear components, but also those whom are able to resist them. And namely in ensuring of the mutual security of each is the essence of real partnership and the meaning of this peaceful doctrine.

Moreover, the rejection of the current nuclear deterrence in favor of the above-mentioned Doctrine would drastically reduce amount of the strategic weapons. After all, for each side will enough to have a few the silo multi-charge nuclear missiles, which easily lend themselves to control, well protected from sabotage and unauthorized application, reliable in running, comparatively cheap and relatively safe to operate. On the contrary, all mobile-based (in air, ground, underwater) nuclear weapon are prone to these and other not-pleasant surprises and therefore it should be removed from combat duty.

Unfortunately, today it is difficult to implement the Doctrine of guaranteed global stability on account of the intensification of the struggle of the world leading countries for natural resources, as well as because of the different level of their development and the desire of one of them to absolute domination make

[7]. The creation by him the missile defense system and the means to inflict prompt global strike by conventional high-precision weapons are another importance obstacle to practicable the suggested doctrine.

3.4. The NS system and her political-legal ensure

3.4. The diversity of the nation's threats and calls points to the need for long-time, systematic and targeted work to maintain own NS. These circumstances are forcing large States to develop the continuously operating NS ensure systems, which must include three main components: a) the normative political and legal documents; b) the demographic, diplomatic, political, environmental, economic, organizational and technological measures; c) the forces and means which corresponding to these documents and activities.

The goals, programs and mechanisms of functioning of this system are presented in Figure 4, the structure of which is characterized by it logically and constructiveness.

During system's functioning it is advisable to be guided by the following core principles: the accordance of all state and public activities to the purposes of self-preservation, self-reproduction and self-improvement of the nation; the harmonic combination of efforts the forces and means which are attracted for this; the proportionality of executed tasks and attracted resources; the concentration of the forces and means at the decisive point and at the right time; the preference to political, diplomatic and legal methods in compare with military ones; the priority to the preventive measures instead of reacting on emergency situations; the constant readiness of the available forces and means to measures appropriate to the scale and nature of possible challenges; the timeliness and effectiveness of the activities to prevent and parry their hazards; the accordance of the NS decisions to socio-economic, scientific-technical and other capacities of the country.

Regarding the first component of the NS ensure system, that his goal it's to set basic principles of all state and public activities in this area. His structure can to include two groups of documents: a) the directives which published by the head of State with a view to clarifying and attracting citizens to the implementation of relevant policies; b) the laws which are adopted by the Parliament and subjecting to mandatory execution. An important place in these documents should be given to forecast consequences of strategic decisions and exception of concealment from public the information which is significant for the NS.

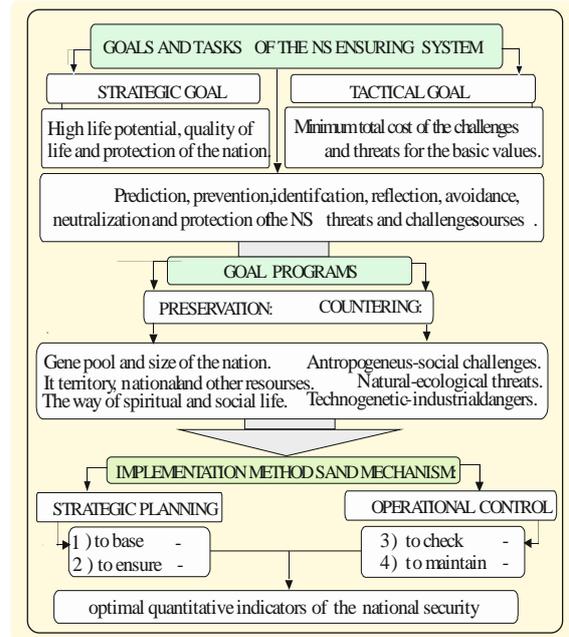


Figure 4. Structure of the NS ensure system

It is logical to assume also that names of documents of the head of State must begin with words "Conception", "Doctrine" or else "Strategy", while of the Parliament – the "Law", "Foundations of law" or "Codex" with point out the source of danger or the particular potential victim. Naturally, the political-legal ensuring of the NS also may include the two similar subsystems. Mission of the first component is to consolidate the work of different branches of government and the country's population, and of the second – in the setting of activities rules to ensure NS, the transition of whom should be strict punished.

4. Discussion of the research results

It is easy to believe that the author's definition of the NS is suitable for all situations and methods of research. It well co-ordinates with other known terms and science theories what exclude the omission of all important aspects of the NS research and ensure.

Indeed, its main distinctive features are "the etnogeosystem" and "satisfaction the needs of the nation" – as an object and content of relevant activity, and also "territory", "way of life" and "minimal risk" – her main values and restrictions on their use. The most first (producing) word in definition of the NS is "ability", changing (in contrast to the "status") in a wide range, and therefore the most suitable for the NS evaluation on many levels.

Therefore, such interpretation of NS compares favorably with the currently known definitions of NS as the "the defensible state of the "national" or "vital important interests of personality, society and state". It's known that such "interests" cannot be defined

legally strictly and therefore must not be the object of protection.

On the contrary, proposed in the paper results: a) the extremely narrow of the NS definition, b) her cross-disciplinary tools, c) the energy-entropy conception and the classification of all hazards – also fully satisfy the scientific requirements. After all, they are well-reasoned: a) by the law of inverse conformity of content and volume of the concepts which defined; b) by the not contradiction to the law of objective aspiration of the entropy to growth; c) by the rationality of reducing vulnerability (and therefore – risk) by satisfaction the needs of etnogeosystem; d) by the unlimited possibilities of categorical thinking and program-goal methods. Reliance on the totality of these provisions allows take into account all those factors which significant for the research and ensure of the NS, including the above mentioned global threats, although, for reduction their damage requires of joint efforts of many nations.

Note, finally, that the integration of the normative-legal and normative-political subsystems into a single system of politico-legal support of the NS deprive some regulatory documents the excessive abstractness, and the others – of the strictly departmental orientation, that increases their combined efficacy. The reasons for this are not only the synergy, but also specialization and harmonization of the relations between the parts of etnogeosystem and the specific political-legal acts. Indeed, 1) the vitality of etnogeosystem in general is the subject of the Conception, the Framework law and the NS national Doctrine or Strategy; 2) maintaining of vitality of the differ components of this system and parrying each class objectively existing threats is regulated by private doctrines, foundations of law or codex; 3) maintaining of the resilience of the critical facilities of the etnogeosystem and parrying the most serious challenges for them are achieved by the private strategies and laws of the direct action

In general, there is reason to believe that the author's proposed interpretation of the NS categories, of the methods, of the system research and ensure, the indicators and criteria of the NS level assessment are

the most suitable for improving education in this area, and then and for to implement in practice, that will allow to replicate the positive experience of the advanced countries. Perhaps, – except those aspects that relate to the coercion of someone's competitors to take the wrong measures using the tools of behavioral war and coercive power. It requires the huge financial means, but the intellectual and technological actions which are not available for majority countries.

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The Power of Policy: Investigating Women's Experiences of Gender-based Violence on Campus

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Abstract

Despite the diverse initiatives and educational efforts put forth by North American colleges and universities, the rate of sexual assault has not been reduced over the last five decades. Given that nearly 25% of female undergraduate students in the U.S and Canada experience rape or sexual assault, this reality requires immediate action with an innovative approach. This research will conduct a participatory institutional ethnography (IE) of how the university responds to gender-based violence in order to determine how particular university policies impact the safety and unsafety of trans and cis-gender women at McGill University. As this research is grounded in women's experiences of safety and unsafety, IE is the ideal methodology to explore the institutional relations that shape those experiences. This research will work concurrently with an institutionally driven policy-making process in addition to conducting in depth interviews and focus groups with diverse trans and cis-gender women. Through this process, the research aims to increase understanding concerning this issue and ultimately share findings and propose reforms in collaboration with the Social Equity and Diversity Education Office. In order to disrupt the pervasive phenomenon of sexual assault on campus, research must position women's experiences as vital to finding a solution. Because this research concentrates on the social-institutional relation of gender-based violence, the findings generated in this case study will prove applicable within institutions of higher education throughout Canada.

1. Introduction

Among female undergraduate students in the United States and Canada, nearly 25% experience rape or sexual assault through physical force, violence, or incapacitation [2]. This statistic demands urgency, especially following McGill University's rejection of the student-drafted Policy Against Sexual Violence, subsequently leaving students with no comprehensive procedures concerning sexual assault. As a McGill student

responding to the subsequent call for feedback issued by McGill, my research aims to work in conjunction with an institutionally driven policy-making process; however, it also seeks to center policy recommendations in the experience of women. It is vital to capitalize on this moment in McGill's history as it reflects wider problems throughout institutions of higher education across Canada [2]. Due to the generative tension between students and administration, McGill functions as the ideal case study to investigate how institutional policy regarding sexual assault awareness, prevention and resources is responsive to the reality of diverse women, including trans and cis-gender women.

2. Research Objective

This research aims to demonstrate empirically how higher education institutional policy and practice (re)produces gendered conditions of safety and unsafety for students on Canadian campuses. The research will explore how Canadian institutions of higher education influence students' experiences of safety and unsafety. Specifically, the research will address the following: (1) What are women's experiences of safety and unsafety on McGill campus? (2) What policies and programs currently exist to influence women's experiences of safety and unsafety on McGill campus? (3) What policy and programmatic reforms will improve women's safety on campus?

3. Sociological Approach

This study is informed by the feminist method of inquiry, institutional ethnography (IE). IE is an approach to empirical inquiry that allows the researcher to look out from the everyday world of embodied action and experience to discover how people come to experience the world as they do [5], [6], [7], [10], [11]. Methodologically, the research will begin with women's knowledge and experiences of safety on campus – moving into a systematic analysis of the institutional relations which

background and shape their experiences. Conceptually, the project is grounded in critical race feminist thought [8] which begins with the premise that institutions are not neutral spaces. The study aims to understand the ways higher education institutional policy systematically and disproportionately burdens women with their own safety. I will employ the following methods in order to address my three research questions: (1) In depth open-ended interviews with students (n=9-12) about their experiences of (un)safety on McGill campus. To attend to issues of intersectionality [3], I will sample for diversity along race, class, and gendered lines, including trans and cis-gender women. (2) Policy and programmatic mapping and analysis to reveal the institutional context shaping women's experiences. (3) Student focus groups to share findings and propose solutions and reforms in collaboration with Social Equity and Diversity Education Office.

4. Contributions to knowledge and community

Through this interdisciplinary study, I aim to understand how institutions systematically (re)produce conditions of (un)safety through policy, and also how knowledge of women's experiences provides meaningful insight into solving the problem of gender-based violence. Despite the various initiatives instituted by North American universities, the rates of sexual assault have not declined over the last five decades [1]. This research aims to enhance the scholarly field's understanding of this issue through its distinct concentration on women's experience of safety as central to disrupting the phenomenon. As the research will be empirically driven, the generated findings will benefit campus safety throughout Canada.

5. Choice of institution and expertise

McGill is the ideal institution to conduct this study as students and administration are in a time of policy making surrounding the issue of sexual assault. As such, I am able to actively participate in the policy-making process through student focus groups/roundtables. My supervisor Dr. Naomi Nichols benefits this research through her expertise in the field of IE in addition to the comprehensive training I undertake as one of her research assistants in an IE project.

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Passionate Leaders, Their Vision and Strategies Vs Organizational Politics

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Abstract

Politics, the grouping together of people for power in an organisation is not discussed much in connection with strategies and governance. Organisational Politics, though an old topic, is still relevant and does call for continuous studies and researches. In the era where human assets are considered as the most valuable resource and as the life blood of businesses, organisations are required to maximise their productivity and contribution with effective and efficient strategies which may put them at peace to work. Organisational politics being a high negative factor of human motivation has to be strictly under control through passionate, affectionate and really true leaders by effectively framing and implementing powerful strategies.

In this research, the researcher tries to establish a connection with the organization culture which again dependent on the senior management and board of directors. Though there are 16 organisations of Sultanate of Oman considered for this study, the researcher has chosen the institution where she is employed as a faculty, at present. She has been fascinated by the wonderful approach this organization and its Managing Director has taken to study the stand a leader should take in case of strong political attacks among its staff. This private college ranks first among the private colleges in Oman with the largest number of students. Its success story is very well appreciated even among the competitors. This private college was established 11 years back with very minimum resources. Its growth to the current status was mainly due to the passion and strategies of the owners and senior management. Wonderfully mesmerized by these passionate team who ensures a culture without any politics is the first factor attracted the researcher. The researcher has also compared other 6 organisations she has worked with to reach this conclusion. So, this can also be called as an own life/experienced based research with evidences from 16 other organisations in the country. A period of 16 months was taken to complete this research.

Diversity and Multi-Cultural Aspects in Teaching Writing Skills to Undergraduate (Engineering) Students: A Critical Research

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Abstract

In this paper, the focus is on diversity issues related to teaching ESL for the acquisition of writing skills to undergraduate first year engineering students. It takes into account economic, political and primarily cultural factors that influence the teaching of ESL in a regional context specific to the Indian subcontinent. The paper sheds light on paradigms and classroom practices while bringing to light the causes that widen the gap in the acquisition of ESL. To illustrate a theoretical proposition with reference to writing skills in meeting their academic needs, the study analyzes problems encountered by students pursuing Engineering at the National Institute of Technology, Warangal, India. The contrast between existing theories in ELT and actual classroom practices is critically perceived. Observations based on data collected from the sample group point out to the fact that students failed to write effectively owing to lack of minimal awareness of grammatical structures in the target language, first language literacy, and differences in culture followed by formulaic approaches to the text. The findings of the research clearly manifest that the employment of various pedagogic methods in the classroom are negotiated and experimented upon thanks to diversity barriers as a result of which expected learning outcomes are not fully achieved. The study argues that there is an acute need to develop theories and classroom practices in writing instruction that effectively deal with student resistance to acquiring proficiency owing to cultural barriers in learning English.

The study is based on the premise that instruction affects the student's understanding of cultural and contextual appropriateness of particular structures or vocabulary, their understanding of the norms and expectations of the target genres regarding form, and their understanding of the norms of the target genres regarding the choice of information and its sequencing and structuring [8].

Research studies by Bruffee [2]; Cope & Kalantzis [3]; Fairclough [5]; Ivanic & Camps [6] and Johns [7] have proved that when writers write, they bring knowledge of the situation within which the writing takes place, its social and professional context, together with their experience of the expectations of the reader within the discourse community and of the forms, social contexts, genres, and expectations of their background culture

Despite the lack of models of learning to write, the study assumes that instruction in writing does have an effect and that the knowledge required of a writer is learnable and the skills trainable when the cultural and diversity issues are taken into account and incorporated into the teaching/learning of writing skills. An assumption central to writing instruction is that writers make progress as a direct result of the instruction they receive. In a general second language learning context, a student's progress in writing is often assumed to be simply a part of the overall increase in their language proficiency. However, as the current study makes clear, the students' ability to write clearly and accurately depends to an extent on their general level of proficiency in the target language (Bardovi-Harlig [1]; Cumming [4]) followed by the role of other aspects related to culture, society and economic background of the teacher/learner.

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Session 33: Research Management and Public Policy

Title: Research about the Chinese Teachers' Resources Allocation in Primary and Secondary Schools
(Authors: Zhichao Wang, Haibin Liu)

Title: Meaningful Online Discussions in an Online Master's Research Methods Course
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(Author: Suseno Mahardiko)

Research about the Chinese Teachers' Resources Allocation in Primary and Secondary Schools

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Abstract

China is a developing country, with the rapid economic development, education development encountered a series of problems, including the unbalanced development of education. Although the Chinese government has been trying to promote the balanced development of education, an important step is to promote the balance of teachers' resource allocation. Teacher resource balance is an important indicator of balanced education. However, how to ensure the rational and effective allocation of teachers' resources under the conditions of market economy and how to promote the stability of outstanding teachers' resources in the economically underdeveloped areas is a major problem that the Chinese government is facing in the construction of teachers. One hand, the allocation of teachers' resources by the market-led resource allocation leads to the free flow of teachers, which leads to the concentration of quality teachers in the process of teacher resource allocation, the economically underdeveloped areas and rural teachers Resource shortage. On the other hand, the government has introduced a series of policies to reverse this situation and strengthened its support for economically underdeveloped areas. We see this as one of planned behavior in the market economy. China's primary and secondary school teachers in the construction of the plight is not just a simple market regulation, but also includes a more macro-government attention to the construction of teachers and the relevant allocation of resources rules. We studied this problem and put forward relevant policy suggestions on the basis of research. The study analyzed policies of Chinese government and collected data through questionnaires and interviews.

Meaningful Online Discussions in an Online Master's Research Methods Course

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Abstract

This study uses the case of a graduate research methods course delivered entirely online to discuss the notions of meaningful discussions and authentic learning environments. Through an examination of the frequency and content of students' posts on Blackboard from data based on several online course modules, the study shows evidence of cognitive engagement and social presence among online learners. Findings show that course structure helped students to keep on track with tasks and contribute with meaningful posts to the class discussion. Students demonstrated interest for and understanding of course content showing a high level of 'cognitive engagement'. Although students established a 'social presence' in the online environment and engaged with other classmates, they often interacted with those they already knew from on-campus classes. The study proposes that the authentic learning environments is a useful notion to describe online classes, especially in graduate courses attended by working professionals.

1. Introduction

Throughout the 1990s, higher education institutions worldwide have embraced online education as an alternative delivery method of instruction targeting a large and diverse student population [15]. In the United States, several report cards, see e.g., [1], [2], [3] have examined the status and progress of online education over almost two decades. These reports show how questions and debates around online education evolved within changing education and societal contexts. If in 2003, the question was whether faculty and students are willing to embrace online education, American universities focus now on developing Massive Open Online Courses (MOOCs).

When comparing the new delivery mode of instruction with the traditional classroom environment, the most serious concern is student engagement. Researchers and educators hold the

belief that when the student is motivated to learn and able to engage with the curriculum, the instructor and the other learners, chances are to obtain better learning outcomes [4], [19]. Therefore, instructors still question whether online courses can create learning environments that sustain student cognitive and social engagement. This paper aims at discussing this issue for an online graduate research methods course.

2. Brief Literature Review

Technology offers useful tools for online education to enhance student social presence in the virtual classroom [16] and his/her cognitive engagement with the course content [5], [19]. Higher education institutions use computer-mediated communication (CMC) software as sustainable platforms for online learning and improved modes of interaction such as online forums, messaging, email, social networking. Since 1997, Blackboard (BB) offers a management system for online courses, and is largely used by higher education institutions to offer online courses or support for traditional classroom instruction [7]. Online Blackboard forums represent an excellent tool that helps create a virtual classroom environment in which instructors and learners communicate asynchronously [6]. Other modes of interaction (e.g., messaging, emails, social networking) that make use of technology support rapid communication between instructor and learners.

From an educator perspective, a main concern is the meaningfulness of online discussions, whether they reflect student cognitive attainment and opportunities for social presence, and to what extent do online discussions stimulate engagement and learning [17], [19]. One focus is on bringing together instructor and learners in a community of inquiry [9] that engages all in discovering and sharing knowledge through meaningful discourses [10].

The notion of meaningfulness is closely related to the idea of authentic learning environments in which students are exposed to real-problem contexts in which they have to deal with 'real' issues [12], [18].

However, “it is the cognitive authenticity rather than the physical authenticity that is of prime importance in the design of authentic learning environments” [11] (p.70). Creating an authentic learning environment focused on cognitive authenticity is particularly possible in graduate courses attended by working professionals who bring their own real life and practical experiences to the classroom. A major instructional goal is to structure the online classrooms environment as to give students a space of inquiry and meaningful discussions that build a community of learners.

3. Purpose of the Study

The purpose of this study is to examine student participation in online discussions in a graduate research methods course offered entirely online in a master’s program in Educational Leadership and Policy Studies. The study focuses on the content of students’ posts in response to instructor questions and the extent of interaction among students responding to each other. The focus of the study is to understand the dynamics of online discussions: are students truly engaged and interested, or are just trying to acquire points. Meaningful responses that advance the group discussion and invite for continuing to explore a topic are different from simple responses that put an end to the conversation. The issue of meaningfulness of online discussions is crucial in creating a truly engaging virtual environment. Even if it is not easy to quantify ‘meaningfulness’, online instructors need to develop ways to assess (and reward) student contributions that advance knowledge (for the individual or for the online group) as compared to trivial responses of disengaged students who are only interested to ‘get points’. The overarching research questions are: Do students engage in meaningful online contributions that show cognitive engagement? Do students establish an online social presence?

4. Research Setting and Methodology

The study is based on information extracted from Blackboard forums of an online Research methods course designed for master’s students in education in a research-intensive Southern American university. This is a core course, and the only research-related course in the master’s program that provides “basic concepts and procedures necessary for designing and conducting quantitative and qualitative studies”. Most students are part-time learners who work in K-12 settings and higher education administration where from they bring real-world experiences to classrooms. The course has several objectives: a) provide basic notions about research and evaluation; b) train students how to think like a researcher and evaluator; c) provide an overview of research paradigms; d) create an opportunity for students to apply and

evaluate specific research methods related to these paradigms; e) engage students in the research process through individual assignments and online forum discussions.

I organized this course in 9 modules that included readings from an assigned textbook and journal articles, online discussions and written assignments. In the first 3 modules, the instructor introduced the content and posed questions that were answered individually by students. Comments to these posts were invited from both the instructor and the other students. For the following 5 modules, groups of students became Reading leaders in charge with summarizing, posing questions, and monitoring responses related to assigned journal papers, while the instructor was one of the participants in the online discussions. The instructor continued however to lead the textbook readings. The class ended with 1 module focused on general education issues, and implications for policy and practice, led by the instructor.

In this study, I will focus on one module from each of these stages to examine student participation and engagement as measured by the frequency and meaningfulness of online posts. This is a small size study including online Blackboard data from 9 students. Presenting basic statistics of Blackboard posts followed by an examination of their content and interconnectivity is an appropriate method for this exploratory study, following content analysis protocols suggested in the literature focused on online learning [8], [14].

5. Findings

The findings are based on the analysis of data from three of the nine course modules around which the class was organized (selected from the beginning, middle, and end of the course) involving nine students and the instructor, who interchanged roles as moderators of the course modules. The asynchronous online forums were: a) structured with respect to content and tasks, so students understood the course expectations and anticipated rigor of research methods; but, b) informal with respect to response style, so students felt free to comment even beyond the topic under discussion, and also interact socially if wanted.

The analysis of questions and answers follows the inquiry:

1. Do students answer the question posed by the moderator? Does the moderator respond or clarify? Is there any follow-up to a question?
2. Are answers substantive (meaningful) with respect to course content to support the notion of student ‘cognitive engagement’ [19]?
3. Do participants engage in other social interactions that suggests ‘online social presence’ [16]?

Results show that overall, the frequencies of responses varied across modules from an average of 1.1 posts/student to 4.5 posts/student. Modules started with instructor's presentation of the topic and in relation to previous modules, prior to discussing tasks and questions. When either the instructor or one of the students was the moderator, all students answered the questions, and reacted to comments posted by others.

Module 1: Introduction to Research. This module generated 9 threads with 34 posts. Students wrote on average 2.5 posts (4 students posted only their answers, and the other 5 students wrote on average 3.6 posts). Students who knew each other from previous on-campus classes were more likely to interact: greet each other and show interest to reply which suggests that online social interaction is facilitated by previous contacts.

The main question asked was: "Based on readings and your own experience name one important characteristic that a researcher might have; use an example to explain". Some students identified that researchers have questioning minds because they are asking "what is the source of information? is the source credible? is the information relevant? how accurate is this information?". Other students thought that researchers demonstrate curiosity and passion (that shape interest and motivation). Researchers are also patient, show diligence and determination, are critical (evaluate their work and others'), know how to ask good questions. Other students observed that researchers want to gain knowledge through inquiry, not just solve a problem; and they want to translate research into practice/applications. The Blackboard discussion showed that students viewed research as a high-level activity and had high expectations for engaging in research.

Module 5: Conceptual Frameworks. The fifth module included one portion led by instructor and a second one led by a student Reading leader, and overall generated 9 threads with 39 posts. First, all students posted their answers to the instructor's questions, the instructor and students interacted, and in a few cases (4) other students offered their views. This portion generated 8 threads and 28 posts, and it was mostly a dialogue between the instructor and each student. Second, almost all students interacted in the discussion led by the student Reading leader, who also responded to posts. This generated 11 posts (only one by instructor) and it was mostly a dialogue between students. Some students answered too late and the Reading leader chose not to respond anymore.

Based on the journal paper assigned for discussion, the student Reading leader asked: "Using a case study about the role that summer institutes play in preparing under-represented minority students for doctoral programs, why is Bourdieu's social reproduction theory a useful framework?". Students knew from the article, other reports and classroom discussions who were the underrepresented minority students (i.e.,

African Americans, American Indians/Alaska Natives, and Hispanics), but their answers reflected an understanding of other student sub-populations that experience access barriers to advanced education like first generation college students, or students with disabilities. Students identified that the summer institutes helped students develop dispositions (a critical notion in Bourdieu's sociological theory) and learn how to socialize in a competitive program. Others observed that institute programs shaped student confidence and changed behaviors as key factors for further success. More important, students appreciated that the institute empowered future doctoral students to identify and use assets they already have. Overall, online students correctly understood that individual dispositions, engagement and confidence are key to successfully complete a doctoral program. For those coming from family backgrounds where these assets were limited, the summer institutes created a supportive socialization environment.

Module 9: Top Issues in Education. The final module concluded the course, being led by the instructor who provided two policy briefs on top issues of concern for schools and higher education institutions, in 2015. Students were invited to discuss one policy matter and relate to their research topic (chosen for the class). This generated 7 threads and 18 posts. Students responded to the instructor's questions but some also offered their views on peers' posts. At this point, students were more preoccupied about their final papers, already knew the status of their grading and showed less interest in the online forums.

Although the level of social presence was minimal, students continued to provide meaningful although brief and more informal posts. Some discussed issues of free community colleges (i.e., 2-year postsecondary institutions), increasing costs of higher education in general, dual-credit courses for high school students; but also questioned whether these trends may turn community colleges in particular into 'public high schools', and spoke about student responsibility toward their own education and finances. Other students referred to recent policies allowing guns on campus and raised campus safety issues. Some referred to academic success for at risk sub-populations, the role of remedial education, partnerships between high schools and colleges, mentoring programs. Finally, graduate students involved with K-12 education focused on school accountability and the 2001 No Child Left Behind Act that supports standard-based education reform and introduces provisions for disadvantaged students; however, graduate students in the class discussed how these policies work in relation to poverty and undocumented students. Overall, the online discussions in the concluding module demonstrated students were able to integrate their practical knowledge with the systematic inquiry promoted

throughout the class focused on methods, theory, policy and practice.

6. Discussion

In summary, students followed the guidance of moderators (instructor or peer leaders) and answered their questions point by point. It is possible that course structure helped students to keep on track with tasks which supports the idea put forward in the literature that “instructional benefits of asynchronous online discussions indicate that the protocol or structure of an online discussion has a significant impact on the quality of the discussion“ [10], (p.6).

Overall students demonstrated interest for and understanding of the course content showing a high level of ‘cognitive engagement’. They grasped the main concepts, and showed interest for the research process, outcomes and implications. Critical inquiry was the main tool to examine readings and evaluate case studies in this research methods course. As suggested by MacKnight [13], asking the right questions, listening to each other, respecting others’ ideas and building on these ideas, constructing own understanding and sharing with others, all contribute to maintain focused and meaningful discussions [18] and create a community of learners [9].

More than half of the students in the class truly established a ‘social presence’ in the online environment and showed interest in replying to peers; students usually replied to those they already knew from on-campus classes thus ‘continuing’ rather than ‘starting’ new social interactions. There was no formal meeting with the group during the semester, although students knew how to contact each other and were able to initiate such interactions if they wanted. Literature shows that social presence supports learning in addition to cognitive and teaching presence. As noted by Swan and Shih [16] “Interactive responses are behaviors that provide evidence that others are attending, such as agreement/disagreement, approval and referencing previous messages” (p.117). However, online learners focused mostly on the cognitive aspects of the class, and used social presence mostly to enhance learning. Students were very generous and respectful in acknowledging peers’ contributions which certainly created a sense of belonging in the course for all. As shown by Costley and Lange [6], “social presence acted as a mediating variable between teaching presence and cognitive presence” (p.93), thus facilitating cognitive engagement and critical inquiry in online classes.

Finally, interest in the course content varied across modules and peaked when we moved from ‘learning’ about research to ‘planning to do’ research. It is possible the shift in interest was practical in nature since we focused more on preparing the final paper. However, students clearly progressed during the online class; they understood the meaning of critical

research inquiry and chose a research topic of interest to their practice to apply some of the learned concepts by developing a short research proposal. This outcome was important because students found how their real-world experiences could generate research and how they could bring those issues to public attention. This last point confirms that the authentic learning environments and cognitive authenticity are useful notions to describe online classes, especially in graduate courses attended by working professionals [11]. Graduate students (mostly adult learners) have an ability to engage and find motivation when confronted with authentic issues touching their own practices [12].

7. Final Remarks

As a longtime educator, I hold ambivalent views about online instruction. I taught the online research methods course for a couple of years now, and I noticed that every time, a majority of students ask to meet me in person at least once during the semester, perhaps to create some familiarity and comfortably ‘start’ to interact. I also clearly noticed that prior contacts among students facilitate higher level of ‘social presence’. Although strong supporters of online education advise to develop synchronous environments to overcome barriers created by limited social interaction, it is still questionable if the quality of the online social interaction can match the strength of the community created in traditional learning environments. Without denying the incredible opportunities that online education provides, more research on ‘social presence’ is needed to understand its importance in the learning process.

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The Spanish PhD adaptation to the Bologna Process - Experience in Mechanical Engineering

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Abstract

European Higher Education area through the compatibility of degrees in the signatory countries, which has supposed that Universities adapt its studies programmes at all academic levels. In Spain, changes in doctoral studies are structured around five topics: the creation of doctoral schools, competences, tutoring and supervision, collaboration and internationalization, doctoral programmes and duration of studies. This paper analyses how this changes have been dealt with in the department of Mechanical Engineering of the University of Zaragoza and the implications in number of students and thesis presented. The results show that the adaptation to the BP has supposed a quality assurance of the doctoral programme as a consequence of the training activities requirements set by the Academic Committee. The main contribution of the research work is that it reflects how greater control over the drivers of doctoral programmes implies a substantial improvement in the quality of the research work and the thesis.

1. Introduction

The title of Doctor comes from the Latin word of the same name and meaning, derived from the verb "docere", i.e to teach. The post-nominal letters "Ph.D.", "PhD" or "D.Phil" are used to name it; the academic level varies depending on the country, institution and historical moment.

European Higher Education (EHE) policies, perceived for centuries as matters of national sovereignty, have significantly changed since the Bologna Process [1]. The Bologna Process (BP) is a European intergovernmental higher education project. Its aim is forming the European Higher Education area through the compatibility of degrees in the signatory countries.

The nature of the PhD and doctoral education is undergoing profound transformations as a result of the BP [2]: different forms of study (professional and practice-based doctorates), new forms of thesis (thesis by publication, creative work plus exegesis), and new

kinds of candidates from diverse educational backgrounds. Globalization plays an important role because it facilitates the communication and dissemination of knowledge.

In Spain, the necessary legislative reforms to comply with the requisites of the EHE have been established. This paper shows how these legislative reforms have transformed the doctoral studies and more especially the implications on the transversal training programmes required during the process to develop a doctoral dissertation, followed by a case study of successful implementation. The objective is to identify the implications of the BP in acquiring competencies during the duration of the doctoral studies.

2. The doctorate programme in the European Higher Education area

The BP is an essential consideration in approaching the definition of Europe; it expands European borders and promotes the idea of a common European identity [3]. This process intends to enhance the attractiveness and competitiveness of the EHE by improving the graduates' competences to face the labour world. The process was initiated in 1999 and 2010 was the year in which all studies had to be adapted to the new structure.

The doctorate programme in the EHE area follows a structure in two levels (see Figure 1): (i) Level 1: training period: through the achievement of a Master degree or its equivalent, a minimum of 60 credits of the European Credit Transfer and Accumulation System (ECTS) or by holding a first degree of at least 300 credits. The completion of this level is necessary as a previous step to be admitted in a doctorate programme; and (ii) Level 2: research period: it includes transversal training activities, performing original research, and writing and defence of the dissertation previous getting the doctorate qualification.

However, the European countries have adopted this structure in different ways allowing the creation

of different models depending of the objective they pursue. In this regard, Bao et al. [4] distinguish nine models: (i) the research doctorate; (ii) the professional doctorate; (iii) the taught doctorate; (iv) PhD by published work; (v) the practice-based doctorate; (vi) the “new route” doctorate; (vii) the joint doctorate; (viii) the cooperative doctorate; and (ix) the industrial doctorate.

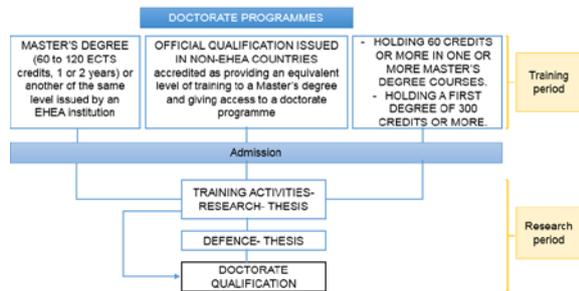


Figure 1. Structure of the doctorate programme in the European higher education area [5]

3. Driving factors of the Spanish adaptation to the Bologna Process regarding doctoral studies

The basic requisites for doctoral studies in Spain are currently being regulated by the Royal Decree (RD) 99/2011 [6]. Five drivers of change have been identified: creation of doctoral schools, competences, tutoring and supervision, collaboration and internationalization, and doctoral programmes and duration.

3.1. Creation of doctoral schools

The first doctoral school in Spain, the Barcelona Graduate School of Economics, was created in the year 2006, however the number has increased over the years- from 29 in 2013 to 42 in 2015 [7] as a consequence of the RD 99/2011. The objective of doctoral schools is to organize and manage the training and activities related to the doctoral studies. These functions are performed by a Management Committee composed at least by the Director of the School, the coordinators of the Doctoral Programmes, and representatives of collaborating bodies. Doctoral schools can be individually created or in collaboration between one or several universities with other centers, and institutions and entities with R&D&i activities, both public or private, national or international.

3.2. Competences

The RD 99/2011 [6] describes a series of competences to be acquired by the doctoral students including disciplinary, methodological and transferrable competencies [8]. However, the

competences that can be developed during the doctoral studies are not limited to those gathered in the regulation. In fact, Silvana e Rosa [9] considers the acquisition of competences in both the specialized field of the thesis and in personal and managerial skills. Some of the competences include facing the unknown, quickly extracting and synthesizing knowledge, discovering innovative solutions, solving complex problems, developing strategies by combining multiple perspectives, creativity, networking, communication and quality assessment, time and resource management, as well as failure management.

In this regard, Durette et al. [10] identified a pool of 111 competences organized in six main categories: (i) Knowledge and specialized technical skills distinguishing between ‘mono-disciplinary’ and ‘pluridisciplinary’; (2) Transferable competences that can be formalized. They correspond to competencies which can be used in a wide variety of professional situations and acquired through courses. These competences include communication skills, project management, and innovation management; (3) Transferable competences that cannot be formalized. They cannot be acquired through courses. These competences include cognitive abilities, ability to deal with complex problems and ability to collaborate; (4) Dispositions. This category includes aptitudes and qualities that complement transferable competences, i.e. rigor, creativity and autonomy; (5) Behaviors; and (6) Meta-competences, including competences that are useful either to develop one’s own pool of competencies or to make a better use of them in professional situations.

On the other hand, Mowbray and Halse [11] introduce the concept of personal resourcefulness to describe the growth in practical knowledge that students acquire during the PhD and the capacity students develop to act on this knowledge.

3.3. Tutoring and supervision

The RD 99/2011 [6] emphasizes the fundamental role of tutoring and supervision in research training. The supervisor is the maximum responsible for the research tasks that the doctoral student must perform. This role is normally carried out by one person. However, in those cases with interdisciplinary development or international collaboration, the supervision task can be carried out by two people with the prior authorization of the academic committee.

On the other hand, the tutor is responsible for the adequacy of training and research activity regarding the Doctoral Programme. This role has been specifically created in this regulation, and it still is in process of consolidation (usually the same person takes both roles).

To be allowed to carry out the role of supervisor or tutor, it is necessary accredited research experience

in the form of at least one six-year research award or equivalent merits to be evaluated by the Academic Committee [8].

3.4. Collaboration and Internationalization

Internationalization has received much attention in the last years at all levels of education. It is associated not only with quality but also with competition for the best talent [4]. In Spain, doctoral programmes promote the mobility of students and teaching internationalization.

International mobility experiences allow interchange theoretical methods and techniques in a specified discipline, interchange experiences in practice and applications, and broaden knowledge without frontiers [12]. Other measures include welcoming students of other countries, promote stays in foreign universities, incorporate teachers and foreign PhD students and promote the mention of International Thesis.

The mention of International Thesis implies: (i) performing at least a stay of three months in other research centers and/ or foreign Universities; (ii) to present and defend part of the doctoral dissertation (at least summary and conclusions) in English, which is the usual language for scientific communication; and (iii) to have two reports from international PhD experts who may not be part of the thesis assessment board. This mention implies that the subject of research covers aspects with international relevance.

In addition, external relations are encouraged. Actions performed include collaboration with other research groups, joint publications between different researchers, and research stays in other centers.

3.5. Doctoral programmes and duration

In Spain, the content of the doctoral programmes includes [6]: (i) courses or seminars on the fundamental contents related to the field to which the doctoral programme is dedicated; (ii) courses or seminars related to the methodology and training in research techniques; (iii) supervised research work; and (iv) courses or seminars regarding related fields with interest for the PhD dissertation project. This type of courses can be classified into three categories [13]: (i) scientific, for the improvement of the scientific background, including summer courses, workshops, high level international courses, and specialized master lectures; (ii) general, which correspond to the improvement of language practice in the scientific fields, preparation to the writing of scientific papers, English communications and (iii) professional, to the preparation of the economic and industrial world. Some examples include the intellectual properties, patents, project management, legal structures of companies, and human resources management.

The new approach introduced by the RD 99/2011 reduces the variety of departmental Doctoral Programmes to a smaller number, with the objective of training doctoral candidates in scientific research and the possibility of participation to other bodies with R&D activities [8].

Another novelty introduced by the regulation has been the establishment of a maximum duration of doctoral studies. Full time dedication doctoral studies must be completed in three years. In case of part-time dedication, duration has been set in five years. Exceptions are applied and duration can be extended from one to two years.

4. Adaptation of the PhD programme of the University of Zaragoza to the EHEA. Evolution in Mechanical Engineering

The University of Zaragoza was founded in 1542. It is a public higher education center distributed geographically in five campuses in the autonomous region of Aragon, in Spain. This University had almost 33,600 students in the academic course 2015-2016, served by 4,200 academic staff and 1,700 technical and administrative staff.

4.1. An overview of the PhD studies at the University of Zaragoza

The University of Zaragoza offers doctorate studies in five areas: Arts and Humanities, Sciences, Health Sciences, Social Sciences and Law, Engineering and Architecture (EA). More currently, the area of EA offers twelve doctoral programmes, among them the programme of Mechanical Engineering. This programme has seven lines of research:

1. Thermal Engineering and Energy Systems.
2. Advanced Materials in Mechanical Engineering.
3. Fluid Mechanics.
4. Advanced Simulation Methods.
5. Modelling of the Mechanical Behaviour of Materials.
6. Transport Systems and Vehicles.
7. Machinery and Mechanical Systems.

Figure 2 and Table 1 shows the evolution in the number of PhD dissertations and number of PhD students in mechanical engineering, its comparison concerning EA and the global situation in the University of Zaragoza. The information has been obtained from [14].

The data show a steady increase of doctoral students enrolled in the University of Zaragoza (from 1,960 students in the academic course 2009/ 2010 to 2,636 students in the academic course 2014/ 2015 (an increment of 34.48 %). The evolution in EA doctoral

students is also positive with exception of the academic course 2013/ 2014. However, this increase is lower (21.75 %).

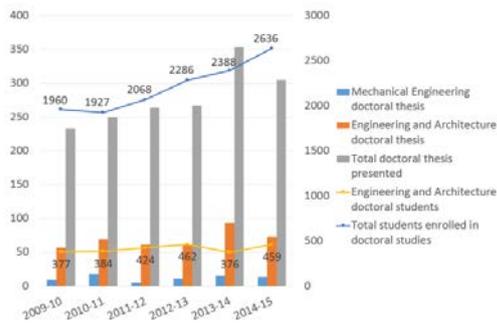


Figure 2. Evolution of doctoral students versus doctoral thesis presented

Table 1. Doctoral thesis presented

	Mechanical Engineering	EA	Total University of Zaragoza
2006/ 2007	8	32	211
2007/ 2008	11	41	197
2008/ 2009	11	53	225
2009/ 2010	9	57	233
2010/ 2011	18	69	250
2011/ 2012	5	61	264
2012/ 2013	11	60	267
2013/ 2014	15	93	353
2014/ 2015	13	73	305
2015/ 2016	24	93	777

Source: Adapted from [14]

On the other hand, in parallel with the increment of number of students, there has been an increment in number of doctoral thesis presented. It is worth noting the increment produced in the academic course 2015/ 2016 with regard to the previous academic course (84.61 % in the programme of Mechanical Engineering, 27.39 % in EA, and 154.75 % in the whole University). Undoubtedly, this is due to the extinction of the previous regulation in this academic course.

Section 4.2 and Section 4.3 analyses the ex-ante and ex-post situation in the University of Zaragoza. A special focus has been put on the department of Mechanical Engineering according to the five main drivers of change: (i) the creation of doctoral schools, (ii) competences, (iii) tutoring and supervision, (iv) collaboration and internationalization, (v) doctoral programmes and duration of studies, with a special focus on the transversal training programmes required during the process to develop a doctoral dissertation.

4.2. Ex-ante situation

Before the full adaptation of the doctoral studies to the Bologna Process, in Spain they were regulated

by the RD 778/98 [15]. In the University of Zaragoza, this regulation was extinguished in the academic year 2015/2016. The initial situation shows the following data:

(i) Doctoral school: the University of Zaragoza had not considered this scheme before the BP. The University departments were responsible for the supervision, academic responsibility and coordination of the doctoral programmes.

(ii) Competences: the regulation did not specifically recognize the acquisition of competences as a consequence of carrying out doctoral studies.

(iii) Tutoring and supervision: this role was carried out by the director of the doctoral dissertation. However, the previous training period did not consider this role.

(iv) Collaboration and internationalization: although the regulation considered the possibility to perform agreements with other Universities at international level, it did not specifically promote the performance of these actions.

(v) Doctoral programmes and duration: the regulation considered the same typology of courses showed in Section 3.5. The department of Mechanical Engineering of the University of Zaragoza offered five doctoral programmes:

1. Civil Engineering.
2. New Technologies in Automotive Engineering.
3. Design and Development of Injected Plastic Components.
4. Technologies of Air Conditioning and Energy Efficiency.
5. Computational mechanics.

The structure of the doctoral programmes considered two periods (at least 32 credits): (i) teaching period- minimum 20 credits. Although the nature of the courses was regulated by the RD 778/98 as previously explained, in practice the contents were related to the field to which the doctoral programme was dedicated; and (ii) research period- minimum 12 credits, where one or several research works were carried out. After finishing these periods, before the development of the doctoral dissertation, it was necessary to obtain the diploma of Advanced Studies. This certificate was awarded after the presentation of the research performed during the research period to a tribunal, which was the starting point of the doctoral dissertation.

The regulation established a minimum duration of two years, however there was not established a maximum duration to finish the PhD studies.

4.3. Ex-post situation

The drivers of the Spanish adaptation to the BP regarding doctoral studies have been defined in

Section 3. This Section focus on the analysis of those specific factors in the University of Zaragoza and the department of Mechanical Engineering.

The University of Zaragoza created a doctoral school in 2012. In addition, the department of Mechanical Engineering created an Academic Committee (AC) composed of five department professors responsible for controlling and evaluating the compliance of the doctorate programme.

The tutoring and supervision of the doctoral student is carried out by the same person, which is responsible of this labour until the student presents the PhD dissertation.

Doctoral students performing their studies within a research group of the department of Mechanical Engineering are further encouraged to have mobility experiences in collaboration with other Universities partners. This is a way to strengthen the relationship between both parties and promote the realization of research projects. In addition, all doctoral students can apply to the mobility scholarships available at the University and at national level to fund their expenses.

More currently, as a consequence of the adaptation of the University of Zaragoza to the BP, there has been a restructuration of the doctorate programmes. Thus, the department of Mechanical Engineering has reduced its five doctoral programmes existent in 2009, to one doctorate programme with seven lines of research.

The main characteristics of the programme include:

(1) Research period contents: Table 2 shows the structure and dedication in hours of the activities to be performed. In some cases, the AC may 'validate' training activities, for example when the candidate can demonstrate the acquisition of the corresponding skills through self-learning.

In comparison with the ex-ante situation, it can be seen a clear focus on the acquisition of competences, diffusion of research, internationalization and standardization of quality due to the obligation to publish at least two papers in journals gathered in the Journal Citation Report (JCR).

(2) Duration: the doctorate programme lasts a maximum of three years, full time, starting from the admission of the candidate to the program until the defence of the doctoral thesis. However, with the prior authorization of the AC, it can be undertaken part-time doctoral studies, with a maximum duration of five years from admission to the presentation of the doctoral thesis. In practice, this has supposed a challenge for the students from a twofold: on the one hand, in the last years, and before the adaptation to the BP, the department had observed an increasing number of students who after obtaining the diploma of Advanced Studies were working on an "eternal" thesis (even more than 10 years). With the adaptation to the BP this problem has ended. On the other hand, the necessity to publish two papers and finish the

thesis in three years is sometimes difficult due to the different nature in research and publishable findings, and the necessity to acquire the competences (from theory to practice) that allows writing a scientific report.

Finally, in addition to the University Program, Spain offers the possibility to carry out an "Industrial Doctorate". The candidate must comply with the following requirements: (i) have a labour or commercial contract with a company from the private or public sector; (ii) participate in an industrial research or experimental development project which is being developed in the company; (iii) the project has to be directly related to the thesis carried out by the candidate.

Table 2. Training Activities Requirements of the Mechanical Engineering doctorate programme

Activity	Control
A1. Presentation of two 30-minute public seminars, one in the second year of the studies and another in the third, on the subjects of the doctoral research.	10 hours
A2. Assistance to seminars, workshops or talks about aspects that are state of the art in any of the program lines.	At least one per semester
A3. Courses or workshops on computer tools essential for research in Mechanical Engineering.	At least 15 hours
A4. Courses or workshops to promote the acquisition of transversal skills (e.g. Oral and written communication of scientific knowledge; technical-scientific English; database management; researcher ethics; preparation of scientific research proposals).	15 hours
A5. Preparation and presentation of papers in congresses and conferences.	10 hours (2 presentations)
A6. Research stays in other research groups, or in companies.	Min. 180 hours (1 month)
A7. Publications in international journals and/ or patents	At least two

5. Conclusion

The Bologna Process, aimed to create a European Higher Education area, has implied the adaptation of the studies programmes of the Universities at all levels, making compatible the degrees in the signatory countries.

The research performed in this paper has analysed the implications of the Bologna Process in the doctoral studies in Spain, and more specifically in the department of Mechanical Engineering of the University of Zaragoza. Changes have been structured around five elements: the creation of doctoral schools,

competences, tutoring and supervision, collaboration and internationalization, doctoral programmes and duration of studies. Besides, it has been analysed the evolution in number of students and thesis presented. The results showed an increment in number of students and thesis presented, highlighting the increase of thesis observed in the academic course 2015/ 2016 which can be a consequence of the extinction of the RD 788/ 99, the regulation previous to the BP.

The analysis of the ex-ante and ex-post situation has shown a decrease of number of doctorate programmes and the assurance of the quality of the programme. For doing this, it has been established common requirements for the acquisition of competences in all research lines in the doctorate programme. Furthermore, it is seen a focus on internationalization and diffusion of research. The requirement of publishing at least two papers in JCR journals is also a novelty.

A maximum studies duration of three years has been established. This measurement has supposed a commitment of students with the programme, but also poses the difficulty of the student depending on the line of research, linked with the acquisition of the necessary competences. Further research is needed to determine if the time set for the duration of studies is the most appropriate. It is worth noting the BP has supposed a professionalization of the doctorate studies through the inclusion of the Industrial Doctorate.

Finally, this paper has shown the bases of the change produced in the doctorate programmes at the Spanish University with the objective of assuring the quality of the research works and thesis. On the other hand, it has been possible to standardize the process of acquiring competencies to achieve the PhD degree. It is still early for observing conclusive results. However, there are indications showing that adaptations introduced are improving the quality of the thesis carried out. As a consequence, the organizational structure of the doctoral programmes in the University has been rationalized.

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Evaluating the Role of History of Mathematics in Teacher Education Program towards the Content Knowledge and Positive Attitude of Pre-service Mathematics Teacher

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Abstract

Historical perspectives deliver the learners to have a deeper understanding of learning material as they have a broad information about the development process of content from history. That concept is applied in mathematics education context by integrating history of mathematics to mathematics teacher education program in order to increase teaching competency skill. This paper is aimed to evaluate the role of history of mathematics in teacher education program by critically analyze its impact towards the content knowledge and positive attitude of pre-service mathematics teacher (PsMT).

1. Introduction

The notion of the history of mathematics has been emerged at past when Arcavi et al. [2] stated that “maybe a mathematics teacher can be profit from the study of the history of mathematics.” Although evidence had been provided in many papers, mathematics teacher nowadays put no much interest to acquaint the history of mathematics in teaching and learning activity. This might be affected by teacher’s lack of history of mathematics during teacher preparatory program. Instead, history of mathematics is important for the teacher to be able to enrich their content knowledge so that they have a richer element of mathematical knowledge when they have to confront with student’s question and curiosity in class. For instance, when students are questioning the origin of Pythagoras formula, and the teacher has no idea to explain it, then the student may able to operate without knowing the core idea of its formula. Student misses the chance to elaborate elementary pattern that constructs Pythagoras formula. Whereas, mathematics is not only about using formula or solving equation to determine a result but also classifying and study of all possible patterns [15]. Students are no longer having the core of learning mathematics material when they abandoned the origin of the material. Therefore, it is crucial for mathematics teacher candidate to acquaint

mathematical knowledge from the perspective of history as Loewenberg et al [14] stipulates that the knowledge for teaching is more than just mastering the practical purpose of teaching.

2. Mathematics Content Knowledge

History of Mathematics has a substantial leverage to increase PsMT’s mathematics teaching knowledge. History and mathematics are unseparated elements in mathematics education because school mathematics will always include notion, definition, concept, and procedure which come from history [3] and indeed, learning these mathematics contents cannot be separated from their origin [16]. History of Mathematics can describe a detail explanation about the definition, theorem, axiom, lemma, and didactic proofing procedure in which it is called as a phenomenon in mathematics.

Jankvist [19] stated “the reason to use History of Mathematics in Mathematics Education could be classified into two themes, i.e., history as a tool and history as a goal”. In the perspective of “history as a tool”, history is used as didactic aspect because it assists learners to achieve motivation, to strengthen mathematics cognitive skill, and to be a vital component in the development of mathematics cognitive principle. The elucidation of proofing mathematics phenomenon can be more acceptable by learner, considering from historical perspective, even though proofing in mathematics can be completed by doing progressive analytical method or modern derivation. The proofing method of mathematics phenomenon from historical perspective is directing learner to think how their ancestor were thinking (deductive) to solve a mathematics problem step by step. Hence it eases them to learn a mathematics phenomenon. The existed problem in mathematics itself appeared due to “modification” led by previous mathematician’s simple intuition in past period. Learning current phenomenon in mathematics might be challenging and difficult enough as mathematics will always develop and modern generation is facing

“modified” phenomenon to be learned. The interval between the origin source and nowadays generation has been too far. History of mathematics become a solution to overcome this situation by perpetuating the construction of mathematics phenomenon in simple package that can be learned by mathematics teacher candidate. The emerged question towards mathematics phenomenon by current learner become one of main reasons to assimilate history of mathematics into teacher education program.

A number of research referring to the impact of history of mathematics in the preparation of mathematics teacher candidate proof that history of mathematics existence needs to be considered. Alpaslan [1] in his empirical research mentioned that the knowledge score result of teacher candidate increased into medium level after having history of mathematics course. Although the score result only at a medium level, there are formidable margins between pre-test score and post-test score. Based on his explanation, moderate result indicates insufficiency in the course material related to history of mathematics. Another factor contributes to moderate result might be the students who are new at history of mathematics after following mathematics education program without it for two years. Alpaslan research result supported by Galante [11] stated that teacher candidate who investigates and presents a topic in the form of History of mathematics have a strong belief of strengthening their mathematical content knowledge and be introduced to new path of teaching mathematics at secondary level. This is possibly triggered by their explanation toward mathematics solution in simple, well-structured framework and it is also easy to be followed. Interacting with History of mathematics will also help to grasp basic procedure of old mathematician thinking to encounter mathematics problem hence learners can achieve logical sense towards an abstract problem.

History of Mathematics, However, have obstacles on its implementation as described by Tzanakis and Arcavi [17] who classified this into two categories i.e., philosophical aspect and its application. They have perspective on History of Mathematics obstacle from philosophical aspect. They argue “history may lead to confusion rather than setting a light into mathematical concept”. Their argument is based upon assumption of “Mathematics Learning Objectives” such as ensuring their students are able to deal with modern standardized mathematics problem, as consequences, it is not necessary to learn history and be separated from mathematics. The foundation of this arguments is too shaky and unaccountable as it generalizes opinion about history of mathematics without giving empirical evidence in either qualitative or quantitative research. Moreover, the essence of mathematics is much more than that determining numerical result but comprehend structural pattern on mathematical problem, such as turning real life problem into

mathematics modeling and able to interpret its symbol or number used in mathematics problem-solving procedure. Some researchers has also opposed this opinion.

Burns [4] assert the teacher candidate knowledge of math was upgraded because some of them feel of being introduced, or limited to know, to mathematics historical context. They, conveniently, expose a meaningful contemporary way to develop mathematics concept through history of mathematics. Thus, argument of the role of history in mathematics education just as preamble to understand mathematical concept is counterfactual and history of mathematics will not be a certain concept to evaluate school student’s history content knowledge of mathematics. In addition, Clark [7] convey “understanding mathematics from historical perspective contributes to prospective mathematics teacher knowledge on teaching mathematics”. Learners are introduced to a new path to analyzing mathematics problem. For instance, instead of learning modern approach to solve mathematics problem such as a quadratic equation, learners are able to determine exact model of quadratic equation in geometrical form history of mathematics through Al-Khwarizmi’s rectangular interpretation. Thus help teacher candidate to also give simple understanding to their future student on other abstract object such as algebra. Clark’s opinion is based on cultural analytic of Content (CAC) Theory declared by Boero and Gualla in Clark [7] which stipulates that cultural analytics of content will not diminish the necessity of developing pedagogical content knowledge. Therefore, relevant tool to gain the aim of developing knowledge in mathematics can be borrowed from mathematics epistemology and history that becomes the reason to substance cultural analysis component on mathematics teacher education program.

3. Positive Attitude on History of Mathematics

Teacher education program is dealing with altering pre-service teachers’ attitudes and beliefs to comfort them to promptly confront with novelty in education. Educators spot a major factor that both attitudes and beliefs have major roles to trigger teachers’ enactment and application of new educational program [12]. In spite of investigation led by some researchers demonstrate the perplexing relationship between attitudes and beliefs, others believe the opposite of that result occurred in mathematics subject [10][18]. Affective domain of mathematics education are including belief and attitude in which attitude represent the construction of either positive or negative emotional feeling, and belief refers to general truth and validity instrument [8]. Several researchers convey their concern regarding pre-service mathematics teacher’s attitude to use history

of mathematics as a method to teach mathematics in class. Some research has pointed positive attitude of pre-service mathematics teacher to use history of mathematics in their class.

Alpaslan [1] convey that pre-service teacher has more positive attitudes and availing belief towards using history of mathematics as they have progressed in their teacher education program. His research object, responding to the history of mathematics, are mostly junior pre-services mathematics teacher who never learn mathematics from history perspective previously. Instead, most of the learner have a positive tendency to use history as alternative method to deliver material in class. Their level of confident is increasing as they have discovered simple pattern that they do not realize in past learning of mathematics. The discrepancy of difficulty level between the analytical exposure to modern mathematics and that of the history of mathematics appeal students to use it in their future class. Students believe that by using history of mathematics, material becomes more acceptable to learners in class. Moreover, historical context in mathematics are mostly related to the material at primary and secondary school level, so the use of historical context in teaching mathematics need to be considered. Alpaslan has success outcomes as the research object has been exposed to history of mathematics during four years of teacher education program.

Senior pre-service mathematics teacher on second year also expose similar result while being introduced to mathematics history in the middle of their education program. Positive changes in the dimension of Pre-Service Teachers' beliefs and attitudes are shown after having mathematics preparatory program based on the History of Mathematics for two years [6]. The second-year pre-service mathematics teacher share their enthusiasm to use history of mathematics as alternative method to teach mathematics. Their difficulties of mathematics content and negative experience on past mathematics learning process can be exposed from more experimental perspective through history of mathematics. Interviews also mention that extra activities are necessary by having student hand-on activities to grasp the concept of history of mathematics. Students took longer time to have experience with history of mathematics by their approach. Certain aspects of the history of mathematics have envisioned them to encounter problems in mathematics. They believe that the essence of mathematics is more than just deriving substance from past theorem but nurturing contemporary ideas which occasionally do not associate with another approach to solve mathematics problems. Therefore, the history of mathematics provides meaningful historical context to strengthen positive attitude on pre-service mathematics teacher.

Lim and Chapman [13] also express “students who confront new mathematics concepts within a

meaningful historical context will develop more positive attitudes toward the subject matter”. There is some evidence to expose the importance of the history of mathematics to enhance learner’s attitude. For instance, a student who meets circle perimeter formula for the first time would question why it should use “ π ” symbol on the formula and the form of result is just number. They need to know how past mathematician define π so that they could find a meaningful concept to realize the importance of “ π ” in circular geometry. Mathematics is an abstract representative of real life case, thence student are obliged to discover how past mathematician modelled it into a mathematical pattern. Unfortunately, the perpetuation of mathematics progress by past mathematician to extract the essence of real life problem is not massively published compared to the synthesis result. Current mathematics learning are more emphasized to the application of synthesis result by eliminating its past creation process. As a result of this, mathematics examination instrument have more question on how to use a certain mathematics material in different form and variable, but less on the essence of material. The perspective towards mathematics had considerably narrowed into solving similar patterns with reverse or different variable. Some learners frustrated and have no intention to engage with mathematics as they do not gain definite introduction previously. Consistently, either math teachers or mathematics teacher candidates need to acquaint with the history of mathematics to deliver material in an easier form.

In order to interact with history of mathematics, however, there is a challenge that most educators have to be concerned. Class time management becomes major factor that most of the pre-services teacher have no much interest to apply history of mathematics in class. Teacher candidates who participated in history of mathematics class, lay stress to the usage of History of Mathematics which indicate their feeling of disagreement because of time inefficiency, and their assumption unbalanced level of students understanding with the material [5]. As part of history, the procedure to solve mathematics problem that included in history of mathematics sometimes is quite long and needs extra time to attain result fully. However, Fried [9] has resolved this apprehension by asserting that Integrating History of Mathematics in Mathematics Education is that teacher just give historical problem related to the discussed topic, describe the source of knowledge, and tell students to read its history by their own. Adjustment of the history of mathematics does not mean student would learn the whole history in class but only as an instrument to address the core of material and to give first sight upon it.

4. Conclusion

In summary, history of mathematics provides the likelihood of pre-service mathematics teacher to explore a deeper understanding towards mathematical content, to convince them to engage in learning mathematics using the perspective of history and to encourage them to set a class in which using historical mathematics context as a class instrument. Furthermore, history of mathematics implementation also leads to some suggestions and recommendations for the teacher education program improvement. The result of study suggests to put the history of mathematics from the first year of pre-service teacher preparatory program so that educators are eased to alter pre-service mathematics teacher mindset on history of mathematics because learning history of mathematics can bring mathematics into new perspective to deal with future challenges in mathematics education.

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Session 34: Art Education

Title: Innovative Educational Tools for teaching Public History at the City of Thessaloniki (Greece), with the Help of Outdoor Sculptures
(Author: Orfanidis Dorotheos)

Title: Teaching Art is Not Enough
(Author: April Munson)

Title: School-stakeholder Partnership Enhancement Strategies in the Implementation of the Arts in Botswana Basic Education.
(Author: Magdeline C. Mannathoko)

Title: Music Education under 'Guru-shishya parampara'
(Author: Aparajita Dasgupta Dutta)

Title: The Legacy of Veda Reynolds' Violin Pedagogy: Myth or Reality?
(Authors: Pascal Terrien, Angelika Güsewell, Rym Vivien)

Innovative Educational Tools for teaching Public History at the City of Thessaloniki (Greece), with the help of Outdoor Sculptures

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Abstract

In the city of Thessaloniki the vandalism of public sculptures, most often, is without a cause, and in some cases, however, aims the honoree himself. These acts are driven by hatred and violence and as society we must act with educational tools in order to grow awareness. We must not stand as an opposition of punishment and correction, but as critical friends.

1. Introduction

In the field of public historiography, we present the outdoor public sculptures that were placed by the late 19th century to nowadays in city parks and in the streets of Thessaloniki. The research question relates to public sculpture as aesthetic channel, urban and historical mythology as well as history and public discourse. The charges resulting from the material as a cultural "text-point" itself to the identification of projects in the urban context and in their representations.

Lately we see more and more often the phenomenon of vandalism in outdoor public sculptures in urban, metropolitan centers. These acts violently transform artifacts in civil disagreement underscores and demerits. These acts of degradation of construction materials (display slogans, wear and coloring materials, etc.) and its surroundings, are repeatedly and increasingly frequently. The reasons are not superficial and research resulting quantitative and qualitative elements defining and coloring problems, questions persist in Greek society. Aesthetic issues, education, public education we have to study them as a society seeking solutions, proposals and substantive positions. The vandalism problem can not be addressed by municipal council decisions that require removal of the sculptures from urban parks.

I propose a portable tool-kit for conservation science, that teachers will use as an educational tool and students will be enable to experience and observe phenomena of natural sciences encountered in outdoor public sculptures. They will have the opportunity to gain experimental knowledge on site and to interact.

There is an urgent need to transform these bad practices information policies, familiarization and most importantly, intake of outdoor public sculpture. We propose innovative training materials with the use of technology. The course is implemented outside the classroom. In public urban spaces where outdoor sculptures are located (in situ). In the physical space and outside the square classrooms of schools. The squares not as a space for delinquency and reaction, but as a learning space. Transforming bad practices by engaging political, awareness.

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Teaching Art is Not Enough

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Abstract

Centuries have informed the western world in the ways we cultivate, support and steer young artists. We have followed the genres of art and the trends of teaching. We have at times worked to assessed as objectively as other subjects. Now we enter a new era of arts education; one that demands expertise in all historical standards, while cultivating a transformative teaching approach that will enable students to live virtually literate, thoughtful, responsive lives while understanding the choices they make on a daily basis.

This paper explores the narrative that needs creating for arts educators. Identifying skills, philosophical understanding and theories that have cultivated art teaching today is essential in progressing in the ability to transform what defines teaching. Knowledge of historical data and contributions is necessary to promote and understand the need to engage in rich, transformative teaching practices within the arts. Socially informed, culturally aware, and cognitively engaged, genuine needs for being better people are examined within the context of the classroom.

School-stakeholder Partnership Enhancement Strategies in the Implementation of the Arts in Botswana Basic Education.

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Abstract

School-stakeholder partnerships are an effective approach in the teaching and learning of any discipline. Educationists argue that the practice promotes children's success in school, but little has been done in the implementation of such practices in Botswana Basic Education system. Thus, this study examined the extent to which stakeholders participated in the promotion of arts education at that level. The study investigated school-stakeholder partnership schemes that Basic Education schools and other educational institutions could adopt in order to nurture the status of the arts. The case study method was embraced within the qualitative approach whereby eight teachers, two Education Officers, six arts experts and six entrepreneurs were interviewed. The Botswana education policies were also examined to find out the extent to which they promoted school-stakeholder partnership programmes. The study revealed that school-stakeholder partnership scheme is essential to effective schooling. Teachers as the main actors in education are expected to initiate and coordinate partnership programmes. The findings also show that there is limited practice in school-stakeholder partnerships. As a result, the status of the subjects remains low as it is not effectively implemented due to limited skills in the arts disciplines by most teachers and their supervisors. The study recommends intensifying the levels of stakeholders' participation in children's academic work to facilitate improvements in arts education.

Music Education under ‘Guru-shishya parampara’

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Abstract

The classical art form in music and dance in India has always been taught under the ‘Guru-Shishya parampara’ – The Teacher - Student tradition which is as old as the Sanskrit epics of our history ‘Ramayan’ and ‘Mahabharatha’ often known as a form of Bible in India. The teachings in Bhagwad-Gita written 5000 years ago establish the importance of such one invaluable relationship between Lord Krishna and Arjun.

1. Introduction

The Guru (Teacher)-Shishya (Student) parampara is a tradition which involves the ‘Shishya’ to believe and trust in a ‘Guru’ for the art he/she wants to learn and in return the ‘Guru’ takes responsibility of not only teaching him the art but taking care of the spiritual and emotional growth often involving the teacher to take up financial support for his student, not as a specific rule to this ‘parampara’ (tradition) but as a ‘Guru’s’ lifetime commitment on the traditional and spiritual level to the student involved.

2. Do all art institutes / colleges follow this tradition?

The relationship of the ‘Guru-shishya’ is formally recognized by the institution following this tradition and the parents who enroll their child under the same ‘parampara’. These art institutions are recognized by the Govt. of India and affiliated to educational boards for yearly examinations. They follow a specific curriculum and have certified examinations.

But not all institutes / colleges follow this tradition. They follow the modern way of teaching in classrooms and holding examinations as other educational colleges which does not involve the traditional way of imparting the education.

The institutes / colleges involved in the traditional method of teaching are founded by professors / teachers who themselves have been taught under the same tradition.

3. The ‘parampara’ eradicates the barriers in learning

This traditional method of learning often removes the barriers / obstacles that are faced by the student during his learning process. The barriers may be social, economical or financial and geographical.

a) The social barrier here refers to the acceptance of this tradition socially as the student who chooses to be in this traditional method to learn versus the student following the modern method of education may be criticized on social platforms to establish market value as the traditional method followed by institutions are less expensive than the modern method established institutions.

The barrier is removed when this tradition is followed under recognized institutes affiliated to eminent educational boards with modern set up in infrastructure. Like all colleges, they hold certified examinations placing the students in high rank jobs and ability to establish their own institutes.

These recognized institutes/colleges are founded by artistes recognized by the Govt. of India and are also empanelled artistes of Indian Council for Cultural relations (ICCR). These institutes are ranked very high and are asked to certify the student for admissions in various international universities.

b) The economical barrier refers to financial affordability of enrolling to learn which is often removed by the institute following this tradition by way of scholarships granted on merit basis. Under this tradition, the ‘Guru’ who adopts the student to teach under this traditional method often takes up responsibility to fund the student’s education, food and stay.

c) The geographical barrier refers to the distance between the student residence and the location of such institutes or colleges, which may be an obstacle for the student to enroll. The ‘Guru-shishya parampara’ enables the ‘Guru’ to open his/her home as a shelter to these students giving them a family environment taking care of his

mental and physical health and also imparting the teaching for which the commitment is made from both teacher and student.

The same institute / college where the student shows interest may have affordable hostel accommodation to overcome such obstacle.

4. Methodology of teaching under such traditions

The method is traditional but it is equipped like any other educational colleges with modern classroom set up, audio-visual labs, auditoriums of presentations, library and smart-classes to name a few.

The traditional method teaching is sans the comfort of modern day infrastructure but to enable the success of the same, the institutes provide a combination of both modern and traditional facility to create the environment for the same.

5. Conclusion

Often observed is the choice that a student makes after passing out from such institute/college is to either continue his higher studies under the same tradition or opting out from it. Opting out is a choice that he /she makes is due to lack of institutes offering masters in education under same traditional method of teaching.

The institute that usually offers the graduation degree starting from age 5 and completing by age 16/17 years of age enables the student to follow the Master's degree in the same college/institute. If the student opts to discontinue, the – 'guru-shishya' parampara continues for life-time as that is the sole foundation of such tradition. The guru may opt to be a support system to the student on academic and spiritual level that strengthens the bond and keeps the door open for the student to come back for guidance.

The Legacy of Veda Reynolds' Violin Pedagogy: Myth or Reality?

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1. Introduction

This qualitative research aims at uncovering traces of the pedagogical legacy of Veda Reynolds, not only on the basis of written accounts or audio-visual sources that she herself would have left, but also (respectively, mainly) by observing and questioning the teaching activity of her former students. Our working hypothesis is that there are both generic gestures (i.e. all violin teachers have in common) and specific gestures (i.e. created by Veda Reynolds and passed to her students who are currently teaching at various levels and in various contexts).

2. Methodology

Our methodological approach follows the methodology of simple and crossed self confrontation interviews as developed by Oddone [5] and further refined by researchers from the fields of French activity clinic (Clot [3]) and teaching ergonomics (Saujat, [6]; Espinassy and Terrien, [4]) to question the genericity or the specificity of the gestures (Clot and Faïta [2]).

Consequently, our research team met six former students of Veda Reynolds who presently teach the violin on a pre-professional or professional level and filmed them for a serie of lessons. These six teachers were then asked to select 3-5 short video clips (up to 3 minutes) they considered being representative of their own teaching or of Veda Reynolds' pedagogical heritage. During self-confrontation interviews, they explained their teaching activity, the objectives set, their choice of teaching strategies, as well as the solutions imagined or put into practice to help the pupils solving the difficulties they were faced with

The underlying hypothesis is that the analysis of the simple and crossed self-confrontation interviews will reveal differences or similarities in the six professors' professional gestures, and that these differences and similarities will allow situating and outlining the pedagogical legacy of their common teacher - that is, Veda Reynolds. The aim of the project thus is to go beyond the case study and to test a new methodological approach in the analysis of music teaching practices (Terrien, URM 8223 IREMUS/CNRS, in press).

3. Discussion of Expected Results

We are presently conducting the simple self-confrontation interviews with the six participating teachers. A first analysis of the interviews carried out to date points at specific characteristics that might stem from Veda Reynolds' teaching, such as: the chronology of the lessons, of the focus on certain skills, the violin holding position and the violinist's posture. These first results confirm the existence of violin teaching gestures common to the six participating teachers. However, the question whether or not these gestures are a characteristic feature of Veda Reynolds' former students still needs to be answered. Furthermore, it remains to be seen whether these gestures are specific to Veda Reynolds or due to the teachings she received from her masters (i.e. Galamian, Zimbalist, or the Franco-Belgian school).

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Session 35: Higher Education

Title: Gender Power Relationship in Pakistani Universities Classrooms
(Author: Hazir Ullah)

Title: Institutional Factors and Personnel Security in the University of Lagos: Implications for Educational Policy and Planning
(Authors: Simeon Adebayo Oladipo, Joseph Olayinka Awoyinfa, Olugbenga Samson Adefarakan)

Title: Quality Standard of Accreditation in Higher Education in India
(Author: Sunder Kumar Kolli)

Title: Measuring Chinese Students' Test-taking Motivation in Interactive Problem-Solving Environment
(Authors: Hao Wu, Gyöngyvér Molnár)

Gender Power Relationship in Pakistani Universities Classrooms

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Abstract

This study examines the gendered interactions in Pakistani universities classroom. It explores how university classroom functions as a powerful and intimate social site in which the micro-politics of social relations among teachers-students and students-students are charged with a range of formal and informal gendered meanings. The study pays close attention to the temporal, physical/embodied and discursive dimensions of university classroom life and relations. It focuses to highlight the extent to which the everyday gendered experiences of university teachers and students shape and are shaped by the social and culture space of the classroom. The data for the paper comes from in-depth semi-structured qualitative interviews with teachers, focus group discussion with students and classroom observation. Foucauldian discourse analysis will be employed as a methodological and theoretical tool to unpack a number of concerns including the constitutive and constituted nature of teachers' and students' gendered practice and ideology. By employing discourse analysis, I take into account teachers' and students' classroom practices (sitting, walking and talking) as powerful discourses and analyze how these construct frameworks of meaning that define categories and specify domains of what can be said and done. The study is an attempt to delineate how the gendered practices in the classroom contribute to the construction of gendered identities, perpetuation of gendered power structure and disciplining young boys and girls in line with gender codes. It is pertinent to mention here that some of the study findings challenge the popular assertion regarding 'gendered experience' unpacked by feminist research in the global north.

Institutional Factors and Personnel Security in the University of Lagos: Implications for Educational Policy and Planning

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Abstract

The rising level of insecurity in Nigeria, like any other country of the world today, has led to continuous allocation of enormous percentage of the national budget to security yearly by successive governments. Security challenges in Universities range from terrorism, cultism, assassination, abduction, sexual harassment, political thuggery, hazing, and theft. All these are evidenced in most tertiary institutions and threaten the corporate existence of the Universities. Appropriate security procedures are absolutely essential to the orderly operations of any organization, schools inclusive. Without security procedures, the institution is unsafe and daily operations, such as educational programmes, cannot function effectively. This study therefore examined the institutional factors such as location, climate, facilities and culture as they relate to security of personnel (staff and students) in the University of Lagos, Nigeria. Being a case study, it adopted the descriptive survey research design. The population comprised of all the 2,875 staff and 25,095 students of University of Lagos, Nigeria (University of Lagos Pocket Statistics, 2013), while the sample for the study was a total of 300 staff and 2,500 students of the University of Lagos. Thus, a total of 2800 participants selected using stratified random sampling technique. A self-constructed modified Likert scale type questionnaire was used for data collection. The three hypotheses that guided the study revealed that there exists a strong relationship between the identified institutional factors and security of personnel in the University. The study recommends among others that university curriculum should be reviewed to include compulsory courses in security and crime prevention; provision of adequate modern security facilities and equipment; capacity building for security personnel; and increase in budgetary allocation for security in order to guarantee safety and security of personnel as well as enhanced quality of University output.

Quality Standard of Accreditation in Higher Education in India

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Abstract

Quality in higher education has become the prime agenda of countries worldwide. In the changing context marked by expansion of higher education and globalization of economic activities, education has become a national concern with an international dimension. Quality standards are evaluated by the higher Educational Institutions by self-evaluation at different levels and are also assessed by external agencies. There is lack of quality because all the policies and standards are adopted to the maximum in terms of mission and vision and the process of quality achieved is not adequate and permanent. Even though accreditation provides quality assurance that the academic aims and objectives of the institution are honestly pursued and effectively achieved by the resources available and the institution may demonstrate the capabilities of ensuring effectiveness of the educational standards during the validity period, the lack of quality in terms of satisfactory level of students is observed in appropriate scales. The primary objective of NAAC is to assess and accredit institutions of higher learning with an objective of helping them to work continuously to improve the quality of education. The aim is to provide universities with the best evidence for informing their focus and models for quality improvement. According to the Ministry of Human Resource Development, India, only about 10-11% of the population in the relevant age-group is enrolled in higher. Quality assurance refers to the policies, attitudes, actions and procedures necessary to ensure that quality is being maintained and enhanced. Quality improvement in education system is mainly related to the teaching, evaluation techniques, results and placements of the institution. National Assessment and Accreditation Council (NAAC), formed under the aegis of University Grants Commission (UGC) has implemented new methodology of evaluation of educational institutions in India.

1. Introduction

Higher education is the fast-growing service industry exposed to the 'liberalization, privatization

and globalization' processes in the recent times and quality also requires that higher education should be characterized by its international dimension: exchange of knowledge, interactive networking, mobility of teachers, students and international research projects, while taking into account the national cultural values and circumstances. Higher education plays an important role in facilitating these changes by incorporating all of the various demographics of the population. Higher education has been found to be significantly related to the human development and greater for the disadvantaged groups.¹ The Higher Education for the Twenty First Century provides in its vision to action statement that: "quality in higher education is a multidimensional concept, which should embrace all its functions and activities such as teaching and academic programs, research and scholarship, staffing, students, buildings, facilities, equipment, services to the community and the academic environment. Internal self-evaluation and external review, conducted openly by independent specialists, if possible with international expertise are vital for enhancing quality. Independent national bodies should be established and comparative standards of quality, recognized at international level. Due to attention should be paid to specific institutional, national and regional contexts in order to take into account diversity and to avoid uniformity. Stakeholders should be an integral part of the institutional evaluation process.

Universities are established by the state under legislation with authority to accredit their own programmes and are primarily responsible for their quality assurance. The centre and state governments are responsible for establishment of institutions or for approving new applications from institutions wishing to operate as universities within a well-defined jurisdiction. The govt. bodies like University Grants Commission (UGC) and All India Council for Technical Education (AICTE) have evolved norms and guidelines for establishment and operationalization of higher education institutions. Universities have internal process to assess new course proposals and promote staff development and must have entered into relationship with other universities to facilitate staff exchange, collaboration in research and benchmarking of standards of course

delivery. A major project that embarks on the upgrading of the quality of higher education is the Higher Education Development Program which aims to strengthen HEDF Development activities; strengthen the quality assurance system through curriculum benchmarking.² For various reasons, it has become a common practice to arrange programme reviews carried out by external assessors to compare the quality of academic activities with other leading institutions. The quality assurance mechanism as evolved by external reviewers, depend on one or a combination of a number of methodologies, the most important of which are self-studies or self-evaluation, peer review by panels of experts, use of relevant statistical information and performance indicators and service of key groups, such as students, graduates and employers.

The Global Summit is organized by NAAC, India, which is one of the leading quality assurance agencies having mandate of assuring quality of third largest higher education system in the world with over 800 Universities and 40,000 Colleges. The NAAC has rich experience of Assessment and Accreditation of about 6316 Colleges and 266 Universities as on 25th May 2016. As one of the founder agencies of Asia-Pacific Quality Network (APQN) and The International Network for Quality Assurance Agencies in Higher Education (INQAAHE), the NAAC has played proactive role in international quality assurance scenario. The NAAC has identified following seven criteria to serve as the basis for its assessment procedures of quality excellence in higher education's institutions: (i) Curricular Aspects (ii) Teaching-Learning and Evaluation (iii) Research, Consultancy and Extension (iv) Infrastructure and Learning Resources (v) Student Support and Progression (vi) Governance and Leadership (vii) Innovative Practices.

As the responsibility of maintenance of standards of higher education is vested with UGC, the UGC has established NAAC for assessment and accreditation of universities and colleges. A three-stage procedure is followed, which involves (i) preparation of the self-study report by the Institutions based on the defined parameters (ii) validation of the self-study report by a team of peers through on-sight visit and interaction with the functionaries of the institutions and (iii) the final decision on assessment and accreditation by the NAAC. Accreditation is a way of measuring such quality of institutions. It is the process of assessing the performance of institutions that volunteer to be accredited, on the basis of a few set parameters. These parameters may include: (i) curriculum (ii) teaching-learning evaluation (iii) research and consultancy (iv) infrastructure and learning resources (v) student support (vi) governance, leadership and management (vii) innovations and best practices (viii) students performance (ix) improvement in attainment of outcomes (x) facilities and technical support, etc.

Once these have been considered a final grade is assigned to the institution by the accrediting authority.³

2. Objectives of the Research methodology

1. To understand the governance of higher education in India.
2. To review the access to higher education in India.
3. To study the financing of higher education in India.
4. To understand the nature of privatization in higher education in India.
5. To understand the equity related issues in Indian higher education.
6. To examine the efficiency and quality concerns of Indian higher education.

2.1. Functions of Accreditation

- Verifying that an institution or program meets established standards;
- Assisting prospective students in identifying acceptable institutions;
- Assisting institutions in determining the acceptability of transfer credits;
- Helping to identify institutions and programs for the investment of public and private funds;
- Protecting an institution against harmful internal and external pressure;
- Creating goals for self-improvement of weaker programs and stimulating a general raising of standards among educational institutions;
- Involving the faculty and staff comprehensively in institutional evaluation and planning;
- Establishing criteria for professional certification and licensure and for upgrading courses offering such preparation and providing one of several considerations used as a basis for determining eligibility for Federal assistance.

2.2. The Accrediting Procedure

- **Standards:** The accrediting agency in collaboration with educational institutions, establishes standards.
- **Self-study:** The institution or program seeking accreditation prepares an in-depth self-evaluation study that measures its performance against the standards established by the accrediting agency.
- **On-site Evaluation:** A team selected by the accrediting agency visits the institution or program to determine firsthand if the applicant meets the established standards.
- **Publication:** Upon being satisfied that the applicant meets its standards, the accrediting agency grants accreditation or reaccreditation status and lists the institution or program in an official publication with

other similarly accredited or reaccredited institutions or programs.

• **Monitoring:** The accrediting agency monitors each accredited institution or program throughout the period of accreditation granted to verify that it continues to meet the agency's standards.

• **Reevaluation:** The accrediting agency periodically reevaluates each institution or program that it lists to ascertain whether continuation of its accredited or reaccredited status is warranted.

2.3. Criteria for Assessment

NAAC has identified for the external quality assurance of higher education institutions.

- Teaching-learning and evaluation
- Research, consultancy and extension
- Infrastructure and learning resources
- Student support and progression
- Organization and management
- Healthy practices

3. Internal quality assurance of higher education institutions

- Development of external quality assurance processes
- Criteria for decisions
- Processes fit for purpose
- Reporting
- Follow-up procedures
- Periodic reviews
- System-wide analyzes

• **Student Quality** – Number of applications, background, Time to complete degree, Proportion undertaking practical training and R&D, Employment & Salaries, Perceived reputation of graduates and alumni, Proportion of foreign students, Number becoming entrepreneurs

• **Quality of Faculty** – Number of applications, Publication records, Sponsored research, continuing education activities, Professional society and public service, involvement, Quantum of practical experience, Effectiveness of student counselling, Faculty career satisfaction levels

- Learning resources and student support
- Information systems
- Public information.

4. Global used quality indices for academic institutions

There are several agencies and magazines that undertake the task of ranking academic institutions country-wise, region-wise and globally. Most of these published rankings indicate the criteria employed;

they assign weighting factors to the different criteria and come up with a single composite numerical score. Some of these criteria are:

- Depth and nature of coursework
- Faculty Quality
- Student/faculty ratio
- Selectivity or acceptance rate
- Applications per seat Number of enrolled students who graduate ('retention')
- Students' later achievements
- Library facilities
- Laboratory facilities
- Computing facilities
- Reputation/prestige
- Quality of faculty members
- Performance in competitive exams (GATE, CAT, GRE, GMAT, etc.)
- Accomplishments of alumni
- Endowments
- Institutional resources
- Perception of employers
- Productivity research, consultancy
- R& D papers/ Patent

5. Conclusions

India is one of the largest, vibrant and oldest democracies being the second largest country by population. As the world looks east for global leadership in economic growth, India has to consistently pay attention to higher education as a source of growth in current times of knowledge driven growth. Within these challenges, underlie the promising opportunities for India to outshine on the global map. Indian higher education has various complexities in context of regulations, access, financing, equity, efficiency, quality, internationalization, etc. Education plays a vital role in the development of any nation. Higher education is a powerful instrument for creating knowledge and information based society. The mission and vision of higher education is to educate, train and undertake research activities and service to the community. Higher education is nothing but production and dissemination of knowledge. Therefore, the higher education is to be the best on both quantity and quality. Quality in higher education has become the prime agenda of countries worldwide. In the changing context marked by expansion of higher education and globalization of economic activities, education has become a national concern with an international dimension.

This research discussed how accreditation has taken a significant place in the Indian government to bring excellence in higher education. Higher education is the backbone of the society. It is the quality of higher education that decides the quality of human resources

in in a country.⁴ Quality of higher education through establishing various statutory bodies in India like NAAC, NBA etc, the Indian higher education has addressed a major impediment that prevented the recognition of most university degrees. Focus has shifted to the future face of accreditation and the importance of education to the various stakeholders. Accreditation ideology are based on best practices in education. This philosophy promotes excellence in education through a benchmarking process, which is helpful in determining why the institution is, or is not, achieving its mission and broad-based goals, and in interpreting the results of the outcomes assessment process.

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Measuring Chinese Students' Test-taking Motivation in Interactive Problem-Solving Environment

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Abstract

Problem solving is considered as one of the most important 21st century skills. It is affected not exclusively by cognitive, but by motivational factors as well. The present paper is aiming to detect Chinese students' test-taking motivation in the interactive problem solving environment. An assessment project has been conducted in China with 50 participants. Item response theory has been used to do the analyzing. The result indicated Chinese students had high test-taking motivation in the interactive problem solving environment, and boys had the higher motivation than girls. This study contributed to further understanding of problem solving skills development of Chinese students, and highlighted the importance of motivation in the interactive problem solving assessment.

1. Introduction

“In the past, education was about teaching people something. Now, it's about making sure that students develop a reliable compass and the navigation skills to find their own way through an increasingly uncertain, volatile and ambiguous world.”[1] Today, education needs to prepare students for more rapid world and change than ever before, thus problem solving is considered as one of the most important 21st century skills [2]. There is an increasing number of assessment projects started to include problem solving as one of the assessment contents, such as Programme for International Student Assessment (PISA), and Trends in International Mathematics and Science Study (TIMSS). Most of the recent problem solving assessments can be included in the interactive problem solving assessment scope. Interactive problem solving assessment requires test-taker have direct interactions with the problem to generate and integrate relevant information to solve the problems [3, 4]. Therefore, the initiative will be needed for test-taker to conduct interactions.

In most of cases, the problem solving assessments are low-stakes tests, which means the assessments have no or little consequence for test-taker [5]. Most

of the problem solving assessment projects are used for accountability purposes, for instance, monitor

student achievement in problem solving, compare educational systems in different countries, etc. Unlike high-stakes tests (e.g. final examinations, entrance examinations), students' performance in most problem solving assessments do not connect with their grades or class standing, sometimes they even cannot get personal feedback after the assessment. Several researches indicated in low-stakes tests student might not be motivated to do best [6, 7]. Theoretically speaking, test-takers' performance in a problem solving assessment might be lower than their true level if they have low test-taking motivation. This situation will lead to an underestimated, thus damage the validity of the assessments in a certain level [8].

Therefore, it is necessary to conduct a study to do the measurement and analysis of students' test-taking motivation in the interactive problem solving environment. And this work is even more urgent in China. In the current stage, there are only a few studies which focus on interactive problem solving in China. And the relationship between test-taking motivation and interactive problem solving is still a blank in the Chinese educational academic circle. Thus, a research project has been conducted in China in order to fill this gap.

2. Research Aims

The study has been conducted in order to reach the following aims:

- 1) confirm test-taking motivation's influence on test-taker's performance in an interactive problem solving assessment;
- 2) measure and analyze Chinese students' test-taking motivation level in an interactive problem solving environment; and
- 3) detect the gender difference in test-taking motivation in interactive problem solving environment.

3. Methods

Participants

50 Chinese students have attended this study (27 boys; 23 girls). The participants were sixth graders in an elementary school (age mean=12.28; standard deviation=.50).

Instruments

The problem solving assessment contained 12 items which adopted from MicroDYN approach [9]. The MicroDYN approach is a mature system for doing interactive problem solving assessment. It also has been used in the PISA 2012 problem solving assessment [10]. The assessment started with an introduction section which include text and video-based instructions and a trial task. After that, students can enter the assessment progress. They were required to interact with the system to acquire necessary information and solve the problems. Students had three minutes to make their answers for each item.



Figure 1. Sample items for the problem solving assessment. The original items were in Simplified Chinese

Some motivation questions have been added to the problem-solving assessment progress to measure students' test-taking motivation in the assessment. The motivation questions asked students' attitudes which regarding with this assessment. The questions have 7 scales from 1- strongly disagree to 7- strongly agree.



Figure 2. Sample item for the motivation test. The original items were in Simplified Chinese

In addition, the motivation questions have been divided into three parts. Item 1-3 have been inserted between the introduction section and the first item. They have been used to monitor students' motivation before the assessment. Item 4-6 have been inserted

into the middle of the assessment, which can be used to monitor students' motivation during the assessment. Item 7-15 have been set as the last part of the assessment, which can be used to see students' motivation for the whole assessment.

Most of the questions were describing positive attitudes, while few questions were describing negative attitudes. The following table shows the English translation for each question.

Table 1. Motivation Questions

	Question	Position	Attitude
1	This test looks interesting	Before the test	Positive
2	I think I'm going to do a good work	Before the test	Positive
3	This test looks hard	Before the test	Negative
4	This test is interesting	During the test	Positive
5	I think currently I'm doing a good work	During the test	Positive
6	This test is hard	During the test	Negative
7	This test was interesting	After the test	Positive
8	I think I have done a good work	After the test	Positive
9	This test was hard	After the test	Negative
10	This test attracted my interest	After the test	Positive
11	This test attracted my attention	After the test	Positive
12	This test was entertaining	After the test	Positive
13	Participant in this test was an interesting task to do	After the test	Positive
14	I would like to do more tests like this	After the test	Positive
15	I could easily concentrate in this test	After the test	Positive

Procedures

The test was carried out by the eDia (Electronic Diagnostic Assessment; [11]) platform in the school's ICT room. The test lasted approximately 45 minutes. All the items in the test were adopted into simplified Chinese. The test was delivered by the low-stakes test format, which did not relevant with students' grades or any consequence.

Data Analysis

Item response theory (IRT) was used to analyze students' test-taking motivation level in the problem solving assessment. All the models were computed by

ConQuest [12]. The total number of estimated parameters and final deviance have been calculated by ConQuest to indicate the model fits [12]. Item-person maps have been drawn to indicate the overview of students' motivation level. In addition, some figures (e.g. mean value, standard deviation, Cronbach's alpha, etc.) have been calculated by SPSS to support the analysis.

4. Results

A. Psychometric properties

The internal consistency of the motivation questions was high (Cronbach's alpha=.84). Assuming opinion 7 "strongly agree" for every single question as 100%, for the positive questions, the average response for the students was 83.85% (SD=16.97%). For the negative questions, the average response was 39.56% (SD=23.36%). The results demonstrated students' high motivation in the problem-solving assessment.

The problem solving assessment also showed satisfactory reliability (Cronbach's alpha=.72). Students' mean performance for the problem solving assessment was 47.73% (SD=21.78%). In addition, significant correlations have been found between students' performance in problem solving assessment and their responses of motivation questions (for both positive ($r=.384, p<.05$) and negative questions ($r=-.340, p<.05$)). The analysis results effectively proved test-taking motivation's influence on test-takers' performance in interactive problem solving environment.

B. Test-taking Motivation Level

Item response theory has been used to analyze students' motivation level in the interactive problem solving environment. Firstly, the model fits for rating scale model and partial credit model based on the assessment data have been calculated.

Table 2. Model fits for rating scale model and partial credit model

Model Type	Final deviance	Total number of estimated parameters
Rating Scale Model	21	2130.256
Partial Credit Model	80	1995.223

The analysis indicated a significant difference between these two models ($p<.001$); meanwhile rating scale model showed better model fit. Therefore, rating scale model has been chosen for doing the analysis.

Based on the rating scale model, the item person map has been calculated and drawn (see figure 3).

The distribution of students (represented by "x"s) in the map indicates the overall motivation turns to be high. Furthermore, students were much more likely to

choose affirmative response for the positive questions (question 1,2,4,5,7,8,10,11,12,13,14,15), and choose negative response for the negative questions (question 3,6,9).

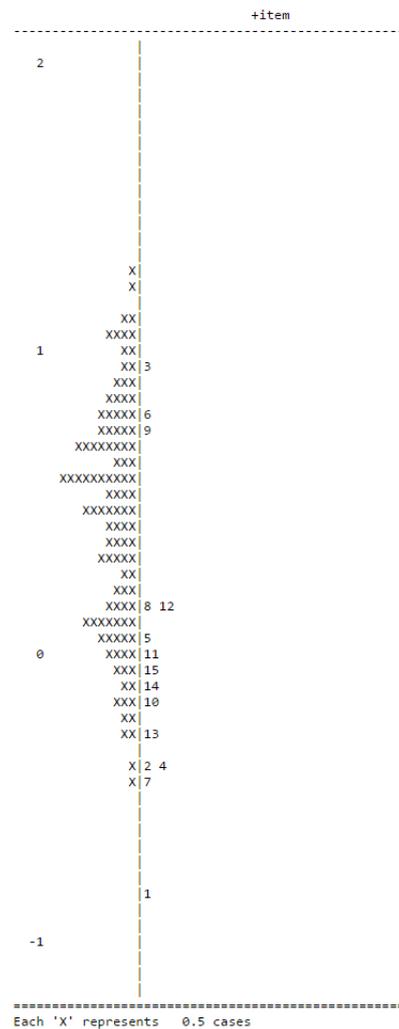


Figure 3. Item person map for the motivation questions

Students held most affirmative attitude to question 1, followed with question 2,4,7 (for the content of each question, please find the table 1 in section 3). Which means students believed this assessment is interesting, no matter before, during or after this assessment. The map also shows students had strong confidence to do a good work at the very first beginning (based on question 2), but their confidence reduced after they actually started the assessment (based on question 5&8). Similarly, from the positions of question 3,6,9 in the map, it can be seen that at first students did not think this test will be difficult to do. But along with this assessment processed, students found this test is a little harder than their image. The distribution for the rest of items proved students' overall positive attitude and high test-taking motivation in the interactive problem solving environment.

In order to compare the gender difference about the test-taking motivation, a model which considered gender as a factor has been built. The item-person map shows as following (figure 4):

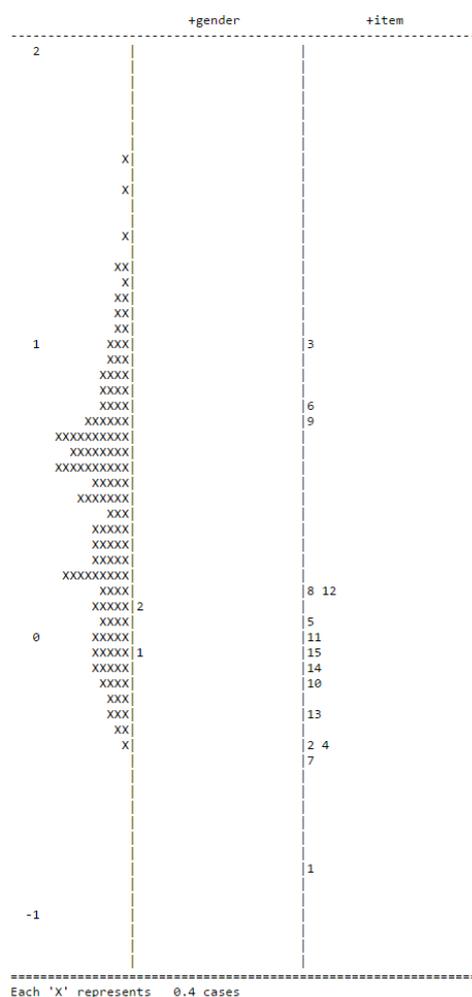


Figure 4. Item-person map with gender difference

The map shows boys (represented by 1) were more likely to choose the affirmative response for the questions, while girls' (represented by 2) attitude for the questions was less positive. Which means in this assessment, boys had higher motivation.

5. Conclusion

This study effectively measured Chinese students' test-taking motivation level in the interactive problem solving environment. The results proved test-taking motivation's influence on one's performance in problem solving assessment. Results also showed Chinese students had overall high motivation in the interactive problem-solving environment, while boys' motivation was higher than girls. Students showed strong interest in this assessment format. But the result

indicated students might had a certain but small level of misjudgment about the difficulty level of the assessment, which impacted their motivation to a certain extent. The result has confirmed interactive problem solving can be an interesting and welcomed assessment in the China context, even it delivered by the low-stakes test format.

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Session 36: Science Education

Title: Effect of Conceptual Change Instructional Model on Students' Alternative Conceptions and Achievement in Genetics in Enugu Metropolis, Nigeria
(Author: Ezechi Nnenna Grace)

Title: Misconceptions of Student Teacher Related to Basic Science Concepts
(Author: Fakhra Aziz)

Title: The Merging of Medical and Social Sciences to Explain the Impact of Environment on the Educational Achievement and Life Chances of Minority, Impoverished Children: A Literature Review
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(Author: Nutjira Busadee)

Effect of Conceptual Change Instructional Model on Students' Alternative Conceptions and Achievement in Genetics in Enugu Metropolis, Nigeria

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Abstract

Students construct ideas about natural phenomena before formal instructions. Some of these ideas called alternative conceptions are different from what is generally accepted in scientific community. Studies have shown that these alternative conceptions are very strong and deeply rooted and if neglected hinder effective teaching and learning. The traditional method of teaching do not recognize these alternative conceptions hence the poor biology achievement. This study, thus, sought to determine if conceptual change instructional model, will better address these alternative conceptions to enhance achievement in Biology. The study adopted quasi experimental design. Three research questions and one hypothesis guided the study. The sample was made up of 282 students. The instrument was 40-item multiple choice Biology Achievement Test (BAT) on genetics. The BAT was face and content validated by experts in measurement and evaluation and Biology Education. A reliability co-efficient of 0.82 was obtained for BAT. Percentage, mean and standard deviation were used to answer the research questions while ANCOVA was used to test the null hypothesis. The study revealed that the conceptual change instructional model was more effective in facilitating students' achievement in genetics. The researcher recommended that conceptual change instructional model be adopted in Nigerian secondary school biology instructions.

1. Introduction

The impact of science on the overall development of any nation is generally acknowledged. According to [1], we are living in world where science and technology has become an integral part of the world culture and any country that overlooks this significant truism do so at its peril. [2] observed that current development in science and technology have so greatly affected the lives of every human being such that to be ignorant of the basic knowledge of these developments is to live an empty, meaningless and probably unrealistic life. According to him, a nation with scientifically uneducated citizenry cannot

be expected to make reasonable socio-economic and political decision. Therefore, a solid background in science is very critical if Nigeria should attain required technological height.

Since the attainment of independence in Nigeria in 1960, much of the emphasis in the Nigerian society has been the development of science and technology. Biology is one of the science subjects taught at the senior secondary level in all Nigerian schools today and its importance to the individual and the society cannot be overemphasized. According to [3], biology education enables the individual to understand himself, parts of his body and their functions, makes the individual to understand the need to maintain good health through the use of clean water, clean air, good sanitation, balanced diet, vaccination against infectious diseases, exercise and adequate rest. Biology education inculcates in the individual scientific skills and attitudes in his/her approach to personal and social problems. Biology education cuts across many social problems and its knowledge helps in providing insight into such problems and at the same time proffer solutions to them. The knowledge of biology assists the society to apply available techniques to reduce birth rate and control population and has in fact illuminated on a lot of bordering on human genetics. Biology has helped through genetic counseling to discourage marriage between couples with inherited defects such as haemophilia, sickle cell anaemia, to mention a few. Thus Biology as a science subject should be properly taught and learnt and this should be evidenced in students' performance in the subject in standard Examinations like the West African School Certificate Examination (WASSCE).

One would expect that achievement in biology (a subject with potential applicability of meeting daily needs and solving problems of life and living) in Nigerian secondary schools should be high. On the contrary, evidence abound that lends support to the claim of a level of performance in biology in secondary schools [4]. The poor performance has been attributed to students not understanding difficult concepts in biology in which genetics is one [5]. This has also been attributed to the inability of the biology teacher to recognize prior ideas/conceptions of students before formal instruction. Most of these

ideas called alternative conceptions are unscientific and hinder effective teaching and learning of science concepts [6]. Alternative conceptions are erroneous ideas held by students that are not accepted in the scientific community [7]. These factors influence the child in his/her process of growing up and eventually culminate in the conceptions, which he/she brings to the classroom.

2. Literature Review

Studies have shown that these alternative conceptions are deeply rooted and if neglected can hinder effective teaching and learning [7]. Implication is that the students' alternative conceptions may influence their observations, inferences they draw and what they understand from a formal learning situation. Take for instance in a typical Igbo culture of southeastern Nigeria, recurrent infant mortality in a specific family is attributed to spiritual phenomenon referred to as "ogbanje spirit." It is believed that a demon spirit, "ogbanje", possessed the children and causes them not to want to live on earth. As a result; the first child to die will reincarnate in a subsequent child, who in turn dies, and so on. Such deaths are believed to recur except where the parents perform some rites in order to appease the gods. These rites are believed to stop further deaths. This is what a scientific explanation will refer to as sickle cell phenomenon. Students lack the understanding because of their previous knowledge from their parents and their cultural background. Some students yet have wrong notion about genetic concepts of albinism as punishment from the gods. Ignorance of facts about sex determination made students believe that blame should go to the woman especially if she continuously delivers baby girls. If the students' alternative conceptions are not addressed, they may take these ideas along as they progress. [4] Reported that most biology teachers in Enugu Educational zone of Enugu State use lecture method mostly in teaching Biology.

Lecture methods of teaching do not take into cognizance the fact that students construct ideas about natural phenomena before formal instruction in sciences. Lecture method is a method of teaching in which the teacher delivers the lesson to the students with little or no active participation by the students. It is teacher centered approach involving largely a one-way form of communication from the teacher to the students. For this reason, it is termed didactic approach because most of the talking is done by the teacher while students remain passive listeners, taking down notes. Evidences in research literature [7] pointed to the pressing need for a reconsideration of methodology in the teaching of biology. To this end, a group of philosophers in Science Education called the post positivists or constructivists came up with instructional packages on how best science instruction

can be effectively carried out. Conceptual change instructional model is one of such packages. [8] Defined conceptual change as a learning process in which an existing conception (idea or belief about how the world works) held by a student is shifted and restructured, often away from an alternative conception, and toward the dominant conception held by experts in the field. Conceptual change instructional model is a constructivist strategy that lays emphasis on active role of learners in the process of constructing their own knowledge. Thus conceptual change instructional model in science instruction is a method which accepts the child's ownership of idea [9]. Central to this constructivist package is that the learner constructs meaning from new information and event as a result of interaction between that individual's alternative conceptions and his/her current observations. Thus students learn not by receiving the message but interpreting the message. This implies that students must take some responsibility for their learning. This is because they have to be actively involved in the teaching and learning process. They have to put their own ideas. In line with this, Piaget theory of cognitive learning proposes that the bases of all learning are the child's own activity as he interacts with the physical and social environment.

In terms of content coverage, the researcher selected genetics. The choice of genetics was justified by the fact the genetics have been identified as a difficult concept in Biology. The selection of genetics was also based on the alternative conceptions widely held by students on genetics concepts as reported in literature [6]. The topics selected under genetics include chromosome mutation, sickle cell anaemia, Albinism and sex determination.

2.1. Research questions

- (1) What percentage of senior secondary school class III (SS3) students have alternative conceptions on genetics before formal instruction took place?
- (2) What percentage of senior secondary school class III (SS3) students who had alternative conceptions on genetics changed their initial conceptions after formal instructions had taken place.
- (3) What are the mean achievement scores of SS3 biology students taught with conceptual change-instructional method and those taught with lecture method of teaching as measured by Biology Achievement Test (BAT).

Hypothesis: The hypothesis was tested at 0.05 level of significance.

Ho1: There is no significant difference in the mean achievement scores of biology students taught with conceptual change instructional model and those taught with lecture method of teaching.

3. Methods and Methodology

The design used in this study is the quasi-experimental design. The specific quasi-experimentation that was used is the pretest-posttest nonequivalent, control group design. The design was used because of non-randomization of subjects. The research subjects were not randomized because of problems of rearrangement or regrouping of classes. Intact classes were therefore used in order not to disrupt the school administration. The use of the design is justified by the fact that intact classes that were not equivalent were used. However, the intact classes were randomly assigned to either the experimental or control group.

The population of the study comprised all senior secondary class three (SS3) students, who were offering biology in all the state owned secondary schools in Enugu education zone of Enugu State, Nigeria in 2014/2015 academic session. There are 23 secondary schools in the zone with a population of three thousand, seven hundred and eighty eight students (3788). The SS3 students were in their final year of secondary school and the choice of this level of education was based on the fact the students have all taken some introductory lessons on genetics e.g chromosomes, mitosis, meiosis in their first 2 years of senior secondary school.

The sample consists of 282 SS3 biology students, randomly drawn from four (4) out of 23 governments owned secondary schools in Enugu Education zone. Purposive and random sampling techniques were used for the study. Four (4) single sex schools (2 males and two females) were purposely selected from the zone. Thus, having two schools (a male and female) for experimental group and another two (a male and female) schools for the control group. Two intact SS3 classes in each school was selected using random sampling (balloting by replacement). In each school, one intact class was assigned to conceptual change instructional model (experimental group) while the other intact class was assigned to lecture method of teaching (control group). The selection of the classes for the instructional packages was done through simple random sampling (balloting). All the students in each of the intact classes were used for the study. The experimental sample (N = 137) consisted of 64 females and 73 males while the control group sample (N = 145) consisted of 63 females and 82 males.

The instrument used to collect and generate data was a Biology Achievement Test (BAT). The BAT is a 40 –item multiple test developed by the researcher. The alternative conceptions identified in literature were used as distracters in preparation of BAT. The

instrument was used for both pretest and posttest but was rearranged during post testing. The instrument was face and content validated by two experts in biology Education and one expert in measurement and evaluation from faculty of Education, Enugu State University of Science and Technology. The reliability of the instrument was determined using Kuder-Richardson's formula-20 (K-R 20). The internal consistency index obtained for BAT was 0.82.

Two instructional approaches were employed for the study. The first is the conceptual change instructional model (CONMOD) while the second one was lecture method. The two approaches were identical in terms of content coverage, time and method of evaluation. The only difference was instructional activities where conceptual change instructional model (CONMOD) deviated from lecture method by employing constructivist principles and theories during instructional process. The CONMOD was used for the experimental group while the lecture method was used for the control group. The regular Biology teachers in the schools were used for the study. All the biology teachers used received one week training from the researcher on the instructional package types. Before treatment, the research subjects were given a pretest. It was after the pretest that the regular biology teachers commenced teaching in their schools, using the instructions on the lesson notes given to them by the researcher. The teachings were done using the normal school periods and following the normal lesson periods of the school. At the end of the experiment, which lasted for four weeks, the biology teachers administer the post test to the research subjects in the two groups. Data collected from the pretest and posttest was kept separately for the two groups and was used to answer the research questions and test the hypothesis.

Research questions one and two were answered using percentages while research question three was answered using mean and standard deviation. Two-way analysis of covariance (ANCOVA) was used to test the hypothesis at 0.5 alpha levels.

4. Analysis of Findings

Results obtained from the analyzed data were presented below based on the research questions and hypothesis.

Table 1 show that before formal instruction, 94.91% of students in the experimental group had alternative conceptions in genetics while 5.09% had scientific views on genetics before treatment. Table 1 further indicates that 95.84% of students in the control group had alternative conceptions on genetics while 5.16% had scientific views before formal instruction. This indicates that alternative conceptions possessed by the students in the groups were approximately equal at the beginning of the experiment.

Table 1. Percentage distribution of students with alternative conceptions on genetics before formal instruction.

Group	Students with Alternative Conceptions	Students with Scientific View
Experimental (CONMOD)	94.91%	5.09%
Control (Lecture Method)	95.85%	5.16%

Table 2. Percentage distribution of students positions after formal instructions.

Group	Students who changed their alternative conceptions	Students who did not change
Experimental (CONMOD)	97.8%	2.2%
Control (lecture method)	32.0%	68.0%

Table 2 shows that in the experimental group, 97.8% of students conceptually shifted from alternative conceptions on genetics to scientific views while 2.2% retained their alternative conceptions. Table 2 also indicates that in the control group, 32.0% of the students who alternative conceptions on genetics shifted to scientific views while 68.0% did not shift from their positions after treatment. This indicates that majority of students in the experimental group changed their alternative conceptions to scientific views after formal instructions while most of the students in the control group retained their alternative conceptions even after formal instructions.

Table 3 indicates that the experimental group obtained mean achievement scores of 3.39 and 26.11 respectively in the pretest and posttest. The subjects also got standard deviations of 2.80 and 5.87 in the pretest and post test respectively. On the other hand, the control group had mean scores of 3.63 and 14.54 respectively in the pretest and posttest. The standard deviations of the control in the pretest and posttest

were 2.89 and 6.07 respectively. The result indicates that the experimental group differed from the control in the mean achievement score by 11.57. The difference is in favour of the experimental group.

Table 3. Mean achievement scores of subject taught genetics using CONMOD and lecture method.

Group	Mean X			S D			N
	Pretest	Posttest	Gain Score	Pretest	Posttest	Gain Score	
Experimental (CONMOD)	3.39	26.11	22.72	2.80	5.87	4.96	137
Control (Lecture Method)	3.63	14.54	10.90	2.89	6.07	5.07	145

Table 4. Analysis of covariance (ANCOVA) of students' achievement scores by teaching method.

Source	Sum of Square	df	Mean Square	f	Significance
Model	6619.111	4	109.261	742.919	.000
Expert	.239	1	.239	0.13	.911
Method	91.054	1	91.054	4.969	.040
Error	219.889	12	18.324		
Total	6839.000	15			

Significant at $p < 0.05$.

Data in Table 4 shows that method is a significant factor in students' achievement in genetics. The f value of 0.04 at 1 degree of freedom was less than the 0.05 level of significance, thus the null hypothesis was rejected. This means that there is a significant difference between in the mean achievement scores of students taught with conceptual change instructional model and these taught with lecture method.

5. Discussion

Result presented in Table 1 reveals that both students in the experimental group and the control group possessed alternative conceptions on genetic concept before formal instructions. This finding confirms that students develop ways of interpreting the world around them, which are not as a result of formal school learning. The findings of this study agrees with the works of [7] and [6] that students bring to school learning, ideas, expectations and beliefs concerning natural phenomena which they have developed prior their school learning. In view of the researcher, the fact that students' have alternative conceptions about biology concepts may explain the reason why Nigerian students still achieve poorly in biology examinations.

Table 2 also reveals that in experimental group 97.8% students who had alternative conceptions on genetics shifted their initial conceptions to scientific views after formal instruction while 2.2% did not shift. In the control group, 32.0% shifted to scientific views while 68.0% did not shift. It is more likely that the alternative conceptions held by the students possessed the feature indicated by [10] that alternative conceptions are tenacious and resistant to extinction. In view of the researcher, the students did not shift in their alternative conceptions because of the lecture method of teaching used by the teacher. Lecture method has no provision for ascertaining the biology students' prior ideas about natural phenomenon. Thus, it is relatively ineffective in teaching and learning science. This agrees with view of [7] that alternative conceptions are deeply rooted and not easily changed using lecture method approaches to instruction. Thus, the implication is that these alternatives are likely to persist unless some attempts are made to intervene and bring about conceptual change.

Result from Table 3 showed the effects of teaching methods on students' achievement in genetics and the mean achievement scores of the students in the experimental control were higher than that of the mean achievement scores of students in the control group. This was further confirmed by the result in Table 4 which revealed that method was a significant factor on students' achievement in genetics. Thus, it was confirmed that students taught genetics using conceptual change instructional model performed better than those taught using the lecture method.

This implies that conceptual change instructional model was more effective in enhancing and facilitating students' academic achievement in genetics than lecture method. The findings of this study seems to support the findings of [11] that confirmed that appropriate teaching method leads to students improved achievement in Biology and the work of [9] that attributed under achievement partly to lecture method of teaching where lecture are taught theoretically and based on teacher's dominance. The researcher of the view that since conceptual change instructional model explore and address the alternative conceptions of students, one would expect that it will foster conceptual change and enhance achievement in Biology.

6. Conclusion

From the results obtained in the investigation into the effect of conceptual change instructional model and lecture method on students' alternative conceptions and achievement in biology, the researcher drew the conclusion that there is a significant difference in biology achievement of secondary senior class three (SS3) students taught with conceptual change instructional model and those taught with lecture method, the difference is in favor of conceptual change instructional model. It is thus expected that emphasis should be placed on this constructivist package, the conceptual change instructional method, which addresses the alternative conceptions of students.

7. Recommendations

Based on the findings of the study, the following recommendations are made.

- (1) Biology teachers expected to teach for conceptual change should be exposed to conceptual change packages during their preservice years.
- (2) The alternative conceptions of students should be identified and reduce to barest minimum using conceptual change instructional packages.
- (3) Conferences/workshops on conceptual change instructional model should be organized for serving teachers and curriculum developers.
- (4) Biology teachers should incorporate conceptual instructional package as one of the methods used in teaching of biology.

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Misconceptions of Student Teacher Related to Basic Science Concepts

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Abstract

This multiple purpose study was conducted to elicit misconception that student teachers (pre-service teachers) had about the basic science concepts, "Cell", "Atom" and their relationship, to understand how prior learning affected their misconceptions and to determine the differences between attitude toward science and achievement of those student teachers who had science background and those who had humanities background. Data collection instruments included the science concept test, and science attitude scale. Both instruments were administered to the participants at the end of the first semester. The science test consisting of a paper and pencil test involving 12 open ended questions and three MCQs was designed. The attitude scale was adapted. It consisted of 15 statements on a 5-point Likert scale. As a result of the analysis undertaken, it was found that student teachers had serious misconceptions about cell, atom and their link. The results also revealed that student teachers generally had positive attitudes toward science lessons and student teachers having science background had higher attitude and achievement score than those who had not.

1. Introduction

It is rightly said that be very, very careful what you put into that head because you will never ever get it. Conceptual misunderstandings arise when students are taught scientific information in a way that does not provoke them to confront paradoxes and conflicts resulting from their own preconceived notions and nonscientific beliefs. Students enter classrooms with preconceived notions of how the world works. Some of these ideas are erroneous and are called "alternative frameworks," "alternative conceptions," "misconceptions," and even "intelligent wrongness." They represent the mind's attempt to connect new information with information already stored in memory. Their study has been influenced by models originating out of cognitive psychology.

Misconceptions may originate from personal experience, imprecise language, lack of examples and non-examples in concept formation, media

representation of phenomena, errors in logic, and textbooks. To deal with their confusion, students construct faulty models that usually are so weak that the students themselves are insecure about the concepts.

Students enter classrooms with preconceived notions of how the world works. Some of these ideas are erroneous and are called "alternative frameworks," "alternative conceptions," "misconceptions," and even "intelligent wrongness." They represent the mind's attempt to connect new information with information already stored in memory. Their study has been influenced by models originating out of cognitive psychology. Misconceptions exist in all the science areas. Some pervasive examples involve the following topics: plant nutrition; hot and cold; laws of motion; floating and sinking; sizes of body parts; shape of earth; density; the particulate nature of matter. General science is an amalgam of pure sciences and often included as a subject in elementary schools. It is assumed that any science subject specialist can teach this content to early grades. In Pakistan It has been reported that a single teacher in primary schools teach all the subjects to class including science. At primary level specific subjects are not assigned to teachers instead specific classes are allocated to them without any set criteria.

Teachers have to teach all the subjects irrespective of their specialization. This trend leads to develop misconceptions among students too.

Misconceptions especially in early grades interfere with further learning, as new information is linked to the existing misconception. They impede one's ability to see the "big picture" in the various sciences, to appreciate the links among science concepts and generalizations, and to apply science principles meaningfully to everyday life.

Competent teachers can diminish these delusions if they have expertise in their own area. They involve in dealing with misconceptions if they are willing to face their own misconceptions. They must assume the role of learning facilitator and encourage students to be active learners. Pre-assessment, listening to student questions, effective planning and follow-through, closure statements, and techniques such as concept mapping are useful. Misconceptions can be highly

creative and students should not be ridiculed for having them.

2. Statement of the Problem

The present research was designed to identify the student teachers misconception related to basic science concepts and to relate their prior knowledge and attitude towards science with these misconceptions.

Research Questions

3. Research Design

In the present research, a case study design was used. Population of the study consisted of all the students enrolled in Bed elementary program at Lahore College for Women University during the year 2016. In first semester, A General Science course is offered to them. In year 2016 there were 130 students enrolled in the said program. The 60 students from the class was randomly taken as sample.

Data collection instruments included the science concept test, and science attitude scale. Both instruments were administered to the participants at the end of the first semester. A paper and pencil test consisting of 3 multiple choice items and 12 open-ended questions related to cell, atom and how they linked each other was conducted. The sentences given in examples of each category given below were chosen from self-statements of the participants without any change. In this way, Researcher aimed to comprehend what kind of thinking structure the participants had about two basic science concepts. The attitude scale was adapted. It was consisted of 15 statements on a 5-point Likert scale. As a result of the analysis undertaken, it was found that student teachers had serious misconceptions about cell, atom and their link. The results also revealed that student teachers generally had positive attitudes toward science lessons.

4. Instruments and Data Collection Procedure

In the study, two tests were used.

(1) Science Test related to cell, atom and linking both concepts,

(2) Attitude Scale toward Science.

In the present research, a case study design was used. To use this method, a paper and pencil test consisting of 3 multiple choices atom and 12 open-ended questions related to cell, atom and how they linked each other. The sentences given in examples of each category were chosen from self-statements of the participants without any change. In this way, Researcher aimed to comprehend what kind of

thinking structure the participants had about two basic science concepts.

The attitude scale toward science learning was adapted by researcher from attitude scale toward chemistry lessons developed earlier [1] and was used to determine students' attitudes toward science lesson. The scale consisted of 15 items in 5-point Likert type scale (fully agree, agree, undecided, disagree and fully disagree)

Table 1. Three MCQs.

Three multiple choice items related to basic science concepts	
Item 1:	Cell is the structural and functional unit of -----
a	Matter
b	Living Things
c	Both
Item 2:	An atom is the smallest constituent unit of ordinary ----- that has the properties of a chemical element
a	Living Things
b	Matter
c	Both
Item 3:	Which statement is true?
a	Cell membrane is made up of atoms
b	Atomic shells are made up of cells
c	Both are false

5. Data Analysis

The open-ended questions were analyzed under the following categories and headings, as suggested by [2].

- Sound Understanding: responses that included all the components of the validated response.
- Partial Understanding: responses that included at least one of the components of validated response, but not all the components.
- Partial Understanding with Specific Misconception: responses that showed understanding of the concept, but also made a statement, which demonstrated a misunderstanding Specific Misconceptions: responses that included illogical or incorrect information.
- No Understanding: contained irrelevant information or an unclear response; left the response blank.

These criteria provided an opportunity to classify students' responses and make comparisons about their level of understanding.

The following method was used in order to determine students' achievement scores.

Sound understanding responses were scored with 4, partial understanding responses with 2, partial understanding with specific misconception responses with 1, specific misconception and no understanding responses with zero.

Items in the attitude scale toward science learning were scored with if student marked; fully agree 5, agree 4, undecided 3, disagree 2, fully disagree 1.

Inductive analysis [2] was used to evaluate the results of the open-ended written test and the information transcribed from the test. First, researcher examined the information piece by piece, read the information repeatedly, and then wrote down different kinds of conceptions that students reported. The analysis guidelines, especially the conceptualization of the data, the coding of the data, and development of categories were determined in terms of students' responses. Throughout the labelling process, codes were revised and redefined. Classifications and their definitions are summarized in Tables 4. The results obtained from the two tests used in this study were analyzed by using SPSS statistical software.

6. Results

Table 2. Comparison of Attitude Score and Achievement Score

Scores	Cohorts	f	M	S	D	d	t	Sig.(2-tailed)
Attitude score	Humanities	30	3.90	0.60			-3.3	.001*
	Science	30	4.15			60		
Achievement score	Humanities	30	6.70	0.75			-4.3	.001*
	Science	30	8.05					

*P \ .001

The Independent t-test related to attitudes, and achievements of students is presented in Table 2. Independent sample t-test results indicated that attitude toward science and achievement of those student teachers who had science background were higher than those student teachers who had humanities back ground (P \ .001). However, both cohorts have positive attitude toward science learning.

Table 3. Percentages of responses given to questions by student teachers

	Cell		Atom		Linking & atom cell	
	Humanities	Science	Humanities	Science	Humanities	Science
Sound Understanding	22	38	32	49	-----	18
Partial Understanding	28	48	41	51	5	32
Partial Understanding with specific misconception	30	9	23	-----	43	42
Specific Misconception	15	7	4	-----	-----	7
No Understanding	5	-----	-----	-----	58	1

The results obtained from the science test are presented below, by taking each item into consideration. Percentages of the obtained responses for each item are shown in Table 3.

For three basic science concepts sound understanding included knowledge that cell is the structural and functional unit of living things. Body of Living things (plants and animals) consists of many kinds of cells; each specialized for a specific purpose. In spite of their enormous variety, however, all cells share certain fundamental characteristics. An atom is the smallest constituent unit of ordinary matter that has the properties of a chemical element and Every solid, liquid, gas, and plasma is composed of neutral or ionized atoms. Atoms are very small; typical sizes. Living cells produce from different combination of less than 30 elements out of 118 respectively.

As can be seen from the table above, for concept of cell, 22 and 38% of students having humanities back ground and students having science background respectively showed sound understanding: the proportion of students' responses categorized under the partial understanding category was 28 and 48%, respectively. Moreover, while 30% of humanities and 9% of science student teachers had partial understanding with specific misconceptions, the proportion of students' responses classified under specific misconception category was 15 and 7%, respectively. However, 5% of students from humanities had no understanding of the concepts.

For the concept of Atom, 32% student teachers with humanities back ground and 39% with science background had sound understanding, 41% of students with Humanities background and 51% of students with science background had partial understanding with specific misconception while 23% and 4% students with humanities had Partial Understanding with specific misconception and Specific misconception respectively. No one was reported as having no understanding. On the other side, students with science back ground were not reported for last three categories.

For the concept related to how atoms and cells are connected, 18% student teachers had sound understanding and all they had science

background.58% students had no understanding and they all were from humanities group.

Table 4. Few examples of understanding level regarding cell and atom

<p>Sound Understanding:</p> <p>At its most fundamental level, life is made up of matter. All matter is composed of elements, substances that cannot be broken down or transformed chemically into other substances. Each element is made of atoms, each with a constant number of protons and unique properties. Living cells produce from different combination of less than 30 elements out of 118. Body of Living things (plants and animals) consists of many kinds of cells, each specialized for a specific purpose. In spite of their enormous variety, however, all cells share certain fundamental characteristics.</p>
<p>Partial Understanding</p> <p>Cells are the building blocks of organism. These are of different sizes and shapes. Different kinds of cells are specified for their specific function. All cells have certain basic common characteristics. Few parts of cells are made up of atoms.</p>
<p>Partial Understanding with specific misconception</p> <p>Cells are structural and functional unit of organism. Due to their different size, shape and structure these are specific for specific function. Cells are dynamic because they produce a living body. Atoms (food) provide energy to cells for performing different life processes.</p>
<p>Specific misconception</p> <p>Atoms and cells are two entirely different things. Cells are structural and functional unit of living things while atoms are structural and functional unit of chemicals (matter).</p>
<p>No understanding</p> <p>Atoms and cells are same things, as enzyme in biology and catalyst in Chemistry. When we study Biology we take start from cells and when we study Chemistry we take start from atoms.</p>

7. Discussion

In Pakistan, science teachers are expected to teach fundamental science (Biology, Chemistry and Physics) concepts in primary schools. The present research findings indicate that student teachers have serious misconceptions about basic science concepts of atom and cell. Further they feel difficulties in describing how they are interlinked. West and Pines [8] discussed the situation where intuitive knowledge is well established and academic knowledge conflicts with this belief system. They noted that the student must exchange one concept for the other to resolve the conflict. [3] asserted that the various types of knowledge exist in the cognitive system. For this reason, this process is a struggle in which the strongest knowledge dominates. Thus, this study's findings indicate that, in the sample, there is an accurate understanding of cell and atom as building blocks and unit of living and nonliving things(matter) respectively but about their composition they were not clear or have false conceptions. In fact, the present study reveals that students' misconceptions about how atoms are associated with cells? concept may even affect their knowledge under investigation. Therefore, this study agrees with the results obtained by researchers [4], [5], [6]. This may stem from the explanation of their teachers and text-books. Though the idea of cells are made up of different types of atoms is usually well internalized at declarative level, cognitive scientists explain this relationship of atom and cell as a misfit between the mental image of concept and its formal definition, guaranteed to produce misconceptions [7].

The interesting findings identified in the responses of students imply that "We study atoms only in chemistry and cells only in biology", "Atoms and

cells are same things, as enzyme in biology and catalyst in Chemistry. When we study

Biology we take start from cells and when we study Chemistry we take start from atoms.", These findings have revealed that Student teachers in the ADE programs are not able to describe the relationship of atom and cell. Further student teachers in ADE program have positive attitude towards science learning and prior knowledge has reported to influence attitude and achievement of student teachers. These results are supported by researches already conducted in the area. It is recommended that for teaching science at elementary level, teacher should be science graduate and they must hold a positive attitude towards science teaching, Further Like other disciplines, there should be separate teacher education programs for future elementary science teachers and there should be a specific criteria to get enrolled in these programs.

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The Merging of Medical and Social Sciences to Explain the Impact of Environment on the Educational Achievement and Life Chances of Minority, Impoverished Children: A Literature Review

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Abstract

Medical and sociological researchers continue to study the influence man-made environmental factors have on the growth and development of children living within environmentally toxic areas. While many published theories focus on how parent, caregiver and community poverty impacts educational achievement, they frequently overlook the perinatal exposure to harmful toxins that affect the physical structure of the brain and change an individual's neurodevelopmental trajectory. Thus, the purpose of this research is to synthesize medical and sociological theories that investigate the detrimental effects of toxic locations from different perspectives, and contribute to existing literature by building a bridge between medical and sociological schools of scientific thought.

1. Introduction

It has been well documented that children living in toxic areas are bombarded constantly from conception through gestation, birth and infancy by exposure to multiple toxins through the placenta, ingestion, inhalation and dermal contact. While a direct causal link has been difficult to prove, in certain locations a “perfect storm” of environmental toxins and sociological factors result in large numbers of children experiencing barriers in their access to opportunity and positive life outcomes. In addition, entire school districts of minority, impoverished children in cities across the United States are underperforming academically in comparison to their peers. [3] [8] [10]. Researchers who focus solely on ecological theories of how impoverished children's development is negatively impacted by parent, caregiver and community have missed a vital component in understanding why children living in poverty struggle to achieve academically on par with their higher socioeconomic peers. For example, in a 2016 article, Lipina explained that a child's developmental context occurs after birth through interactions with adults and community. [4] However, this theory does not consider prenatal and perinatal

exposures to harmful toxins that impact the physical structure of the brain and change neurodevelopmental trajectory [1] [6] [8]. Epidemiological studies that focus solely on the correlation between poverty and brain development claim findings that show poverty is a reason for abnormal grey matter development in the brains of children. However, the omission of consideration of environmental toxic exposures perinatally and during childhood brings the findings into question [2].

Using new technology and knowledge, medical researchers such as Peterson [8] and Margolis [6] continue to learn new information, and build on prior studies to better understand the man-made environmental factors that cause disability and impact children and their communities. [6] [8] Concurrently, social science focuses on more holistic patterns and confounding factors that merge the environmental science with racial and socioeconomic forces. Legot [3] coined the term “environmental ascription” to explain the physical prison-like life sentence to an environmentally toxic area for impoverished children of color. This is the point of convergence where medical understanding of the causation of disability and social scientific exploration of the forces that conspire to maintain generations of poverty and diminished life outcomes occurs.

The interdisciplinary studies included in this literature review agree that minority, low income groups have higher rates of exposure to environmental toxins.

Manuel Pastor [7] and a team of environmental justice advocates and researchers conducted studies to determine if a disproportionate number of students of color in the Los Angeles Unified School District were exposed to environmental toxins due to the proximity of their schools to industrial pollutants. The results revealed a significant correlation between the proximity of TRI facilities to school and academic achievement. Pastor theorized that weak social capital caused by low socioeconomic status, leads to an inability to take part in policy decisions which leads to increased environmental health stress because

of living in proximity to environmental toxins. The health problems that result have a negative impact on educational achievement. Building upon Pastor's work, a series of studies launched in 2010 with a publication by Legot, London and Shandra analyzed the impact of high volume polluters on schools and students. The researchers contended that ascription is not only racial and socioeconomic, but also environmental. [3] Further studies narrowed the scope from national to specific cities such as East Baton Rouge, LA and Worcester, MA with "perfect storm" areas of proximity to high levels of pollution, high poverty and minority neighborhoods. [5] [9] When all ascriptive factors converge, the impact on the life trajectory of the persons caught in the web is severely limited.

The purpose of this review is to pull from both schools of thought and inquiry to bring together the research done from unique perspectives and methods to form a better understanding of the challenges faced by children bearing the brunt of environmental exposure to toxins. This knowledge is important to better inform local education agencies and teachers about the young people whom they have been charged with educating. It is also important for state and federal education agencies who craft policy and allocate funding.

1.1. Toxins

Everyone needs to breathe to survive and unfortunately, air is a vector for a large variety of particulate matter that developing fetuses and small children ingest at a greater proportion than adults due to their small size. Particulate matter is a mix of solid particles and liquid emitted from industrial sites that becomes airborne. Cities that experience hazy conditions are inundated by particulate pollution that is not only inhaled, but falls to land and pollutes soil and water. Toxic exposure manifests in children through a variety of disabling outcomes such as: Autism, Asthma, brain damage, lack of academic performance and overall limited developmental trajectory. Peterson [8] found a strong correlation between prenatal exposure to polycyclic aromatic hydrocarbons and reduced white matter across the left hemisphere of the brain. Children with damage of this kind exhibited challenging behaviors in their primary school years. While the damage inflicted upon children by exposure to air pollution is daunting in and of itself and scientists could spend many more years searching for ways to mitigate the harm done and better the lives of all people, the environment contains other toxins in the form of metals such as Lead, Mercury, Manganese, Cadmium and Arsenic. All metals are elements that occur in nature. Several, such as calcium and sodium are necessary for human physical health. Others, however, are toxic to humans and especially toxic to children. In Detroit, MI, Zhang

[10] and his team of researchers, conducted an empirical data analysis of 21,281 students in third, fifth and eighth grade in Detroit Public schools. The results revealed that students in Detroit public schools performed below the state average on standardized tests and a dose response between blood lead and test scores was established.

2. Methods

The following databases and search terms were used to build a library of published studies. To meet criteria, studies had to be empirical, published in peer reviewed academic journals and were analyzed by the author according to: purpose, participants, design, validity, reliability and results. Once a library of resources was constructed, studies were assessed by medical/sociological, location, geographic scope, type of study, toxicant and results. In addition, governmental publications from the United States Centers for Disease Control and Environmental Protection Agency were analyzed for general information and background knowledge. The following databases were searched: Academic Search Complete, American Chemical Society, CINAHL Plus, PubMed, Gale, Wiley Online Library, Research Gate, Science Direct, Google Scholar. The following search terms were used to find sources:

environmental toxins, environmental toxins and cognitive development, environmental toxins and special education, genetics and environmental toxins, DNA and environmental toxins, children and mercury exposure, children with disabilities and urban air pollution, urban air pollution and child development, special education, lead poisoning, mercury, lead, arsenic, birth cohort studies and superfund sites, exposure to environmental toxins and impact on learning, environmental ascription.

Table 1. X Resources

Author	Location	Medical/Sociological	Toxin
Chen [1]	Cincinnati	M	PBDE
Hair [2]	USA	M	Poverty
Legot [3]	USA	S	HVP
Lipina [4]	USA	S	Poverty
Lucier [5]	EBR	S	HVP
Margolis [6]	NYC	M	PAH
Pastor [7]	Los Angeles	S	HVP

Author	Location	Medical/Sociological	Toxin
Peterson [8]	NYC	M	PAH
Rosofsky [9]	MA	S	HVP
Zhang [10]	MI	S	Lead

3. Findings

After reviewing both medical and sociological research, it is abundantly clear that there are areas in the United States that are “perfect storm” locations where all ascriptive forces prevail. A person conceived in and born into one of these environments is automatically at a disadvantage to children born in other zip codes at the same moment. Proving direct causation is elusive, and no studies have found evidence that could truly pinpoint why children in impoverished locations do not achieve academically with their peers. Recent studies using DNA and MRI technologies are revealing more substantive evidence regarding observable and measurable damage to children’s brains as opposed to theorizing based on observed behavior and diminished life outcomes. [6] [8]. Hopefully, these new technologies and understandings of DNA and the human brain will lead to future discoveries that pinpoint the effects of specific toxins on neurodevelopment without question.

4. Conclusion

Aside from the question of specific causation, there is no doubt that certain areas of the United States are “perfect storms” of poverty, ill health and chronic underachievement. The studies in this review show a deepening understanding that challenging behaviors and loss of cognitive function is a manifestation of the environment, and large numbers of children are injured by no fault of their own, with no choice in where they live. They must not be abandoned or underserved by society. A neglected area of study is the level of support to local education agencies in the “perfect” storm areas by state and federal governments. It is incumbent on state and federal educational agencies to provide the local area schools with a clean environment outside and inside the school, facilities that are maintained on par with schools in higher socioeconomic areas of the state, high quality nutrition including breakfast, lunch and snack, clean water, a teaching staff that is 100% highly qualified and certified in special education, support and professional development for all staff in research based academic and behavioral strategies. Analysis should be done on aggregate and individual school performance to compare the level of

performance of students in the “perfect storm” area with their peers statewide to determine if the school would qualify as a special education institution. Any student who has a disability due to their living environment who is not performing to state and district standards should have an individual educational plan (IEP) including transition planning. Implications for future research are to discover the best methods for teaching large groups of students with chemically induced neurological damage.

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Enhancing High School Mathematics Teachers' Performances through Professional Development in Thailand

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Abstract

To improve mathematics achievements of high school students, especially the results from the national examinations, 22 mathematics teachers under the Office of the Secondary Education Area 34 in Thailand were jointed into 3 activities [training, coaching and mentoring, and professional learning communities (PLCs) online] to enhance their 6 The professional development process was conducted for 22 in-service high school mathematics teachers under the Office of the Secondary Education Area 34 in Thailand for first semester of academic year 2017. The teachers were jointed into 3 activities for enhancing their 6 performances as the table 1 below:

performances including 1) content knowledge performances

2) activity creating 3) instructional plan writing 4) teaching and classroom management

Table 1. Three activities to enhance the teachers'

5) instructional media using/ technology integrating, and 6) students' achievement improving. Because of the process of teacher development has not been completed, this article will present only the first 3 teachers' performances. The findings showed that after the teachers' training finished the teachers' content knowledge in 3 out of 9 contents were enhanced in a high level. The teachers created 21 new noticeable activities from 2 normal activities [Bingo and Tic-Tac-Toe] cover 10 high school mathematics contents. Moreover, the quality of teachers' instructional plan writing was in the good level.

1. Introduction

Supporting teachers' training is one of the best ways in high-quality professional development for teachers to improve students' learning [3]. This research study used the model of effective professional developments which composed of content focus, active learning, observing by expert

teachers, and collective participation from the same school, grade, or department [1]. Moreover, PLCs were used to promote teachers' collaborative learning, to encourage the teachers and their colleagues for implementing the collaborative learning, to support teachers' belief in their abilities to teach with new strategies, to increase teachers' participation in sharing their ideas with their colleagues in order to develop their students, and to enrich teachers' performances and their social skills [2].

Table 1. Three activities to enhance the teachers

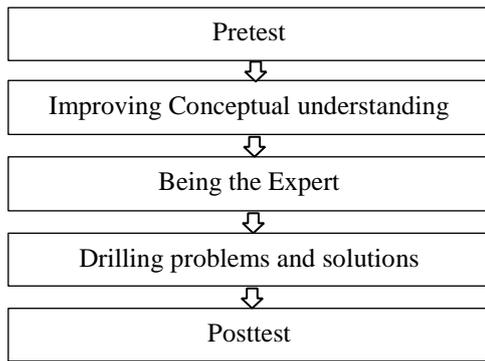
Step	Activity	Teachers' Performances
I	Training	- Content knowledges - Creating Activities
II	Coaching and Mentoring	- Writing instructional plans - Teaching and classroom management - Using instructional media/ Integrating technology
III	PLCs Online	- Community of practices

2. Three Activities for Enhancing Six Mathematics Teachers' Performances

Phase I: Training

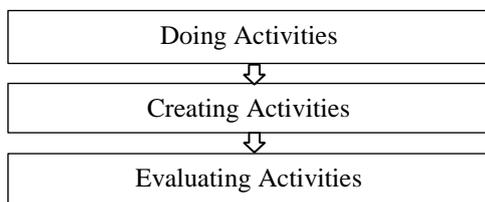
Teachers' training was provided to enhance high school Mathematics teachers' content knowledges on 9 contents and to promote teachers' activity creating based on 2 normal activity guidelines.

1) Content Knowledges



2)Creating Activities

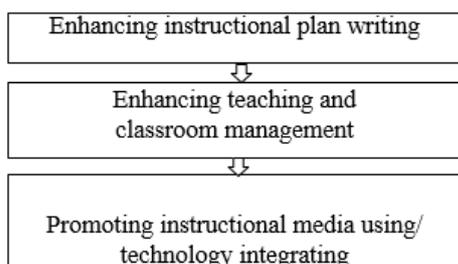
2) Creating Activities



Phase II: Coaching and Mentoring

The participants were be assigned to write 2 instructional plans and receive 2 class supervisions in term of coaching and mentoring. Researcher as supervisor provided information to enhance teachers’ instructional plan writing, teaching, classroom management, and instructional media using/ technology integrating.

Enhancing instructional plan writing



Phase III: PLCs Online

Previous and revised instructional plans were posted on social networks for teachers and experts to provide additional comments and suggestions. Each teacher’s teaching was recorded 2 times and edited to be a short clip to share experiences with each other. All teachers were assigned to comment and provide suggestions about the other instructional plan writing and teaching. Appropriate instructional plans/interesting instructional medias/challenging

problems or activities or novel worksheets/ noticeable teaching techniques/websites were shared in their social online.

After Action Review and Reflection: AARR

Community of Practices via Learning working Groups

Networking

Because the research study is not completed, only three teachers’ performances were presented namely the teachers’ content knowledges, the teachers’ ability to create activities, and the teachers’ ability to write the instructional plans.

3. Teachers’ content knowledges

At the beginning of the training, the teachers were evaluated the prior knowledge background by performing pretest. After the training, teachers did posttest with the parallel set of problems as those of the pretest. However, the problems in the posttest were slightly more difficult obviously. The findings were as follow:

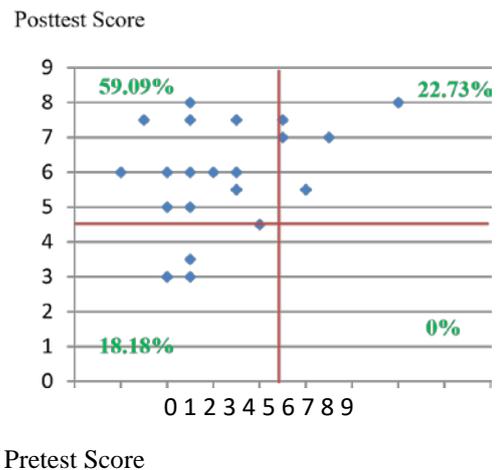


Figure 1. Teachers’ pretest and posttest score

Each point in figure 1 represents the pretest and posttest scores of each teacher. The scores were separated into 4 sections according to each teacher's score. There were 5 teachers (22.73%) who passed the pretest and posttest, 13 teachers (59.09%) who failed the pretest but passed the posttest, 4 teachers (18.18%) who failed the pretest and posttest, and nobody who passed the pretest and failed the posttest. Moreover, the findings indicated that none of the teachers got the decreasing scores.

The average pretest and posttest scores were showed in Table 1.

Table 1. The average pretest and posttest scores

Test	Mean	SD	Percent	Normalized gain
Pretest	3.27	1.44	36.33	0.567
Posttest	6.52	1.64	72.44	

The normalized gain score was equal to 0.56. It means that teachers enhanced their content knowledge 56.7% of the opportunity to enhance to 100%. Thus the level of development was in moderate level [4].

Table 2 shows the number of teachers in each level of normalized gain score. The normalized gain scores were separated into 3 levels: low [0,0.3) medium [0.3,0.7] and high (0.7,1].

Table 2. The number of teachers in each level of normalized gain score

Level	Numbers of Teacher	Percent
High gain	4	18.18
Medium gain	12	54.55
Low gain	6	27.27
Total	22	100

There were 16 teachers (72.73%) who got the normalized gain score in medium and high gain level.

The data were considered in 9 contents in order to find out what effect of the high school mathematics contents was the highest in this teachers' training.

Table 3. The pretest and posttest scores in each content

	Pretest	Posttest
Polynomial Equation	45.45	86.36
Exponential Function	27.27	59.09
Trigonometry	22.73	45.45
Sets	31.82	63.64
Reasoning	50.00	61.36
Function	54.55	90.26
Sequences and Series	22.73	90.91
Statistics	40.91	72.73
Probability	31.82	81.82

The findings pointed out that the teachers' content knowledges were enhanced in all contents especially in Sequences and Series, Function and Polynomial Equation Contents.

The data indicated that the teachers' training was the effective tool for enhancing teachers' content knowledges.

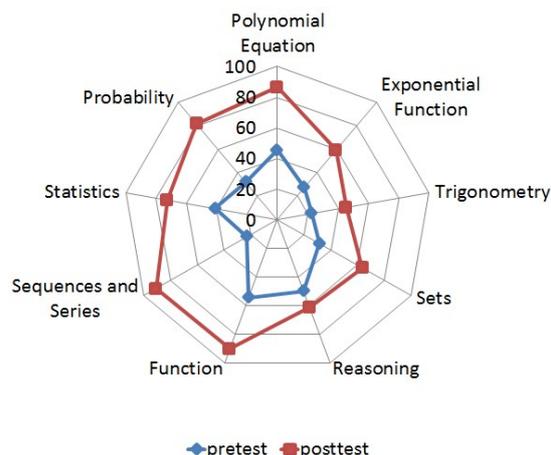


Figure 2. The pretest and posttest scores in each content

Table 4. The normalized gain score in each content

Content	Normalized gain	Interpretation
Polynomial Equation	0.75	High
Exponential Function	0.44	Medium
Trigonometry	0.29	Low
Sets	0.47	Medium
Reasoning	0.23	Low
Function	0.79	High
Sequences and Series	0.88	High
Statistics	0.54	Medium
Probability	0.73	High

4. Teachers' Mathematics Activity Creating

After the teachers did 15 activities, they were divided into 9 groups to create 2 activities based on 2 normal activity guidelines. The teachers did 3 Bingo activities and 4 Tic-Tac-Toe activities as follow:

- 1) Bingo Activities
 - Equation
 - Number Operations
 - Sets
- 2) Tic-Tac-Toe Activities
 - Number Factoring
 - Factors of Polynomials
 - Sets
 - Function Values

Figure 3 showed the examples of Bingo activity. Figure 4-6 showed the examples of Tic-Tac-Toe activities.

Mathematics Bingo Activity for high school students				
Content: Sets				
25 statements/numbers/symbols to put in 4x4 table				
Infinite set	Finite set	\varnothing	\cap intersection	\cup Union
'	- difference	\notin	\subset	\in
\notin	=	\cup	<	>
2^n	$2^n - 1$	0	1	3
4	7	16	29	32
Set of 25 questions about "Sets"				
Question		Answer		
$\{1, 1, 1, 1, 1, \dots\}$ is a finite /an infinite set		Infinite		
		set		
(1,2) is a finite /an infinite set		Finite set		
If $n(A) = 2, n(B) = 3$ and $n(A \cup B) = 5$ then find $A \cap B$		\varnothing		
Suppose that $A = \{1, 3, 5, 7, 9\}$ and $B = \{1, 3, 5\}$ then $A \dots B = B$		\cap		
If $A \subset B$ then $A \dots B = B$		\cup		
Where U is the universe, $U \dots = \varnothing$ and $\varnothing \dots = U$		'		
If $A \subset B$ then $A \dots B = \varnothing$		-		
If $A = \{\varnothing\}$ and $n(B) = 0$ then $A \dots B$		\notin / \in		
$\varnothing \dots A$ where A is any set		\subset		
0..... A where A is the set of an even numbers		\in		
1331..... A where A is the set of an prime numbers		\notin / \in		
$A \subset B$ and $B \subset A$ then $A \dots B$		=		
If $A = \{1, 2, 3\}$ and $A' = \{4, 5, 6\}$ then = $\{1, 2, 3, 4, 5, 6\}$		\cup		
If A and B are finite sets where $A \subset B$ and $A \neq B$ then $n(A) \dots n(B)$		<		
If A and B are finite sets where A is the proper subset of B then $n(A \cup B) \dots n(A \cap B)$		>		
If A is a finite set and $n(A) = n$ then $n[P(A)] = \dots$		2^n		
If A is a finite set and $n(A) = n$ then find the number of the proper subset of A		$2^n - 1$		
Suppose that $A = \{x \in \mathbb{N} \mid (x+1)(x+2) = 0\}$ Find $n(A)$		0		
If $A = \{1234\}$ then find A		1		
If $n[P(A)] = 8$ then find $n(A)$		3		
Suppose that $A = \{\varnothing, \{\varnothing\}\}$ then find $n[P(A)]$		4		
Suppose that $A = \{\varnothing, 2, \{1, 2\}\}$ then find $n[P(A) - A]$		7		
Suppose that $A = \{2, 4, 6, 8, \dots\}$ $B = \{x \in \mathbb{I} \mid x < 33\}$ Find $n(A \cap B)$		16		
Suppose that $A = \{\varnothing, 1, 2, \{1, 2\}, \{\{1, 2\}\}\}$ then find $n[P(A) - A]$		29		
Suppose that $n[A] = 5$ then find the number of subset of A		32		

Figure 3. Example of Bingo activity: Sets

{1,4}	{1,2,4}	{2,3,5,6}	\emptyset	{1,3,4,5,6}	{2}
{2,5,6}	{2}	{2,5,6}	{2}	{1,2,4,5,6}	{3}
{3}	{1,3,4}	\emptyset	{1,4}	{1,4}	\emptyset
{1,4}	{1,4}	{3}	{2}	{1,2,3,4,5,6}	{1,2,4,5,6}
{1,2,3,4,5,6}	{1,2,3,4,5,6}	{3,5,6}	{2,3,5,6}	{2,3,5,6}	{1,4}
{2}	\emptyset	{3}	{1,2,3,4,5,6}	{3,5,6}	{5,6}
-	\cup	\cap			

$A = \{1,2,4\}$
$B = \{1,4\}$
$C = \{2,5,6\}$
$A' = \{3,5,6\}$
$B' = \{2,3,5,6\}$
$C' = \{1,3,4\}$

Figure 4. Example of Tic-Tac-Toe activity: Sets

-1	1	3	3	17	11
14	36	23	13	-4	15
5	9	11	7	17	81
8	16	25	9	20	0
49	15	19	11	23	1
2	5	7	5	19	64

0
1
2
3
4
5
6
7
8
9

$f(x) = x^2$	$g(x) = 2x + 1$	$h(x) = 3x - 4$	$s(x) = 4x - 1$
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Figure 5. Example of Tic-Tac-Toe activity: Function Values

$x^2 + 2x$	$x^2 - 1$	$x^2 + 2x$	$x^2 - 3x + 2$	$x^2 - 2x - 3$	$x^2 - x$
$x^2 + 2x + 1$	$x^2 - 2x$	$x^2 + x - 6$	$x^2 - x$	$x^2 - x - 6$	$x^2 + 4x + 3$
x^2	$x^2 - 3x + 2$	$x^2 - 3x$	$x^2 - 4$	$x^2 + x - 2$	$x^2 - 5x + 6$
$x^2 - x - 2$	$x^2 + 3x$	$x^2 - x - 2$	$x^2 + 5x + 6$	$x^2 - 4x + 3$	$x^2 + x$
$x^2 - 2x + 1$	$x^2 + x$	$x^2 + 3x + 2$	$x^2 - 9$	$x^2 - 4$	$x^2 + 4x + 4$
$x^2 - 2x$	$x^2 + 2x - 3$	$x^2 - 4x + 4$	$x^2 - x - 2$	$x^2 - 1$	$x^2 + 3x + 2$

$x + 3$
$x + 2$
$x + 1$
x
$x - 1$
$x - 2$
$x - 3$

Figure 6. Example of Tic-Tac-Toe activity: Factors of Polynomials

After the teachers did 3 Bingo activities and 4 Tic-Tac-Toe activities then each group had to create the new Bingo and Tic-Tac-Toe activities. After that they had to evaluate all created activities to find the quality level.

The results showed that the teachers created 12 new Bingo activities cover 7 high school Mathematics contents including Statistics, Probability, Sequences and Series, Calculus, Real numbers, Trigonometry, and Exponential functions. Besides, they created 9 new Tic-Tac-Toe activities cover 6 high school Mathematics contents including Functions, Permutation and Combination, Sets, Factorials, Logics, and Trigonometry. The qualities of all created activities were in good and excellent level.

5. Teachers' Instructional Plan Writing

The participants were be assigned to write 2 instructional plans. Each instructional plan was evaluated in 10 aspects. The findings showed the quality level of the first instructional plans of 16 teachers out of 22 teachers in Table 5.

Table 5: the number of teachers in each quality level of instructional plan writing

Level	Number of Teachers	Percent
Extremely High	8	50.00
High	5	31.25
Fair	3	18.75
Low	-	-
Extremely Low	-	-

6. Conclusion

The effective students' learning is dependent on the teachers' quality, thus, enhancing teacher's quality is vital in improving the students' achievement. The process of professional development for teachers has to consist of 1) teachers' training which focusing on enhancing the teachers' content knowledge go together with enhancing their ability to create the novel activities 2) coaching and mentoring: experts/mentors/experienced teachers can be driven to develop teachers quickly 3) PLCs: teachers' collaborative learning is an important mechanism to achieve sustainable development.

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Session 37: Inclusive Education and Practices

Title: Disability-inclusive Education Using M-learning: A Case of Study in Spanish Secondary Special Schools
(Authors: M. Teresa Villalba, Guillermo Castilla, Juan J. Escribano, Enrique Puertas)

Title: Zoos or schools? A Bourdieuan Analysis of Educational Provision for Students with Intellectual Disabilities
(Authors: Joseph S. Agbenyega, Sunanta Klibthong)

Title: Utilising an International professional learning Immersion Program to Enhance Special Education Teachers' Professional Knowledge
(Authors: Sunanta Klibthong, Joseph S. Agbenyega)

Title: School Managers Practicing Caring Leadership: A Case of Rural Female Principals
(Author: Tshilidzi Netshitangani)

Disability-inclusive Education Using M-learning: A Case of Study in Spanish Secondary Special Schools

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Abstract

This paper presents the results obtained in the design and development of a Digital Storytelling based app to help children and young people with developmental or intellectual disabilities (IDD) to learn their rights. During its design and development there has always been feedback from students with IDD. This paper presents the results obtained and the lessons learned on physical and cognitive accessibility after a first implementation experience in 15 Spanish special education secondary schools with 138 children and youths with IDD. The results show a significant learning of their rights and a high motivation in the use of the app.

1. Introduction

Access to information and communication for people with disabilities is set out in the Convention on the Rights of Persons with Disabilities (CRPD) [1]. Member States must ensure such access. However, people with intellectual or developmental disabilities (IDD) have special characteristics that must be taken into account, both in the applied educational methodologies as well as in the techniques themselves.

Recently, different experiences in the use of digital technology for education have been reported to present positive outcomes both in students' learning performance and in their motivation. However, people with IDD encounter difficulties in the use of electronic media, not only in the interaction with the media or its accessibility, but also in the understanding or usability of the information. Excessive amount of windows, marks or other elements, as well as sounds and short response times, make IDD users feel stunned and frustrated. Therefore, avoiding the use of elements that may distract unnecessarily, taking typologies, color and sizes of the fonts into consideration, or designing click areas large enough for people with low motor skills to use them properly, are some of the measures that must

be taken into account when designing interfaces that can be easily used by people with IDD.

Although there are guidelines for the development of accessible digital applications, there is a lack of research on how people with IDD access this information and are able (or not) to read into it. There are guidelines to follow, some of them empirically tested, but no empirically proven explicit guides have been found.

In this article we will detail the experience carried out in the design and development of an app for people with IDD. The article is organized as follows: in section 2 we analyze the preexisting literature; Section 3 details the design and development of the app; Section 4 presents the research methodology and the analysis of the data obtained; and, finally, section 5 lists the conclusions found in this paper.

2. Literature review

Articles 4, 9, 20, 21, 24, 26, 29 and 32 of the Convention on the Rights of Persons with Disabilities by the United Nations Secretariat "involve ensuring that products and services are available, affordable, and adequate for all persons with disabilities who need them" [1].

At the level of the European Union, the European Commission's 2010-2020 Disability Strategy: A Renewed Commitment to a Barrier-Free Europe, published by the European Commission, states that "EU action will support through the «ET 2020» framework, European efforts in education and training, national efforts aimed primarily at removing legal and organizational barriers to people with disabilities in general education and lifelong learning systems; Support timely inclusive education, personalized learning and early identification of special needs, and, finally, to provide adequate training and support to professionals working at all levels of education and to report on participation rates and outcomes " [2].

Concrete efforts by the Union to promote technological accessibility can be seen in projects

such as the development of the European Standards Guide to make information easier to read and understand [3]. This has given rise to research on accessible web design for IDD (among which the efforts of the Austrian researcher Matausch and collaborators stand out) [4] [5], which make concrete recommendations for certain types of disability such as Down Syndrome [6] but that in no case present an analysis of experimental usability data [7].

The concrete actions carried out in Spain in this sense arise both from the central state and from the autonomic governments. General rules are laid down which specify the general European legislation for the Spanish scenario. The UNE Standard 139803: 2012 Accessibility requirements for content on the web, stands out for its magnitude [8]. Approved in July 2012, it establishes accessibility requirements for web content. Regarding its requirements, it refers completely to three pre-established Spanish Standards covering the subject: the Web Content Accessibility Initiative (WAI), WCAG2.0 and the Web Content Accessibility Guidelines (W3C). This standard update the UNE 139803: 2004.

The administration also collects mobile and tablet device application indexes specifically targeting cognitive training and communication [9]. It has not been possible to find a guide targeting or describing specific strategies for different types of IDD, nor any guide that proposes the design of accessible interfaces for applications, although there are publications that recognize their need [10].

3. Mobile app to teach human rights

The application, called Aprender (in English: learn rights) was designed using the principles of the digital Storytelling methodology. The advantage of storytelling methodology is that facilitates the understanding of each human right by adapting it to real stories in which young people can feel identified in their daily life. The objective was to allow the direct application to their everyday situations and to promote reflection.

The vignettes were elaborated by a professional illustrator and graphic language specialist in people with IDD, and the stories were created by involving a group of 10 final users, females and males with ID, with the aim of creating comprehensive and significant stories for them. All the pictures were elaborated taking into account the gender perspective in the characters, and in the role they represent. Moreover, the cognitive accessibility principles were considered in the development of the project. The design of the app considered the difficulties of some of these persons with reading, complexity or memory. Finally, the vignettes were validated regarding their comprehension by a group of 8 final users, and modifications were included in the final version.

Once they were finished, the stories and their vignettes were converted into a mobile web app. To do so, a script was created for every right indicating each scene with the sequence to follow, and the actions.

We used iterative and incremental development to design and develop the app. This development process consists in develop the software in an incremental way and through cycles. After each cycle a user validation is performed and the results obtained are used for the next phase of the development. As the research of specific applications for children with IDD is yet in an early phase, this methodology helped us to confirm (or not) our advances in the development. During the design and development process 2 cycles and its corresponding user validations were conducted. The final app is composed of 23 interactive stories representing each one of the 23 rights defined in the UN convention on the rights of persons with disabilities.

The first cycle of development and validation of the app was a pilot carried out with 20 youths with IDD. Observation was used as method to collect data. In addition to the facilitator, an observer per student was assigned, and they rotated among students in intervals of 15 minutes. At the end of the validations, informal discussions, first with individual students, and then with the whole group were carried out. We invited them to share their opinions about the app, and which improvements they would like for future versions. A total of 12 hours of observation were documented, and a qualitative research was carried out. With the conclusions obtained from the qualitative analysis, a focus group with facilitators was carried out with the aim of obtaining clarification and collaboration about the design and development decisions for the next cycle of development. In the focus group the conclusions from the pilot were used as script of the session. We were interested not only in the comprehension, or not having lost it in the transformation of the initial stories to web format, but also in accessibility. Facilitators clarified the information, and future improvements were discussed and prioritized. The main modifications proposed to carry out were:

- Improve the comprehension of 4 of the 23 rights. In two of them the low comprehension came from the sequence followed by the vignettes. The others were about the colors used (red color was replaced to avoid confusions with the click area).
- Background sound effects, used to improve understanding about the situation being described, subtler to avoid distraction from the meaning of the vignette
- Louder sounds when a user clicks out of the area to help them to continue

But, above all, the discussion was focus on how to improve the way to go through the different screens. Traditional method with the finger pointing the click

area, was not working fine. Some users had difficulties identifying that area, and others needed too much time to succeed with the click to go to the next screen. As conclusion, three different ways of going through the different screens were proposed with the aim of being tested:

1. A hand with the forefinger indicating where to click, and an area surrounding the hand
2. A red halo blinking during 3 seconds surrounding the clickable area
3. Both, the hand (without surrounding the hand) and the blinking red halo, indicating the click area and drawing attention about the most important image of the picture to improve comprehension.

The red halo was used to highlight the most important part of the vignette with the aim of improve the comprehension of the human right. Sometimes this area was the action, others (usually the last vignette) the expression of the character.

This new version was tested again by a group of 12 final users (children studying in secondary school with IDD). The sample covered different levels of digital skills with the aim of exploring the accessibility of the mobile app depending on their frequency in the use of Internet. The method used to collect the information was like the previous one: observation while the final users use the app with facilitators, and then focus groups with the facilitators to clarify the conclusions and find together how to improve the app. As conclusion, the scenario that resulted in a better understanding was the third. In this scenario, some improvements were proposed too:

- Bigger click areas to make easier clicking.
- Click area blinking all the time. This element resulted in a significant improvement in the understanding of the stories.
- Change the red halo in some vignettes to improve the comprehension.

As conclusion from the qualitative analysis, we can affirm that, the level of frequency in the use of the Internet, affected to the learning curve, but not to the comprehension of the right or the accessibility. That is because, once the users with lower digital skills had practiced with the app, they were able to be used it with no difference regarding students with higher level of digital skills.

Since there were not significant changes, no more validations were carried out. Figure 1 shows a screenshot of the app.

3.1. After all the validations, the current version has the following characteristics:

- Students must click on the area of the story in which the event is happening to be able to move to the next vignette. In addition, to give time to understand the situation drawn in each vignette, the user must wait for sound (bell)

and visuals (flashing red frame) signals before he can click to move to the next bullet.

- The visual identification also tells the user where to click.
- To help with the identification of the actual situation to which the story makes reference to, background sounds were added. After several trials, these sounds were selected so they did not affect to the user's concentration. The volume had to be set low to do so.
- Subtle sounds were added to help focus attention through on another repeating channel, the ear
- Animated arrows were incorporated too, to help focus attention on the action that is happening.
- A ball goes forward 1 hole per screen indicating where they are and how many screens are left, as an incentive to continue. As shown in Figure 1, the image was defined in a simple way with the aim of not to remove the attention of the image.

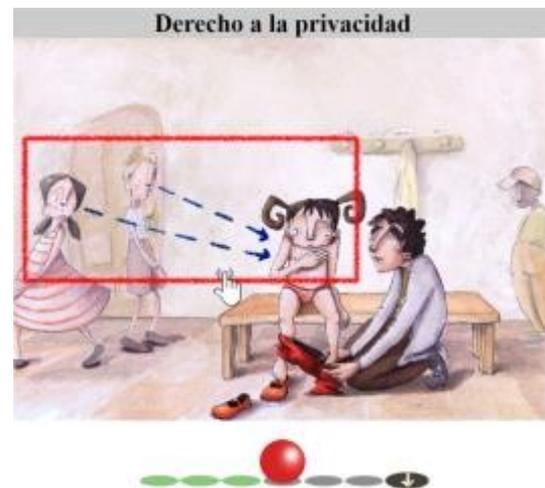


Figure 1. Screenshot of the human right to privacy

4. Research methodology

After validations, the final version above described was made available to secondary educational schools.

The study was carried out in 15 Spanish special secondary education schools and a total of 138 children and youths with moderate IDD with age between 12 and 21. The mean age was 16 years old, with a 36.37% of female and the rest male. A 77.47% of them responded that they usually used Internet.

Our hypothesis was that the use of the app could improve the learning of the human rights in special secondary education schools. To test this hypothesis quantitative analysis was used to evaluate the learning outcomes. The instrument used was pre-test/post-test. Although human rights are addressed in the local associations belonging to Plena inclusion, this was a new experience in schools, so there was no previous method to teach the human rights of people with disabilities to compare with.

The pilot took 3 months to study the 23 human rights. First, students were registered in the mobile app, and helped by the facilitators to take the pre-test. Then, the study of the 23 rights was started with the use of the app. Finally, the last week students were helped to take the post-test.

Pre-post tests were designed based on Bloom's taxonomy to distinguish among different levels of capability, but adapted to the specific conditions. Three kind of questions were considered for each human right:

- Knowledge: the student knows or not about the rights of the UN Convention.
- Comprehension: the student identifies each right with the situation
- Application: the student answers what they would do in a similar situation.

As shown in Table 1, the values of Cronbach's alpha for internal consistency were for total and for the three considered dimensions (knowledge, comprehension and application) in pre-test and posttest greater than the minimum value commonly establish for good reliability (0.7) [11]

	Pre-test	Posttest
Knowledge	0.732	0.868
Comprehension	0.983	0.987
Application	0.975	0.988
TOTAL	0.989	0.993

Table 1. Cronbach's alpha values of pre-test/post-test

For testing the hypothesis, a Student's t-test for paired samples was used to test mean differences between knowledge, comprehension and application of the human rights for people with disabilities before and after the intervention. Mean differences in the two dependent measures were tested for significance at the 0.01 level. Results showed statistically significant differences in the post-test compared to pre-test variables, in both knowledge, comprehension and application variables, meaning that we can conclude with a 99% of confidence that the learning of their human rights improves after being exposes to the use of the app Apren-Der in special secondary education schools.

A question was added to the post-test in order to know about the motivation in the use of this kind of app for learning. All students were enthusiastic about the use of a mobile app for learning, so the motivation was high. All of them (100%) reported to prefer this method against the traditional method (UN easyreading guides).

On the other hand, a final focus group was organized with teachers with the aim of know areas to

improve, as well as future characteristics to add. Among the main conclusions, it is worth highlighting the following:

- The development of support guides for teachers, in order to help them to integrate the app in their instruction, and with activities to support the learning of the human rights in line with the app. The main aim was to generate reflection.
- Support guides for families to encourage the use of the app in their homes.
- Add game elements to the app, to improve the engagement once they have used the app with several rights.

5. Conclusions and future work

In this work an app has been designed and developed so that young people with intellectual or developmental disabilities can learn their rights in order to be able to exercise them in the future.

The app has been designed and developed from the start with the feedback of people with IDD and carrying out continuous validations to assure its physical and cognitive accessibility. This is a very costly process due to the lack of standardized and validated guides to cognitive accessibility, and to the difficulty to obtain specific guidelines due the wide range of currently listed intellectual or developmental disabilities.

After the testing experience in 15 Spanish special education secondary schools and 138 children and youths with IDD, we can conclude that there is a significant advance in both the knowledge of rights and in their identification and understanding.

The main lesson learned from this experience is the need to use the app in an integrated manner: with related classwork and classroom activities that allow student reflection. In addition, young people need to see some of the rights exercised in different contexts before being able to deeply understand their meaning and thus be able to extrapolate it to their own experiences.

Another important finding is that the level of digital skills has not significantly influenced the use of the app. The only difference in this case has been that students with a lower level of Internet use have had a greater learning curve than those that started off with a higher level. This points at the possibility that the accessibility of the application both before and after the qualitative results is high for all students regardless of their level of affectation.

As a future line of work, the improvements described in this paper will be included in the app and its scaffolding documents, such as support guides for teachers and families. In addition, gaming elements will be included to improve engagement and avoid monotony.

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Zoos or Schools? A Bourdieuan Analysis of Educational Provision for Students with Intellectual Disabilities

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Abstract

Pierre Bourdieu's social theory offers a critical lens of making sense of the contested field of educational provisions for students with disabilities. Education for students with disabilities is situated in international legislations on children's rights to quality education, and governments are accountable for ensuring that all children, including those with disabilities, have access to quality education. The most important focus of our paper concerns the ways teachers in two special schools conceptualise students with intellectual disabilities as needing inferior education, or schools that serve as "peeping entertainment" spots. Education for everyone is about trying to achieve valued goals. From a Bourdieuan philosophy, these goals are regarded as forms of capital that we all need to participate responsibly and effectively in solving everyday life issues we encounter as social beings. Educational goals and the processes for acquiring them vary for every individual. Whereas some students may find these processes less complicated, social and cultural forces may complicate other students' educational prospects.

In this paper, we report on a single case study conducted in two special schools in two different geographical regions of Ghana. The research was driven by two questions: How are the case study schools paying attention to students with intellectual disabilities' becoming? What attempts are being made to develop the skills and capabilities of students with intellectual disabilities to thrive in the world they live? We adopted a comprehensive sampling to invite all the teachers from both schools to participate in the study. We spent two weeks of observation in each school setting coupled with face-to-face interviews with 12 teachers for an average of 35 minutes.

To gain insights into the data we applied Ritchie and Spencer's (1994) framework analysis approach and linked our theoretical interpretations to Pierre Bourdieu's philosophical ideas. Three key themes emerged from our data analysis - "The Zoo Schools, Disruptive Being and Uncertain Becomings". Pierre Bourdieu's philosophical concepts of habitus, capital and field enabled us to explore and question teachers' easy assumptions that students with intellectual disabilities must eat, play, do funny things and stay in schools with the belief that these students do not have prospects for social inclusion. Our analyses demonstrated that the provision of education for students with intellectual disabilities is a contested field complicated by teachers' informal personal assessments based on their habitus. Further evidence in our data suggested that the teachers concentrated on the students' supposedly inability to learn rather than learning as the process of developing the dispositions about how to live successfully in the world of other people. We identified that the 'game at play' is decontextualised learning, similar to those found in zoos where the inhabitants are removed from their natural environment into captivity. Although the number of participants is small, the findings point to a redefinition of symbolic relations, that is, the ways in which students with intellectual disabilities are perceived, conceptualised and educated. It is through this redefinition of rights-based symbolic relations that teachers can move beyond the medical-clinical perspective to recognise the real potential in students with intellectual disabilities for better education.

Utilising an International professional learning Immersion Program to Enhance Special Education Teachers' Professional Knowledge

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Abstract

Within special education, beliefs about children with disabilities, knowledge and knowing, that is, cultural and epistemic beliefs of teachers have been linked to professional practice. This study aims to contribute to knowledge in this area by investigating special education teachers' cultural and epistemic beliefs in the context of local and international professional learning immersion programs. Our specific focus is to find out whether teachers' beliefs about children with disabilities and their own professional capabilities might be transformed through participating in a collaborative international professional learning immersion program. Our study also addresses the issue of practical and in-depth knowledge that is rarely possible through traditional teacher education programs. In doing this, we draw on Inclusive Pedagogical Approach in Action (IPAA) framework developed by Florian and Pratt to interrogate that data we generated. Participants were 16 Thai special education teachers from 16 different special schools across Thailand who were nominated by the Director General of Special Education in Thailand. The sample included three males and 13 females with a mean age of 36.5 years. We collected data through pre- and post-professional learning workshop interviews and teacher professional journal entries about their participation in the immersion program. Thematic analysis of the data was linked to an Inclusive Pedagogical Approach in Action (IPAA) framework for in-depth sense making. The findings suggest transformations from tradition, culture, and religion to scientific thinking; from incapability and fear to courage and influence; and from rigid self-centered practice to ideas about interprofessional networking. Although the study cannot be generalised to the special education teacher population in Thailand, it provide a snapshot of the implications of how to make professional development relevance to the specific needs of teachers through expert teacher mentoring in order to transform their knowledge beyond their traditionally held beliefs and practices.

School Managers Practicing Caring Leadership: A Case of Rural Female Principals

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1. Introduction

There seems to be a challenge to caring in schools and the structures of the current schooling system seem to be working against it. Research by Noddings [21] on forms of care shows that there is a challenge of care in schools and the need for care is enormous. In the two decades since South Africa attained political freedom, much has improved including areas such as healthcare, social welfare and education. Arguably in education, many learners have been negatively affected by factors such as poverty and the absence of parents. There has never been a time when caring from teachers has been needed the most as it is now.

Since South Africa attained political freedom, much has improved including areas such as healthcare, social welfare and education. Arguably though, in education many learners have been negatively affected by factors such as poverty and the absence of parents. There has never been a time when caring has been needed from teachers.

It is critical for organizations to maintain a gender balance in management because this addresses a number of aspects within the organization. Women managers bring various fundamental values within the organization. Lumby and Azaola [14] declare that the qualities of motherhood in women can have implications for many other contexts in life. They point out that women have become actors who build meaning as they try out different strategies in their interaction with children. Some principals use this mothering characteristic to enrich their managerial experiences. The Grant Thornton Report [8] emphasizes the gains of parity in organizations. This report goes on to point out that a recent review of 100 companies against Organizational Health Index found that companies with more than three women in top positions scored higher than their male peers. Therefore, organizations can benefit when there are more women at the helm. Female representation at top management has a potential to engender enhanced motivation and commitment in lower-level women managers “leading them to improve their individual performance and contributions to the managerial

groups to which they belong” [4], p. 9). School principals too as managers, can bring a difference in schools by caring.

Moreover, in the South African context, the Norms and Standards for Educators [31], published in terms of section 3(4)(f) and (1) of the National Education Policy Act 27 of 1996, recognizes an effective and well-defined pastoral role as one of the seven roles of a competent and a qualified educator [30], [32]. One of the most important roles of the school teacher is to help learners pastorally. The term pastoral signifies more than just giving thought provoking and stimulating lessons; it means being concerned with the wellbeing of the learner.

This study focused on a woman who works at a rural setting. Debatably, there might be more challenges to women working in South African rural areas. Their conditions might be very different from their urban counterparts. However, their gender challenges are similar. As the world tries to reconstruct a teaching and learning culture, recovering commitment to learners’ best interests should be central to how we view appropriate leadership practices. This may well mean recognizing the important contribution women have to make in their caring nature.

This article presents the findings of an exploratory qualitative study conducted to understand how women principals practice their leadership. It uses the subjective accounts of six women who are principals of secondary schools in Venda, Limpopo Province in South Africa. Poststructuralism was used as a theoretical lens to understand their encounters in their managerial positions. It offers an exposition of how women principals, in their multiple ‘identities’ face contradictions and ambiguities in their managerial positions. Not only powerless as women; not necessarily powerful as principals and middle-class professionals; and not only oppressed as African wives and mothers.

2. Conceptual-Theoretical Framework

The theory of 'female' style of management is fervently debated globally [34], [11], [10]. In the same way that women are not a homogenous group, women managers are also a diverse group and may operate using a variety of managerial styles depending on the various situations in which they find themselves in. As expressed by Blackmore [2], the theory of a woman's style of management risks creating a meta-narrative that is universalizing the category of women and idealizing characteristics such as self-sacrifice and caring. Moreover, to succeed in male environments many women managers are forced to adopt the male *modus operandi* [36]. Interestingly, as indicated earlier by Holmes [9], a large body of research confirms distinctive patterns of women's communication across diverse contexts. Katuna [13] cautions that reporting on the differences of women's communication styles should not be considered as 'gender essentialist' because the researchers explain why women may have developed the feminine style.

Currently, there is a move towards recognising female management styles as effective and critical for organizations to succeed and the reason for this move is that female management styles are said to be more in agreement with the transformational style of management [15], [33]. Research in leadership and management argues that transformational leadership is associated with successful contemporary organizations [7]. The same sentiment is expressed by Noddings [23] when stating that "...it is time for the voice of the mother to be heard in education".

This paper leans largely on Nodding's explorations of the ethics of care [17]. I have used her understanding of the theory of care and its relationship to schooling, welfare, and to learning and teaching within families. As a philosopher, Noddings differentiates between caring-for and caring-about. She contends that caring-about needs more consideration. We first learn what it means to be cared-for. "Then, gradually, we learn both to care for and, by extension, to care about others" [19]. Noddings further shows that this caring-about, is practically undoubtedly the foundation for our sense of justice. She advises that those who care about others in the justice sense must keep in mind that the objective is to ensure that caring actually occurs. Caring-about is empty if it does not culminate in caring relations [19].

In caring relations, both the carer and the cared-for play a part. The caring one is attentive. This attention, which Noddings calls "engrossment" in caring [16], is receptive; it receives what the cared-for is feeling and trying to express. This means that the cared-for recognizes the caring and responds in more or less a noticeable way. Noddings [19] warns that relational caring is difficult where individualism is emphasized. Relational care is even more difficult for people in

cultures who have been taught to believe that the teacher knows best [19]. She therefore argues that even though there are some things that children must learn, caring teachers listen to learners and help them to acquire the knowledge and attitudes needed to achieve their goals.

According to Noddings [18] caring relations provide the foundation for successful pedagogical activity because as teachers listen to their learners, they gain their trust, learn about their needs, working habits, interests, and talents. They also endeavor to improve their competence as they realize how much more than the standard curriculum is needed.

Noddings [16] makes a significant contribution to our appreciation of education. She has been able to demonstrate the significance of caring and relationship both as an educational goal, and as a fundamental aspect of education. Widely, she understands education as a central element of instilling an element of caring in society. She defines education as "a constellation of encounters, both planned and unplanned, that promote growth through the acquisition of knowledge, skills, understanding and appreciation" [19]. Educational managers and teachers are therefore faced with an enormous task of establishing caring relations. In their leadership school principals should exercise caring and in their teaching teachers should be caring. According to Noddings [20], [22], education from the care perspective has four key components which are modelling, dialogue, practice and confirmation.

Modelling is important in caring. School managers and teachers have to show how to care in their own relations with those they care for. Noddings [17] argues that they do not merely tell them to care and give them texts to read on the subject, they demonstrate their caring in relations with them. According to Noddings [22], modelling is crucial because the capacity to care may be dependent on adequate experience in being cared for.

Noddings [22] explains dialogue as a common search for understanding, empathy, or appreciation as it is always a genuine quest for something undetermined at the beginning. Dialogue gives children the opportunity to question "why". Noddings [19], [22], [23], [24], emphasizes that dialogue is characterized by openness and it would be impossible to model caring without engaging in it. In addition, dialogue can thus help teachers and students to evaluate and better understand their own relationships and practice. In other words, it allows principals and teachers to evaluate their attempts to care. Noddings [17] adds, "as we try to care, we are helped in our efforts by the feedback we get from the recipients of our care". Therefore, principals and teachers must talk to learners as well as listen to them. It is important to note that the cared-for grow when there is dialogue.

Practice is another aspect of caring. Learners need opportunities to practice caring and such opportunities

should be provided to them [23], [24]. Noddings [17] further contends that the experiences in which we immerse ourselves tend to produce a 'mentality'. Therefore, Noddings [22] argues that attitudes and mentalities are shaped, at least in part, by experience. In order to produce caring people, learners should be allowed to practice in caring and reflection on that practice.

Another important component of the ethic of caring is confirmation. This particular component, as it is suggested, sets caring apart from other approaches to moral education. It interacts with dialogue and practice because one cannot confirm a child unless one talks and engages in cooperative practice with him [23] When we confirm someone, we identify a better self and encourage its development. To do this we must know the other party reasonably well. Otherwise we cannot see what the other is really striving for, what ideal he or she may long to make real. "We do not confirm people in ways we judge to be wrong" [17].

The following section presents the research methodology employed in the study on which this article is based.

3. Methodology

The case study on which this paper is based explored the subjective accounts of six women who are principals of secondary schools in Venda, Limpopo Province in South Africa, in order to understand how they came about to being principals. I also tried to tease out which aspects of these subjective experiences might be explained through the frame of gender and what aspects of their experiences might be common to any principal; male or female. Qualitative research was used in understanding women educational managers' experiences. Interviews were used to gather data because of its adaptability. Semi-structured interviews with open ended questions were employed in order to allow the interviewees to use their own ways of defining their own worlds and to raise other issues that are important to them which may not be contained in a schedule prepared by a researcher [1]. Cohen, Manion and Morrison [3] also emphasize that the qualitative interview enables the participants to project their own ways of defining the world. [3]. (ibid) also maintain that it permits flexibility rather than fixity of sequence of discussions and it also enables participants to raise and pursue issues and matters that might not have been included in a pre-devised schedule.

I first conducted a pilot interview with one participant. The other participants were then interviewed using the same set of issue-oriented questions. In order to establish rapport and trust, all women principals were interviewed twice during the course of the study.

Recorded data were transcribed and themes were identified to provide a visual road map to construct thematic accounts. The interview data had not been edited for expression. However, because the participants were second language English speakers, the data were partially edited for linguistic accuracy to eschew from incomprehensible meaning of what they expressed. However, I did not completely alter the style and rhythm of the participants' speech patterns. As researchers, in dealing with the subjective material, we were not in any way trying to discover the 'true attitude or sentiment' [27] of the participants, as people can and do hold conflicting sentiments at any given time according to the situations in which they find themselves. Consequently, the context of the production of the interviews was intrinsic to understanding the data that were collected.

This study did not set out to establish the views of male principals, not because these were insignificant, but rather to avoid women's experiences diminishing beneath the credence of androcentric viewpoints. In this, men are not viewed as the adversary; after all, gender is a relational concept that is constructed by both women and men. The participants' words and experiences have been foregrounded as worthy of attention, independent of the views of men. The following section presents the discussion on the findings of the study. To protect their identities, the principals were given pseudonyms.

4. Findings and Discussion

The study findings revealed that the women principals, in their leadership as managers and as teachers, displayed caring to the students. The principals' responses which support these findings will be reported in indented paragraphs. This will be discussed under the following themes: nurturing nature, reconstructing teacher culture, management style, issues of power, and their actions for the benefit of the children.

5. Nurturing nature

For women to be nurturing in their work environment, it is seen as a weakness instead of strength. This is in agreement with the general perception about everything feminine being referred to as a weakness [25]. Moreover, the view that the "ethics of care" is specific to women, as opposed to the "ethics of justice" which is specific to men, is challenged by other researchers and labelled as divisive and contentious because it essentializes women and men [28]. Indeed, one must see gendered attitudes not only as having problematic effects, but also as having positive effects. For example, being a caring and soothing mother goes hand in hand with discipline and control attributes that are good for any school principal; male or female [25]. Thus, when

women enter into managerial ranks, they obviously transfer these skills, including communication skills. This argument seems to suggest that women get things done by exerting influence rather than through direct control.

During interviews with women principals, it was striking how they expressed their genuine interest in the learners' welfare. Whatever action they took; it had to be "for the benefit or the child". As part of socialization, women are taught by parents at home and teachers at school to be nurturing and caring. The teachers' comments about Jane's (principal's pseudonym) concern for the children were certainly gendered. But this should not suggest that men are not caring. The point is that women are socialized in a particular way. Different experiences for men may well equally encourage care and nurturing for their learners. Moreover, this attitude of care and concern needs to be seen as a real strength. Thus, one of the principals became very worried after discovering that some of the learners were using drugs:

I felt very sad: Maybe it's because we weren't careful, maybe we gave up on them too early, maybe if we had gone after them earlier on in the year we could have discovered the problem.

...We invited all the parents and then we tried to treat each case individually.

...I felt that we did not have enough time to let them realize that "in spite of this incident you're still our kids"...

...I decided to invite people to come and address the school on drugs, and ... the social worker to talk about drugs and teenage pregnancies because it's also the problem with the girls. ... But I also talked to some doctors that I'm acquainted with, and I requested if we could refer parents who notice something about their children.

Evidently, she showed the unmistakable caring nature of a mother in the way she handled and tried to solve the problematic behaviour of the learners. She took pains to find effective assistance for these learners. She also communicated effectively with the parents in an attempt to solve the problem.

The principal's concern for the children was also well known to the teachers, though at times teachers felt that the learners' interests took precedence over theirs, as expressed by one teacher;

Linda (pseudonym): "She likes stressing the fact that you need to do everything for the children, it's always for the kids. What about me as a teacher, because sometimes there must be a balance? So, it's always for the learners."

6. Reconstructing teacher culture

What also emerged in this study was that these women principals were working in schools where a particular teacher culture was pervasive. Teachers no longer work as they are supposed to, as a result of years of disruption in schools, and apartheid's political and historical baggage. This culture does not support the caring relations advocated by Noddings [16], [19], [21], [23], [24]. In this situation, all principals have to find ways to rebuild a culture, which values teaching and learning. The nurturing nature forces them to take firm decisions with the teachers in order for the learners to be catered for in a caring environment. For teachers to model to learners and to engage in meaningful dialogue, they have to show care to learners by doing their job. The women principals indicated that the teachers wanted to pursue their own personal goals, for example, furthering their studies and holding parties during school time instead of their primary job of teaching learners. While it is certainly important that teachers should develop themselves, it hardly seems appropriate that teachers stay away from school or use teaching time to complete their degree assignments while their learners sit idly [26]. This placed the principals in a difficult position but nonetheless, they are bold enough to face the challenge and reprimand the teachers in pursuit of caring relations [23], [24]. Theresa (pseudonym) and Sandra (pseudonym) commented in this way:

Teachers always eh, want their problems to be taken into consideration. More specially to attend to their problems during school hours...(Theresa)

It needs understanding, although it difficult and unhealthy...one day one teacher came to me and told me that she will not be able to teach, she is responsible for hospitality studies and as it is the subject with practical work...she told me that she would like to attend UNISA (University of South Africa) workshop for the course that she is doing for her own personal good the same day...So, I told her that how could you go to the UNISA course and not the moderation course when there is no other teacher who can help you out because you are the only hospitality teacher. I told that teacher that you cannot go to the UNISA course. (Sandra)

Thus, Sandra had refused to give permission to the teacher who wanted to attend to personal matters which were not urgent. Moreover, she felt "disappointed" when teachers did not do their work properly. For Sandra and Theresa, the learners' interests had to come first:

...I felt that it was a difficult choice but as a principal I have to consider the students before even our personal improvements or personal matters. (Sandra).

I feel very embarrassed or disappointed when the teachers are not working. (Theresa)

These principals were then faced with the task of reconstructing a culture which puts learners and their learning first. Teachers have to model the caring relationship in order to instil the ethics of care in students, according to Noddings [21]. Women and men alike in leadership roles face this insuperable challenge at times. These women portrayed themselves as having the welfare of learners at heart. On the one hand, this might be gendered in that they are nurturing and caring. On the other hand, this might also be explained in their position, doing what any principal is expected to do; be it a woman or a man.

7. Participatory Management style

The caring nature of these principals was also evident in their accounts of their management styles. In this section, I wish to present that the principals stated that they manage differently. No evidence is presented, or claims made for their actual practices. All principals interviewed described their leadership styles in ways consistent with more participatory, less hierarchical, more flexible ways of managing, consistent with research in women's leadership styles [6], [7]. This is what the principals uttered:

We sit down and talk. If there is an issue to be tackled I let them talk about it and decide themselves. (Jane)

I work hand in hand with my staff. First and foremost, we sit down and try to look at the problems and at the same time try to look for the possible solutions....[Iris(Pseudonym)]

...if you claim to be the only person who can maintain order at school, then during your absence nothing will go on well. Then you must allow everyone to be a manager. I empower teachers. They are not inferior, they are just like you. [Andrea(pseudonym)]

By consultation I mean that at this school I do not do anything alone. I try to consult them until we come to an agreement. Sometimes we have to vote until we come to a compromise...(Sandra)

Interestingly, for these principal's participatory leadership styles also involved negotiation with learners if there were issues that concerned them. As Noddings [19], [22], [23], [24], puts it, dialogue is an important aspect of caring relations in schools. For example, Sandra and Andrea said:

We also work hand in hand with the LRC (Learner Representative Council). (Sandra)

When we feel that students would like to say something or if there are matters that concern students, we consult with the LRC and then they go to consult other students and then we try to evaluate whatever contributions they have given. (Theresa)

One of the important issues to note in a caring relationship is the concern by the carer about what the needs of the cared for are. Interestingly, Theresa expressed that they also talked to learners "...when

we feel that students would like to say something". Such action is recommended by Noddings [19], [22], [23], [24] as she argues that an act of care means that the one who cares must also make sure that she/he finds out what the needs of the cared for are. Mostly these women principals indicated that they preferred more democratic and participatory ways of negotiation with learners and staff. However, there were points at which the principals had a particular authority which they had to use in the learners' interests. Relations with learners are complex, and at times decisions were made for learners, not with them:

If a child is not doing corrections, the teacher must not mark the next test if he still owes the previous corrections. (Iris)

At times these principals act in a democratic way, and at other times they exercise power in order to reach decisions that are in the interest of the learners. In addition, women managers were said to be sensitive, loving, and sympathetic:

...women show love. ...they are sympathetic to pupils as well as the teachers. (Andrea)

I think perhaps females are more considerate. ...it is just in our nature be more considerate although there may be some exceptions to the rule...(Sandra)

But women, maybe it is because even at home we are close to the children more than the fathers, I can talk to the child and reprimand him or her and tell him or her not to do it again. (Jane)

The point here is that most women were able to draw on their experiences as mothers working with learners, organizing their homes and they allowed personal feelings to shape their work with staff and learners. The risk is to regard this as natural to women, and to essentialize women's style of work. At issue and to be remembered is that women have been socialised into nurturing roles over time.

Overall, these women principals indicated a preference for more flexible and participatory styles of leadership. Key about what appears to be more autocratic decisions is that they were made in the context of a caring commitment of learners. This value or ethic of care is then realized by exercising their own power in different ways.

8. Issues of Power

The discussion of power is grounded in the two post-structuralists' views; Weiner's [35] and Jones' [12] argument that women might at one time be both powerful and powerless in different contexts which could sometimes be active or passive. In this study, it was the findings which revealed that these women were indeed sometimes powerful and sometimes powerless. This challenge the notion of women as only victims, and disadvantaged. They indicated that they felt powerful when things were working well within their schools. This had to do with peace, harmony, trust, and learners' success. These are the

aspects of the relationship of care that are important and “Women by their very nature, are unlikely to seek domination in education” [16]. One may then argue that these principals equated power with acts of care. These were their utterances:

I feel powerful if there is peace, harmony, and trust amongst the staff and the pupils. (Jane)

...when things are normal, I think I feel very much powerful, to help the poor children to acquire something in the classroom and perhaps to persuade the teachers to work very hard. (Iris)

I feel very powerful when my pupils have passed well, so I feel very proud... (Theresa)

Nonetheless, these women principals also indicated that there were times when they felt powerless, especially when teachers in their schools were not engaged in relational care:

I feel powerless when the teachers are lazy to do their work, when they do not take decisions that will help the pupils.... I also feel powerless when there is mistrust and discontent amongst the teachers and pupils. (Iris)

On the other hand, it still holds that the issue of power is complicated, that these women were not simply passive and helpless but under certain conditions felt in charge of their schools and valued learner success.

9. For the benefit of the child

During interviews, it was striking how the women expressed their genuine interest in the learners' welfare. These women's schools were located in rural areas where there is generally lack of resources. The learners were generally from poor families who could not provide the necessary support for their children. These principals noted poverty and its negative effects to the learning process and they came up with strategies to help the learners in the school. This is what Iris said:

...you tell them that you are here for the child, as a teacher you must pull your socks, you must work very hard...they are here for the pupil and nothing else.

Andrea believes in extending the time spent in teaching, even if her teachers do not agree:

In some of the schools, for example, they take two months writing the examinations. So, it's better to teach for a long time and then during the start of the last month you start writing. I remember many teachers urged me to allow them to start earlier but I could not agree because I have to protect pupils...

Being able to do the best for the learners gives the principals satisfaction and power. They then even had to force learners to study at school. It is not surprising that the principals did this as it is caring. The conditions at most of these learners' homes were not conducive for studying. The schools remained the best places to study as there were desks, electricity in few

schools and other few resources. Though under-resourced, schools remained a better option than their homes. Moreover, teachers were able to supervise and give them assistance with their school work. In the name of caring, principals have to, at times; enforce rules even if learners do not like them, for example, getting them to study at school:

So, we compel them to do (study). Of course, at certain times you'll have to force them, and, pupils will realize later that you were helping them. (Andrea)

Clearly, the above accounts of the women cannot be explained in terms of gender alone. Their motherly care and love could be explained in terms of gender in that women were socialized into their role of nurturing. Nonetheless it could also be further explained in terms of their dedication to their work because all principals, whether men or women, are by virtue of their position expected to ensure that teachers do their jobs and learners work to their full potential.

10. Conclusion

Data in this study suggest that these principals were more caring and nurturing to the learners. The risk is to regard this nurturing nature as "natural" to women and to essentialize women's style of work. At issue and to be remembered is that as much as there are biological differences, women have been socialized into nurturing roles. The women principals were found to be largely nurturing which could be part of some of their success factors in their managerial work. Moreover, to them, power meant that more of caring was happening in their schools. Their management style was more participative and accommodative in such a manner that they were able to successfully manage both the teachers and learners. As a result, it was easier for them to reconstruct the negative teacher culture that was pervasive.

The caring role of the principal amounts to a managerial leadership role where s/he cares in a self-sacrificing manner about the welfare of the teachers and learners under her/his care within the school. The principal as a leader of the school carries a responsibility to change the school into a caring organization where caring can be learned by both teachers and learners.

Since caring is an important aspect of leadership and management, it would be useful for the policy makers to develop a management strategy which incorporates all the four key components of care which are: modelling, dialogue, practice and confirmation. To strengthen this kind of practice, as part of ongoing teacher appraisal, periodic review of teachers' and principals' effectiveness in their role as caring leaders could be conducted.

In line with the caring advocated by Noddings as discussed in literature section, genuine caring encounters would take place if classrooms are

organized for many tasks. In that case learners will have to be encouraged to learn from each other as well as from teachers and other resources. Moreover, principals and teachers need to be competent in their work.

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Posters

The Experience, Problem and Policy Perfection of Teacher Rotate Deployment in China's County

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Abstract

In order to ensure that every child in China can receive fairness, quality education, one of the focuses of China's educational work is to promote the balanced development of compulsory education in recent years, in which the balanced allocation of teacher resources is one of the most important works. For the purpose of promoting the balanced allocation of teacher resources, the government of China implemented the teacher rotate deployment policy in compulsory education schools. This is a policy which can promote the two-way flow of teachers between city and township, high-quality and weak schools of compulsory education. China Institute of Rural Education Development of Northeast Normal University has conducted a large-scale field survey in China, in order to investigate the implementation of the policy, to clarify the existing policy implementation issues, and to ensure accurate implementation of the policy. At present, most provinces (cities, autonomous region) in China have carried out various forms of teachers rotate deployment, the implementation of the policy supplemented the quantity of rural teachers, enhance the overall quality of teachers in rural schools and also help to relieve rural teachers' structural shortage problem in some individual subjects. Among them, the government of China has taken a series of effective measures to incentive the related subjects, in order to ensure the smooth implementation of the teacher rotate deployment policy. However, there are still some problems in the policy process, such as policy design, policy advocacy, policy implementation and so on, so that the policy implementation has not yet fully to achieve the desired results. For example, the policy object of objective reality and the subject's intention has been ignored to some degree in the policy design, excitation of the target groups' policy identity has been ignored to a certain extent in the policy advocacy process, and there's a certain degree of policy implementation. Therefore, the government should make comprehensive analysis on the implementation of the policy objective conditions, policy cost and subjective intention at first. Then build "compensation & reward" incentive mechanism based on profit and loss and the decision logic. And finally make a "classification", "step by step" and "gradation" design of timetable and route map to promote teacher rotate in county.

Simulated Business Environments for Entrepreneurship

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Abstract

Business games are a learning technique that has a long history in Management Games and Simulations [1]. Since the first widely recognized business game, Top Management Decision Simulation, developed by the American Management Association (AMA) in 1956, the number of business games has continued to grow, and have become a widely used methodology [2]. We started from the assumption that the development of skills for decision making through business games is a reality only in professional environments or academic programs like MBA. Focusing on news educational models and the trends of "Gamification" and "Deeper Learning", our line of innovation seeks to facilitate the learning of our students at undergraduate level through a constructive game, in which the student faces a situation near the reality and is forced to develop critical and constructive thinking skills, while increasing their communicative and collaborative capacities. The student is a member of a consortium of shareholders who seek to bring the company to the highest levels of profit. Gradually the student is directed to implement methodologies, of the curricular contents of a business course, in his decision making. The impact on the improvement of his learning was measured considering the average exams scores of the groups, we obtained that the average is actually greater for those students who participated in the game dynamics with respect to the average of those who did not participate.

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A Framework for Implementing Web 2.0 in Rural Higher Educational Institutions

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Abstract

The proliferation of the Internet has churned the use of Web 2.0 tools among 21st century learners worldwide. Due to the noted benefits of Web 2.0 tools, researchers have proposed several strategies for the successful implementation of Web 2.0 tools in higher education. However, such strategies hardly emerge from empirical research-based studies and there are questions about their suitability for rural contexts. Thus, this paper aims at contextualizing relevant implementation strategies of Web 2.0 for higher educational institutions (HEIs) in rural settings from empirical research-based studies. The researcher presents these in a unifying framework, which draws from existent theoretical frameworks and models. The strategies and framework presented in this paper serve as a guide for implementing Web 2.0 tools and technologies in HEIs with contextualized content for rural settings. These have the potential to facilitate efficient teaching and learning in higher education with a set of innovative strategies, which are relevant to HEIs in rural areas. The resulting framework proposed in this paper, contributes to the on-going discourse about frameworks for the implementation of Web 2.0 by providing a context-specific and comparatively relevant set of implementation strategies.

Leadership Styles of Omani Educational leaders and Total Quality Management

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Abstract

The Total Quality Management is a modern form of organisation management and quality leadership is one of the important issues in education. Ali [1] describes leadership as the brain of any organisation and quality as its heart and leaders have to connect with both of them in order to succeed. Therefore, the purpose of this study is to investigate the leadership styles of Omani Educational leaders and whether their leadership related to Total Quality Management principles, its impact on Omani education system and the obstacles they are facing improve their quality leadership. The study used Mixed-methods approach. The questionnaire was focused on Omani educational leaders leadership practices, taking into account five leadership styles, namely: transformational, transactional, participative, autocratic and laissez-faire. The result shows that Omani educational leaders ranked the participative leadership as the styles they apply in their work. There was positive weak correlation between educational leaders' leadership practice and TQM principles. In addition, there was an impact of their leadership practice on the Omani Education system. In addition, they face several barriers which affect the improvement of the quality of leadership practice. The study will contribute to the literature by focusing on the importance of leadership in TQM. Furthermore, it will help Omani officials and policy makers to pay more attention to improve the quality of educational leaders' leadership and some strategies will be recommended to aid educational leaders to enhance their quality of leadership practices.

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Exploring a Framework for Supporting New Postgraduate Students in their Transition to Online Distance Learning in Science-based Discipline

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Abstract

Distance-learning courses are on the rise in Higher Education but are students taking these courses ready for the challenges that lie ahead as they step onto a Master of Science degree? This poster will share experiences and findings from a Leeds Institute for Teaching Excellence 'teaching enhancement' project that has been exploring whether students, starting on a taught postgraduate programme in a science-based discipline, have the digital literacy, data awareness and technical skills required for successful learning.

An online distance learning programme offers students the flexibility to keep many aspects of their lives at a status quo whilst gaining a qualification, but it does come with challenges for students as they adapt to this different approach to study; the diverse academic, cultural and experiential backgrounds of incoming students means that the transition to postgraduate level study can be a gentle incline or a more uneven step and sometimes more early nurturing is required.

Academic staff perception, corroborated by findings from a survey of face-to-face and online distance learning students enrolled on Master of Science programmes in the School of Geography at the University of Leeds, suggests that many students would value pre-sessional support in areas such as programming and data management software to enhance their learning experience. This poster will reflect on some of the identified challenges of distance learning and will outline a suggested framework for better supporting postgraduate students, across science faculties, in the use of tools and techniques to enhance their skills and confidence in data exploration.

Research on Scientific, Democratic, Moral and Just Decision-making for Rural School Consolidations and Closures or Rebuilding and Reserving

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Abstract

With the rapid development of urbanization, the school-age population of compulsory education in rural China is constantly concentrated in the cities and towns, and the contradiction between the school layout and the school-age population has been gradually highlighted. "How to carry out the school consolidations and closures or rebuilding and reserving adjustment decision" has become a major problem that must be faced at present and in the future. The school consolidations and closures or rebuilding and reserving adjustment of rural schools is an important public decision, and should have three values which include scientific, democratic and moral. Scientific to rational form to make "utility of the best", democratization to "the greatest satisfaction" approach to solve the "who's utility" problem, moralization to "bottom line fair" way to make up for the lack of democratization, protect the fundamental interests of vulnerable groups. The decision-making of school consolidations and closures or rebuilding and reserving adjustment should take into account the factors such as population, economy, culture, natural environment, traffic conditions, economic situation and the distribution of vulnerable groups. On this basis, the final utility of decision-making is determined in a democratic way, to reflect the moral care of vulnerable groups in the program design and optimization process, and finally constructs the optimal decision plan for different regions. The scientific, democratized and moralized research of the school consolidations and closures or rebuilding and reserving adjustment decision-making provides a systematic and theoretical model for the Chinese region, which solves series of related issues, such as the decision-making process and method, the coordination of interests and the social care of the vulnerable groups.



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