



Article

Proposal for Introducing a Digital Aesthetic Dentistry Course in Undergraduate Program: Contents and Ways of Administration

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Abstract: Background: Nowadays, digital dentistry is a fundamental skill that dentists need to acquire at this time. The digital workflow has gained acceptance and is widely used in most disciplines of dentistry. For this reason, it might be advisable to include this content in the undergraduate curriculum. The aim of this work was to create a course in digital aesthetic dentistry and evaluate its effectiveness. Methods: Dental students at the University of Verona (from third to sixth year) participated in a 2-h course on photography, digital aesthetic analysis, and digitally planned rehabilitations. Students were randomly divided into two groups, the first group attending the course with video tutorials and the second group attending the traditional class with slides. The students' ability to perform digital aesthetic analysis and rehabilitation was tested. In addition, a questionnaire was completed to determine student satisfaction with the course and method of delivery. Statistical analysis was performed. Results: The course was highly appreciated, especially by the students who received the video tutorials. Good results were obtained in the performance of digital analysis and rehabilitation, which were better in the first group. Conclusions: Digital aesthetic dentistry was a success in terms of newly acquired skills. From this point of view, the proposal of a course on this subject in the undergraduate curriculum deserves a close evaluation. The video tutorial method seems to be a good way to teach operative digital procedures.

Keywords: dentistry; learning; Digital Smile Design; aesthetic; video-tutorial



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1. Introduction

Digital dentistry is a great resource for dentists and dental technicians today and is changing the way almost everything in the discipline is viewed. Modern systems are more versatile and aim to be as user and patient friendly as possible [1]. The first digital features in modern dentistry were all CAD-CAM systems, imaging systems, and practise/patient management systems, which are constantly evolving [2,3]. Previewing the final result in aesthetic restorations has also undergone a digital evolution. In the past, intraoral mock-ups and wax-ups were used for this purpose and are still used in routine clinical practice, whereas today these modalities have often been replaced by the use of Digital Smile Design (DSD) [4]. Photographic techniques and equipment have greatly improved with the advent of the digital age, from analogue photography to digital cameras that solve many problems such as duplication and storage. All these modern innovations require high quality training so that clinicians can take full advantage of these new devices and patients receive the highest quality treatment. In modern curricula, the introduction of digital technologies and workflows is crucial, as there is still a lack of integration of digital dental processes into formal dental curricula [5,6].

The process of digital aesthetic analysis can be summarised in two general steps. The first consists of applying aesthetic guidelines to the patient's face by using lines and

shapes on the digitised photograph as landmarks. The second step consists of analysing the relationships between all the facial structures (mouth, nose, lips, teeth, eyes . . .) and evaluating the discrepancy between the patient's initial situation and the aesthetic ideal.

This makes it possible to understand the features of the face and helps, in part, to control aesthetic features [7–10]. A versatile tool to improve the diagnosis and design of aesthetic dental restorations is the Digital Smile Design (DSD) technique, which allows clinicians to make an appropriate analysis of the patient's initial situation and address critical diagnostic points [11].

Several tools and software have been launched to perform digital dental analysis and previews. However, most of them are subject to a user licence and are therefore not suitable for young dental students who do not usually have enough financial resources at their disposal to buy expensive software or pay licences. The most commonly used open-source software to perform DSD are PowerPoint (Microsoft Office, Microsoft, Redmond, WA, USA) and Keynote (iWork, Apple, Cupertino, CA, USA). Another software that could be used for DSD is Photoshop, but it requires a huge learning curve and an initial investment for the licence.

Moreover, there are currently no specific courses in digital dentistry in the undergraduate dental curriculum, and this new discipline is integrated into other subjects, and more frequently the digital dentistry is object of master or postgraduate programs.

In addition, the great use of video tutorials to improve skills in practical procedures deserves mention [12,13]: this issue has indeed impressed the authors and led them to consider the supportive use of this form of education in the teaching of aesthetic digital dentistry. Nowadays, the form of teaching and communicating in the form of video tutorials is widespread and especially popular with a young audience [14]. Various disciplines and procedures are now also learned by watching video tutorials and dentistry is one of these disciplines [15]: various dental tricks and tips are disseminated through social networks using videos, photos, or film reels.

With this in mind, the aims of this study were to:

1. To set up a digital course in aesthetic dentistry using open-source software at the University of Verona;
2. To evaluate the effectiveness of two different teaching methods of digital aesthetic planning (traditional slides and video tutorials).

2. Materials and Methods

2.1. Design of Digital Aesthetic Dentistry Course

Three general topics were identified to elaborate the outcomes and objectives of the course: 'Digital Dental Photography', 'Digital Aesthetic Analysis', and "Digital Smile Creation".

The course was designed to teach some concepts of digital dentistry to students in the last four years of undergraduate studies at the Faculty of Dentistry of the University of Verona, with the aim of dealing with a very current and now widespread scenario and providing them with basic skills.

Permission to set up the Digital Aesthetic Dentistry elective course was sought and granted from the President's Office of the Faculty of Dentistry.

The objectives of the course were:

- Elements of digital photography in dentistry, setting, and photographic techniques for intraoral and extraoral images (theoretical course);
- Elements of digital aesthetic analysis according to the latest findings from the literature;
- Elements of digital creation of an aesthetic dental rehabilitation (upper frontal sector) using the two most popular software: Microsoft PowerPoint (Microsoft Office, Microsoft, Redmond, WA, USA) and Keynote (iWork, Apple, Cupertino, CA, USA).
- The outcomes of the course were set as follows:
- Students will be able to create and take intraoral and extraoral photographs for digital aesthetic analysis;

- Students will recognise the main aesthetic parameters and landmarks from the current literature and apply them to their own digital aesthetic analyses;
- Students will be able to use Power Point (Microsoft Office, Microsoft, Redmond, WA, USA) and Keynote (iWork, Apple, Cupertino, CA, USA) software to create an aesthetic digital dental restoration of the upper social six sector based on the aesthetic parameters taught in the course

The students of the third, fourth, fifth, and sixth year of the Verona Dental School were randomly divided into two groups using a random number generator (Picker Wheel, <https://pickerwheel.com/> accessed on 22 June 2022) and the course was administered as vertical teaching in two different ways:

- Group 1: Teaching with slides: frequently used slides with information and knowledge to learn the theoretical basics of the course. In addition, the technical-practical steps to implement the ability to create a digital aesthetic rehabilitation were taught on the same slides. The presentation, with its many pictures, diagrams, and charts, was designed to help students understand all the topics covered in the course. No animations of figures were included. The duration of the lesson was 90 min.
- Group 2: Video tutorial lessons: For simplicity, 3 different videos were created for the three topics of the course: 'Digital Dental Photography', 'Digital Aesthetic Analysis', and 'Digital Smile Creation', each lasting about 30 min. Slides were integrated and edited into the video to explain the purely theoretical parts, and animated video sequences were used to show and clarify the practical procedures of the different steps of each topic. Setting up the camera to take intra-oral and extra-oral photos, measuring aesthetic parameters and determining useful lines and landmarks for analysis, overlaying images and templates, and using software tools and menus to perform the required steps for both Power Point and Keynote were shown in video sequences. The video tutorials guided the students step by step through the different topics and towards the realisation of the digital project. The narrator of all the videos was the lecturer of the course, the same person who teaches the traditional classes with slides and does the aesthetic analysis and digital dental restoration.

While the lessons were running, the teacher was present in a virtual classroom provided by the Zoom platform (Zoom Video Communications, San Jose, CA, USA) in case the students had any requests. All students remained connected to the virtual classroom during the course.

2.2. Assessment of the Outcomes of the Course

All students were asked to complete a digital aesthetic analysis and planning for the assessment: They were provided with instructional materials that could be downloaded through the Google Drive platform, including:

- A file of slides for the students who participated in the class with slides and 3 video tutorials for the students who participated in the class with video tutorials. For all students there was a set of intra-oral and extra-oral photographs to perform exercises; two template files with the same content were loaded in the folder, one for PowerPoint and the other for Keynote. The choice between the two files and the software did not affect the execution processes, so no differences were made in the evaluation phase;
- a final survey that students were required to answer after completing the exercise, which was used to gauge their level of agreement with the course they had completed (Appendix A);
- a pdf file with instructions on how to properly conduct the exercise and resubmit the assignment for grading (Appendix B).

Due to the quarantine measures imposed by the COVID-19 outbreak, both the courses and the assessment were conducted remotely: this made it impossible to assess the first objective of the course. The students' ability to set and perform digital intraoral and extraoral photographs was not tested, so they were provided with a set of photographs useful for performing the exercise.

Students were also asked to indicate the time required to perform the aesthetic analysis and digital aesthetic rehabilitation.

The assessment consisted of two different exercises:

- Aesthetic analysis: using the photographs of the patient and the diagrams provided in the template, the students performed the aesthetic analysis of the subject by selecting the features of the patient that they thought were correct on the "Module of Aesthetic Analysis of the Patient" (Figure 1).
- Digital Smile Creation (DSC): on the same photos, the student had to carry out the digital project using the material and explanations received during the class. In this process, he chose among the suitable tooth shapes (Figure 2), positioned the new tooth elements (templates) on the previous ones and coloured them with one of the explained modes (Figure 3). Once the digital project was completed, the student was asked to take a screenshot of the finished project as proof that the exercise had been performed.

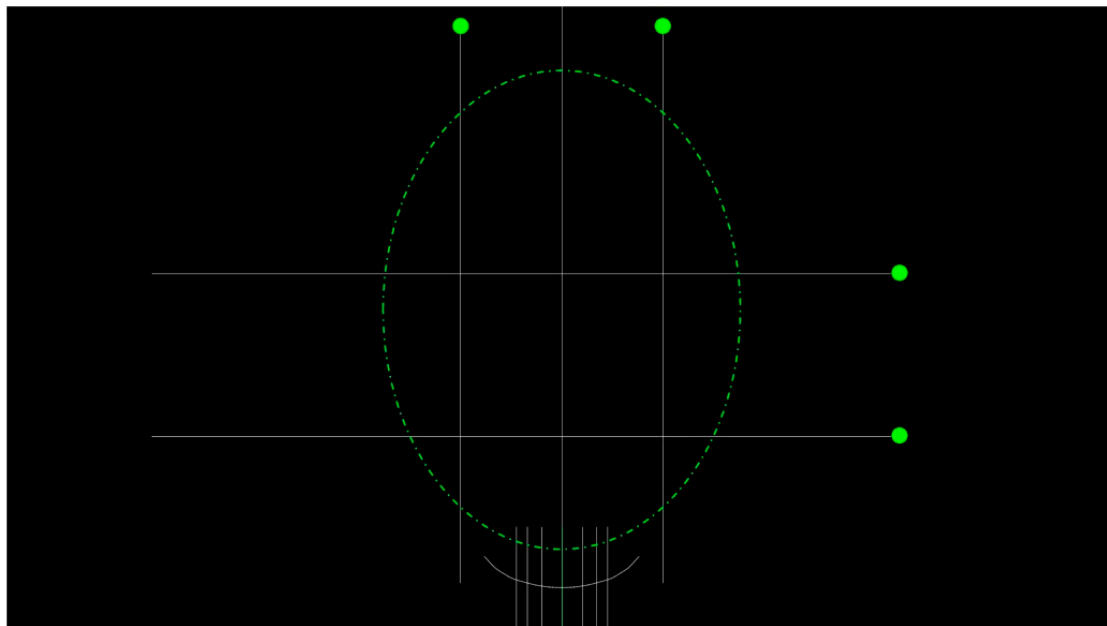


Figure 1. Diagrams for the Aesthetic Analysis.

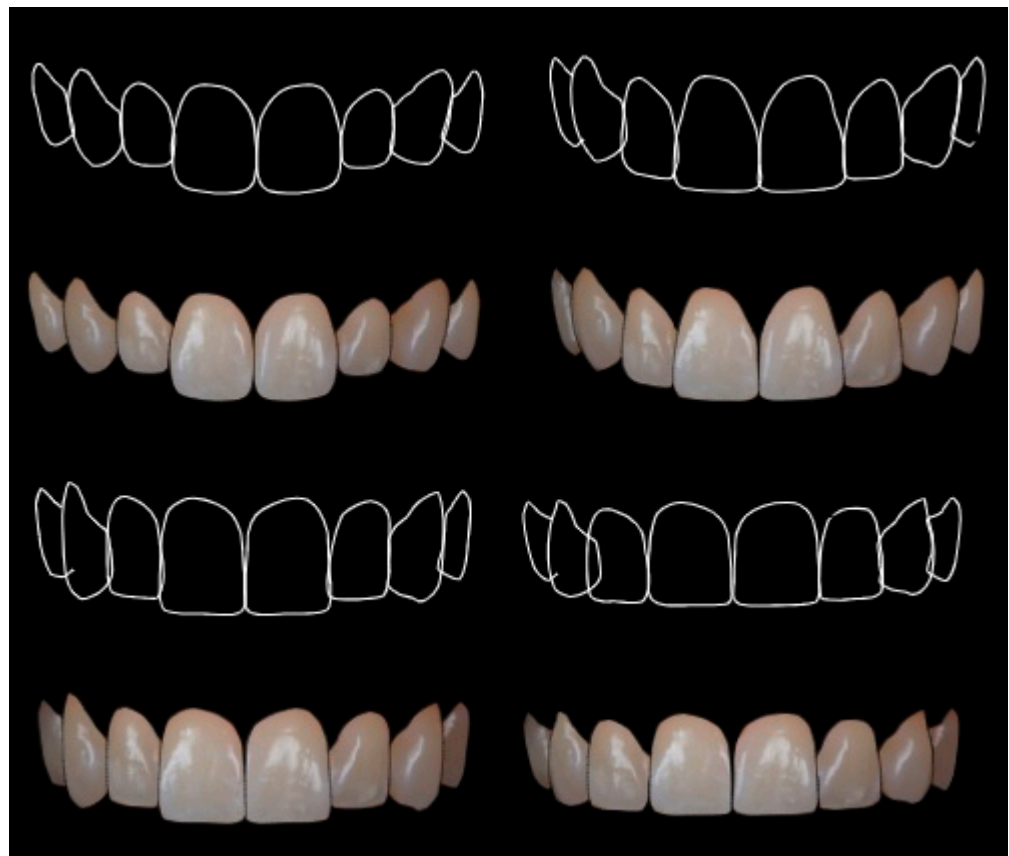


Figure 2. Shapes of the teeth provided to students for the exercise.

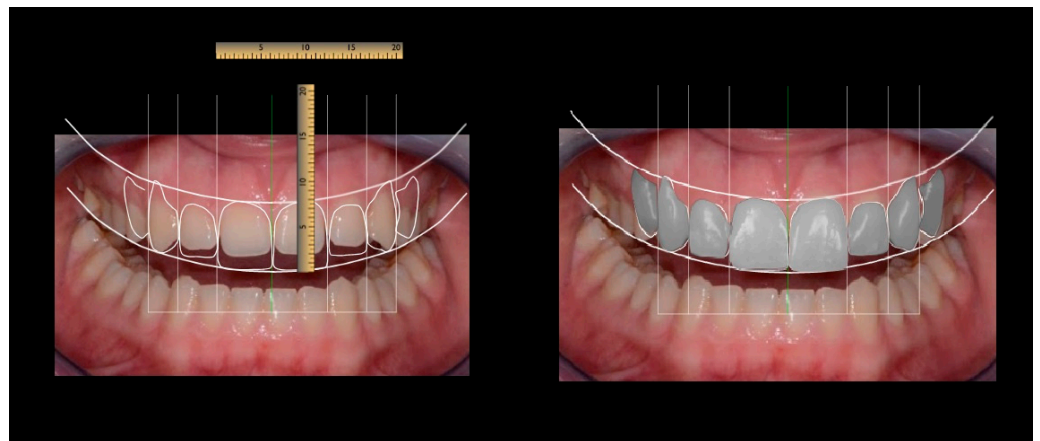


Figure 3. Positioning and colouring of the new dental elements on the natural ones.

2.3. Aesthetic Analysis

For the aesthetic analysis module students had to answer questions on 16 aesthetic characteristics, which are shown in Figure 4.

Module for the aesthetic analysis of the patient

Copy and paste the symbol on the left to highlight the correct answer
Copy and paste the text box on the left to write the correct answer

Name: _____ Surname: _____

Facial form

Smile form

Asymmetry/Deviations: _____

LIPS

	Upper			Lower			
Thickness	<input type="checkbox"/> Thin	<input type="checkbox"/> Medium	<input type="checkbox"/> Full	<input type="checkbox"/> Thin	<input type="checkbox"/> Medium	<input type="checkbox"/> Full	Asymmetry: _____
Symmetry:	<input type="checkbox"/> Yes	<input type="checkbox"/> No		<input type="checkbox"/> Yes	<input type="checkbox"/> No		
Width	<input type="checkbox"/> Tight	<input type="checkbox"/> Normal	<input type="checkbox"/> Wide	<input type="checkbox"/> Tight	<input type="checkbox"/> Normal	<input type="checkbox"/> Wide	
Lip Line	<input type="checkbox"/> High <input type="checkbox"/> Normal <input type="checkbox"/> Low						
Buccal corridors	<input type="checkbox"/> Wide <input type="checkbox"/> Normal <input type="checkbox"/> Full						

GUM

Signs of inflammation Yes No

Gum Health Poor Moderate Excellent

Papillae Poor Full

Gingival Parabolas Symmetrical Asymmetrical Asymmetry: _____

TEETH

Smile Line Concave Straight Convex

Width of central incisors 1.1 1.2

Dental Midline Coincident with facial midline Deviant

Figure 4. “Module for the Aesthetic Analysis of the patient”.

The answers were scored according to their weight as follows:

- 2 points: correct answers on lip line, gingival parabolas, smile line, dental midline;
- 1 point for correct answers to all other parameters.

In this way, greater weight was given to the parameters considered more important for the correct performance of the aesthetic analysis, which allowed both a qualitative and a quantitative evaluation of the answers to the module. For this reason and for simplicity, these four parameters were given 2 points each and the others 1 point each.

The total score was 20 points.

The form completed by the expert was considered the gold standard for scoring.

Finally, the time spent (in minutes) by each student was determined by assigning a value from 1 to 5 to each interval given in the questionnaire as follows:

- less than 5 min (score 1);
- between 6 and 10 min (score 2);
- between 11 and 15 min (score 3);
- between 16 and 20 min (score 4);
- more than 20 min (score 5).

2.4. Digital Smile Creation

The DSC conducted by the expert was considered the gold standard for assessment. The student performed the DSC using the provided photographs that were shown during the course. They superimposed the ‘new teeth’ over the previous ones, taking into account the aesthetic parameters. Among the dental templates provided, they had to choose the one with the most appropriate tooth shape and colour that matched the patient’s face in the pictures.

The parameters considered for the evaluation were:

- Execution time, measured in minutes: For simplicity, time intervals were created and a score was given from 1 to 7: less than 5 min (score 1), between 6 and 10 min (score 2), between 11 and 15 min (score 3), between 16 and 20 min (score 4), between 21 and 25 min (score 5), between 26 and 30 min (score 6), and more than 30 min (score 7);
- Positioning of the teeth measured with the distance in mm from the midline of the face (determined by the expert), which was considered to be a value of 0. Shifting of

the elements to the left was considered with negative values and shifting to the right with positive values; measurement was done on the photo with a digital calliper;

- Shape of the teeth (the students were provided with three different templates with different tooth shapes, which could be changed in width and length);
- Size and symmetry of the teeth, scored from 1 to 5 based on the gold standard set by the teacher (Table 1);
- Colour of the teeth

In order to evaluate the colouring of the elements objectively, in the absence of numerical data, a scoring system was established based on a grading scale from 1 to 5, in which certain characteristics of the colour of the dental elements were assigned to each grade by the expert (teacher) who evaluated the exercise (Table 2).

The results of all scores were collected in an Excel file (Microsoft Office, Microsoft, Redmond, WA, USA), taking into account only the group they belonged.

Table 1. Scoring of size and symmetry of the teeth.

Score	Explanation
1	Wrong template shapes
2	Wrong size and symmetry
3	Wrong size but symmetrical dental elements
4	Dental elements with correct size but asymmetrical
5	Correct size and symmetry

Table 2. Scoring of the colour of the teeth.

Score	Explanation
1	No colour
2	Wrong and non-natural colouring
3	Too light or dark colouring
4	Suitable but not homogeneous colouring between the teeth
5	Natural colouring

2.5. Statistical Analysis

The responses of the “Aesthetic Analysis” module were analysed using descriptive statistics.

The Mann-Whitney U-test was performed to analyse:

- Differences in the time taken to complete the digital aesthetic analysis between the two groups;
- Comparison between the two groups in terms of knowledge of the 4 selected parameters (lip line, gingival charts, smile line, dental median).

Descriptive statistics were performed to better explain the trend of the 5 assessed parameters for DSC (execution time, positioning of teeth, shape of teeth, size/symmetry of positioned teeth and staining) between the two groups.

In addition, a two-tailed *t*-test was used to compare the groups for the outcome “positioning of teeth”.

The Mann-Whitney U-test was used to compare the two groups for the parameters “size/symmetry” and “execution time”.

Statistical analysis was performed using the Statistical Package for Social Sciences version 25.0 (SPSS Inc., Chicago, IL, USA).

2.6. Final Survey

Students were asked to rate the course in terms of interest in the topic (0 to 10 points), mode of delivery/understandability (0 to 10 points) and adequacy of materials provided (0 to 10 points). A descriptive statistical analysis was carried out. The entire questionnaire can be found in Appendix A.

3. Results

Of the 75 students, 20 were of the third year, 15 of the fourth, 20 of the fifth, and 20 of the sixth year of the undergraduate program. They were divided into 2 groups: 38 students received traditional instruction (group 1); 37 students received video tutorial instruction (group 2).

3.1. Aesthetic Analysis

The working time (in minutes) that the students needed to complete the module on aesthetic analysis is shown in the following graph (Figure 5).

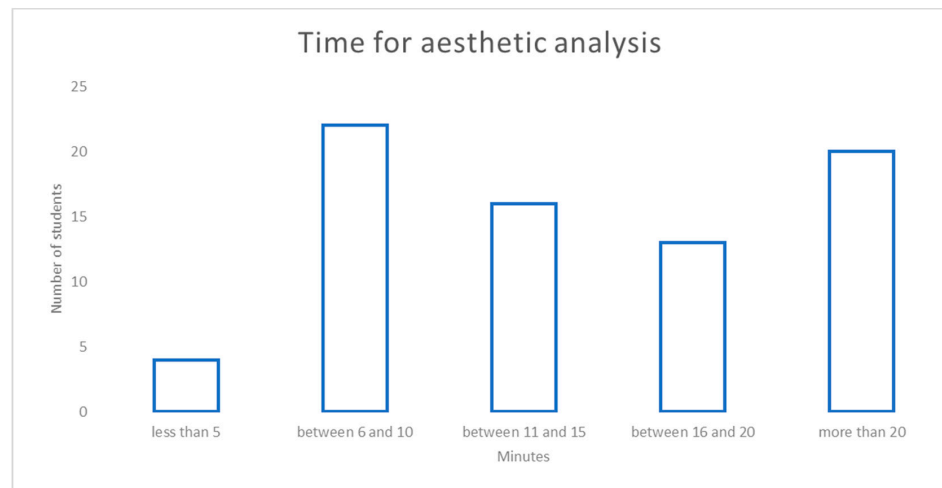


Figure 5. Working time to complete the aesthetic analysis.

The Mann-Whitney U test revealed no statistically significant differences between the two groups in terms of time spent completing the aesthetic analysis ($p = 0.107$) and no significant differences were found when comparing the scores obtained for the four selected parameters in this section ($p = 0.084$). Based on the scores for all parameters (weighted scores), the results are presented in the graph below (Figure 6).

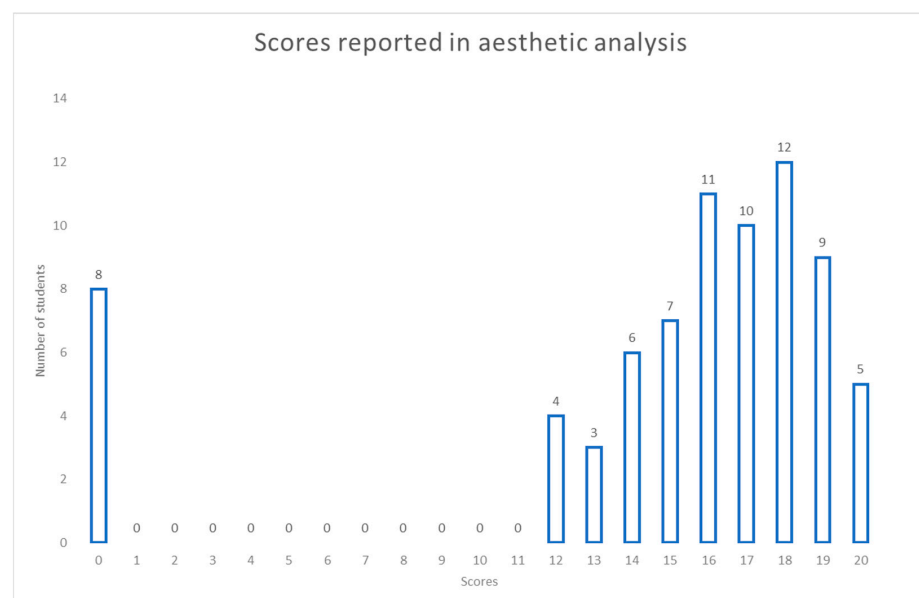


Figure 6. Scores with weighted values reported in the Aesthetic analysis.

3.2. Digital Smile Design

The results for each parameter assessed in this section were given as follows:

3.2.1. Execution Time

The Mann-Whitney test for this parameter was not statically significant, meaning that there were no differences between the groups ($p = 0.334$).

The distribution of the results across the sample is shown in the following graph (Figure 7).

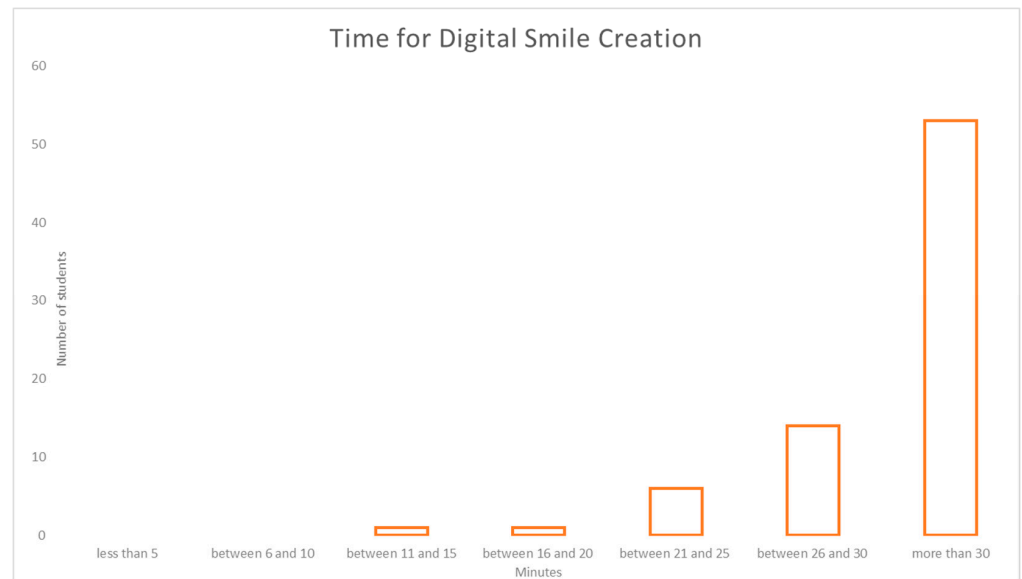


Figure 7. Time spent by the students for the creation of the Digital Smile Plan.

3.2.2. Positioning of Teeth

The positioning of the teeth was measured by the distance in mm from the midline of the face (determined by the expert). The unit of displacement compared to that of the expert is shown in the following graph (Figure 8).

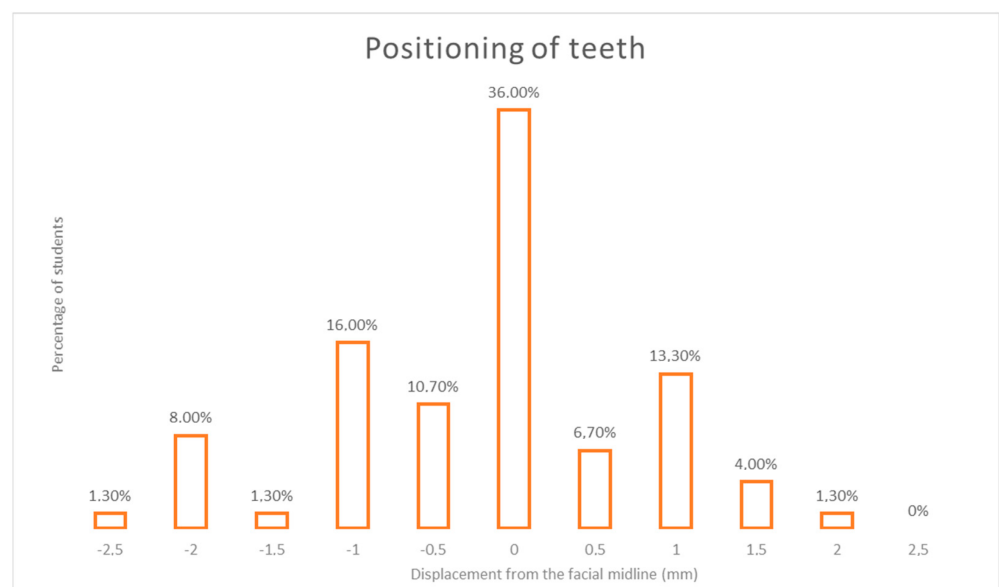


Figure 8. Positioning of teeth, displacement from the facial midline in millimetres.

The two-tailed t -test was not significant for this parameter ($p = 0.388$) and showed no differences between the two groups.

3.2.3. Shape of Teeth

Of the students, 85.3% used the same template as the expert.

3.2.4. Size and Symmetry of Teeth Positioned

Mann-Whitney test for this parameter was not statically significant, which means that there were no differences between the groups ($p = 0.115$).

The distribution of scores in the sample is shown in the graph below (Figure 9).

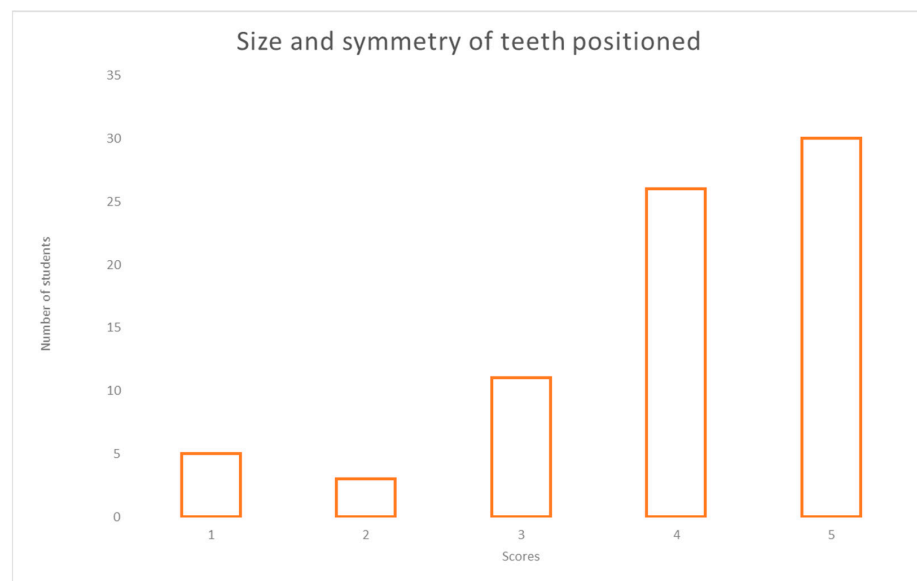


Figure 9. Scores for size and symmetry of teeth positioned.

3.2.5. Coloration of Teeth

Coloration was scored as follows in the graph below (Figure 10).

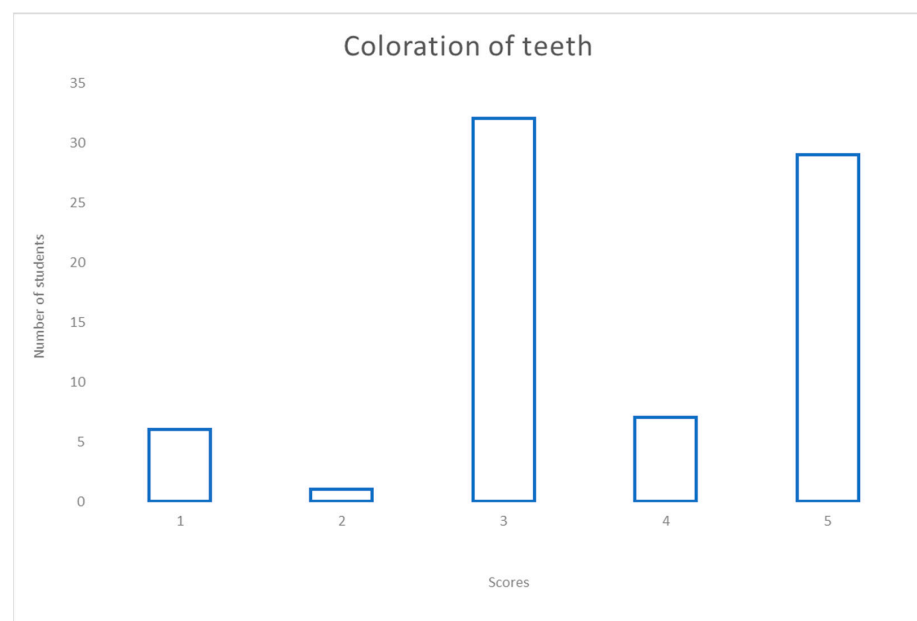


Figure 10. Scores about the coloration of teeth.

3.3. Final Survey

100% of the students in both groups rated the appropriateness of the content and the adequacy of the materials provided as 5. 87% of the students in the first group rated the mode of delivery/understandability as 3 points and 13% rated it as 4 points. In the second group, the students surveyed rated the type of administration/comprehension with 5 points in 89% of the responses and 4 points in 11%.

No differences were analysed between different years of undergraduate program.

4. Discussion

The aim of this paper was to investigate the feasibility of introducing a course in digital aesthetic dentistry in the undergraduate dental curriculum at the University of Verona in Italy. In addition, the authors investigated the most appropriate and effective method by which this course could be taught. The idea stems from the increasing prevalence of digital workflow in dentistry [1] and the consequent need to be up to date even for young undergraduate and graduate students. On the one hand, the market and new technologies in dentistry offer new opportunities to improve the dental profession and therapies and make them more effective; on the other hand, they require an increasingly skilled workforce. With this in mind, this research experiment was conducted with the aim of developing and adapting a pilot course in digital aesthetic dentistry and evaluating the best way to deliver it.

One of the weaknesses of this study was the impossibility of conducting face-to-face teaching and assessment due to the quarantine measures adopted for the COVID-19 outbreak in 2020 and 2021. Thanks to cloud-based video conferencing platforms such as Zoom (Zoom Video Communications, San Jose, CA, USA), teaching and assessments were still possible, albeit with some challenges caused by the lack of face-to-face contact between teachers and learners [16]. Certainly, it is more difficult to deliver content without having the opportunity to really review the feedback, but the pandemic forced us to deliver the course online. Originally, the course was designed to be delivered face-to-face and also included a module on digital photography. The digital photography lessons, such as how to set up and use cameras, backgrounds and digital photography techniques, were only to be delivered face-to-face in the form of practical lessons: This was a major limitation that affected the structure of the course in digital aesthetic dentistry and the possibility of a full evaluation.

Given the interest in introducing a course in digital aesthetic dentistry as part of the undergraduate programme, another important question to explore was the most appropriate and effective method of teaching this course.

Nowadays, video tutorials are a widely used form of communication, especially when explaining procedures or practical activities; the authors have taken their cue from web content and its distribution to design lessons where all practical procedures can be easily followed by watching a video. Digital aesthetic planning is done using software that requires specific steps to perform specific activities. Therefore, it was assumed that a sequence of pictures or written explanations would be less effective than a video sequence. In this regard, both the slide lesson and the video tutorial lesson were tested and the results showed that the second form of delivery was more appreciated by the students. This might be due to the fact that young people are more inclined to learn with digital media and visual learning techniques to make the learning experience more effective and faster [17], moreover, in this case, the software procedures might be more suitable for digital aesthetic analysis and planning through a video tutorial.

Based on these findings, some reflections should be made and the possibilities of appropriate training in digital aesthetic dentistry should be thoroughly explored by academics and researchers.

The market offerings for digital tools and applications are several and often require some experience in clinical practise to understand and select. This is perhaps a negligible point for all clinicians who have skills and competencies in dentistry, the professionals who

have knowledge in the field and the ability to apply it to new opportunities that technology offers. This is no more true when young undergraduate or graduate students have to deal with a discipline that requires a strong clinical background together with the ability to use modern medical technologies and tools, as is the case with aesthetic digital dentistry [18]. Therefore, the university is required to provide fundamental knowledge in dentistry and clinical practise and to meet the needs of modern digital dentistry. To achieve this, all means must be used to support student learning by developing and designing evidence-based courses that meet all the requirements of modern digital dentistry.

In this sense, the content of an aesthetic digital dentistry must always be supported by the current literature and, at the same time, students must be provided with all the knowledge about technologies, software, tools, and methods to put the knowledge into practise with a digital workflow. Therefore, an appropriate way of communicating and managing the course could play a crucial role in enabling faster and more effective learning of the new digital processes. Considering that the use of software is required for aesthetic digital analysis and planning, the possibility of having open-source programmes available allows students to carry out exercises and training, which saves costs. Moreover, the possibility to use Power Point or Keynote [19] allows them to practise in a time-saving way, as this software is widely used by students for different activities (presentations, small lessons, study . . .). This could be a good starting point for the implementation of the course.

On the other hand, teaching technical procedures carried out by software might not be so easy, as it is difficult to follow the sequences of commands of a programme: therefore, the training phase could be supported by the use of video tutorials that increase attention and promote the usability of technical procedures in real time [20,21].

The beneficial opportunities offered by video tutorials need to be closely scrutinised by teachers, because increasingly social media or the web offer content that is not controlled. This could result in unchecked content being accessible to students who are unable to understand the validity of this knowledge. Therefore, it might be useful to prepare appropriate content for students, validate it and, if possible, carry out quality assurance of all materials provided for teaching, especially those accessible via the Internet.

In line with the literature, the results of our final survey confirmed that, regardless of the good quality of the content and the interest in the subject, the best way to complete such a course is in the form of the video tutorial.

The students were very pleased with the introduction of the new course and the proposed new topic. In our opinion, this enthusiastic response is also stimulated by the broad marketing about digital dentistry today, perhaps this has aroused their curiosity and willingness to learn. Most importantly, the students who received a video tutorial gave better feedback, which could be due to several reasons. On the one hand, it could be due to the better handling that a video tutorial offers in terms of reproducibility of software procedures and image management. On the other hand, the video tutorial is certainly a form of communication that is closer to young people, more frequently used and most appreciated by this age group; therefore, in this particular case, a topic of interest was communicated through a contemporary way: this contributed to the positive feedback.

5. Conclusions

A course on aesthetic digital dentistry should be offered as part of the basic dentistry curriculum in Italy. The subject seems to be of interest to students who could be trained through video tutorials, especially if technical software procedures are shown.

An important issue to address is the validity of content that may be shared over the internet. It should make sense for universities to conduct quality assurance and establish a protocol to share and verify proposed content. One of the weaknesses to be addressed is the integration of digital dentistry courses with the facilities available to students today and the need to use as many open-source tools as possible.

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Appendix A. “Appreciation of Teaching” Survey

Section 1

- Enter a valid email address
- What type of teaching have you attended?
 - a. Classes with slides
 - b. Video tutorial classes
- What software did you use to complete the exercise?
 - c. PowerPoint
 - d. Keynote
- How interested were you in the topic? (Answer from 1 to 10);
- How useful do you think what you learned will be for your clinical practise after you graduate? (Answer on a scale of 1 to 10);
- How appropriate did you find the teaching method for your knowledge? (Answer on a scale from 1 to 10);
- How appropriate are the teaching materials for your knowledge? (Answer on a scale from 1 to 10);
- Do you think that participating in another form of teaching would have been more appropriate?
 - e. Yes
 - f. No

Section 2

- Do you think that the material provided to the students was sufficient to carry out the exercise? (Answer from 1 to 10);
- How long did it take you to complete the aesthetic analysis?
 - g. 1 (Less than 5 min);
 - h. 2 (From 6 to 10 min);
 - i. 3 (From 11 to 15 min);
 - j. 4 (From 16 to 20 min);
 - k. 5 (More than 20 min).
- How long did it take to complete the Digital Smile Design?
 - l. 1 (Less than 5 min);
 - m. 2 (From 6 to 10 min);
 - n. 3 (From 11 to 15 min);
 - o. 4 (From 16 to 20 min);
 - p. 5 (From 21 to 25 min);

- q. 6 (From 26 to 30 min);
- r. 7 (More than 30 min):
- Upload a screenshot of the “Patient Aesthetic Analysis Module” and the Digital Smile Design performed.

Appendix B

Instructions for Group 1:

- Complete the “Student Knowledge “ questionnaire;
- Open the folder “Presentation” and download the pdf file with the slides used for the frontal teaching;
- Do the exercise with the templates you find in the folder “template”. Download the template .key if you use Keynote or .pptx if you use PowerPoint;
- Note how much time you need for the aesthetic analysis and how much time you need for the smile
- Once you have done the exercise and saved it, fill in the questionnaire “Appreciation of teaching” and send the answer.

Instructions for group 2:

- Complete the “Student Knowledge “ questionnaire;
- Open the “Video-tutorial” folder and watch all 3 video-tutorials in order;
- Do the exercise with the templates you find in the “template” folder. Download the template .key if you use Keynote or .pptx if you use PowerPoint;
- Note how much time you need for the aesthetic analysis and how much time you need for the smile;
- Once you have done the exercise and saved it, fill in the questionnaire “Appreciation of teaching” and send the answer.

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