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## Clinical Learning Environment and Supervision plus nurse Teacher (CLES+T) scale: testing the psychometric characteristics of the Italian version

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**ABSTRACT.** Background. A clinical learning environment is an "interactive network of forces within the clinical setting that influence the students' learning outcomes". International research indicates the Clinical Learning Environment and Supervision plus Nurse Teacher scale (CLES+T) as the gold standard to assess a good clinical learning environment. Aim. This study aims to evaluate the psychometric properties of CLES+T Italian version. Methods. 875 students attending the Bachelor in Nursing in 3 Universities in Italy participated in the study. Cronbach's alpha, item to total correlations, skewness and kurtosis were calculated; factor analysis was performed using Principal Axis Factoring and an oblique rotation method. Results. Results showed a Cronbach's alpha of 0.95 of the scale and ranging from 0.80 to 0.96 among factors; all items verified item to total correlation and answers' variability criteria. Factor analysis showed a 7-factors model as explaining more than 67% of the variance, the higher variance was explained by the "pedagogical atmosphere" factor (37.61%). The nurse teacher factor in the Italian model is split into 3 sub-factors: theory-practice integration, cooperation with ward staff and relationship with mentor and student. Conclusion. These results enable an international debate concerning the theoretical structure of CLES+T and provide a reliable and valid tool for the comparison of supervisory models in guiding nursing students' clinical learning.

**Key words:** clinical learning environment, validation, CLES+T scale, nursing, education.

**RIASSUNTO.** Background. Un ambiente di apprendimento clinico è "una rete di fattori interagenti in un contesto clinico in grado di influenzare gli esiti dell'apprendimento degli studenti". A livello internazionale la ricerca indica la scala Clinical Learning Environment and Supervision plus Nurse Teacher (CLES+T) come il gold standard per valutare un buon ambiente di apprendimento clinico. Obiettivo. Questo studio si propone di individuare le caratteristiche psicometriche della versione italiana del CLES+T. Metodi. 875 studenti frequentanti il Corso di Laurea in Infermieristica di 3 Università italiane hanno partecipato allo studio. Sono state calcolate l'alfa di Cronbach, le correlazioni item-totale, asimmetria e curtosi; è stata eseguita l'analisi fattoriale utilizzando la fattorizzazione dell'asse principale (PAF) e la rotazione obliqua dei fattori. Risultati. I risultati hanno mostrato un'alfa di Cronbach di 0.95 della scala e variabile da 0.80 a 0.96 fra i fattori; gli item hanno verificato le correlazioni item-totale e i criteri di variabilità di risposta. L'analisi fattoriale ha mostrato un modello a 7 fattori, in grado di spiegare oltre il 67%

della varianza, la maggiore varianza è spiegata dal fattore "clima di apprendimento" (37.61%). Il fattore riguardante il tutor universitario, nel modello italiano, è suddiviso in 3 sotto-fattori: integrazione teoria-pratica, cooperazione con l'equipe di reparto e relazione con il tutor clinico e lo studente. Conclusioni. I risultati di questo studio allargano il dibattito internazionale sulla struttura teorica del CLES+T e mettono a disposizione uno strumento valido e affidabile per la comparazione dei modelli tutoriali nel guidare l'apprendimento clinico degli studenti infermieri.

**Parole chiave:** ambiente di apprendimento clinico, validazione, scala CLES+T, infermieristica, formazione.

### Introduction

Clinical learning and competency development are essential parts of the nursing curriculum: nursing is a practical discipline and its knowledge is embedded both in theoretical knowledge and in clinical practice (1). In Italy, out of a total of 180 credits in 3 years to graduate as a registered nurse, 60 credits (with a number of hours per credit ranging from 21 to 30) are dedicated to clinical placements (2) and, taking into account that the number of hours per credit in the remaining 120 credits is variable from 15 to 21 hours (2), the percentage of hours spent in clinical training in Italy is over one third of the total Bachelor course (3). These data highlight the importance of planning clinical experiences in order to develop students' competence and to integrate practice and theory (4, 5).

A clinical learning environment is defined as "an interactive network of forces within the clinical setting that influence the students' learning outcomes" (6): identifying the "forces" involved in clinical settings and developing quality indicators is crucial to improve strategies to achieve clinical learning and students' professional growth (7).

The elements involved within a clinical setting have been previously identified in a wide literature review and

empirical studies and have been included in the Clinical Learning Environment and Supervision (CLES) scale (8, 9), a self-report scale that involves students in the assessment of the following dimensions within a clinical learning environment: ward atmosphere (4 items concerning students' perception of ward climate), leadership style of the ward manager (4 items concerning ward manager's integration in the team), premises of nursing on the ward (4 items assess how much nursing care is personalized and if nursing documentation is clear), premises of learning on the ward (6 items assess if the care team is involved in student supervision and if the ward provide sufficient and meaningful learning situations), supervisory relationship (8 items explore if the mentor-student relationship is characterized by a mutual interaction and is oriented to student's learning needs) and a single item to assess the overall satisfaction of the clinical placement. Previous studies have tested the psychometric proprieties of CLES scale both internationally and in Italian clinical settings (8, 10), showing the validity and reliability of the scale. The psychometric proprieties and reliability indexes of CLES confirm this tool as the gold standard to assess a clinical learning environment internationally and also in the Italian educational context in comparison to other instruments tested (11, 12). In particular the Italian version, in a pilot study involving 117 students, showed a Cronbach's alpha coefficient of 0.96, ranging from 0.78 and 0.95 among factors, and a test-retest reliability of 0.89 (in a 3 weeks interval with a 29 students sample), confirming the instrument's reliability. Italian results were similar to the original validation of the CLES (8). Another Italian study (13) involving 242 students, tested a 42 item tool (the Clinical Learning Environment Inventory - CLEI) (12) to assess students' perception of the clinical leaning environment but the reliability coefficients ranged from 0.47 to 0.74, showing a low reliability of the scale.

Due to the sample size in the Italian CLES pilot study, it was not possible to perform a factor analysis: authors (14, 15) recommend at least 10 participants per item to perform a factor analysis adequately, so at least 270 students were necessary to complete the psychometric evaluation of the CLES scale in the Italian sample.

Moreover further development of the CLES scale resulted in the addition of the nurse teacher scale (CLES+T) (16): the nurse teacher role is enacted in different ways and an assessment of students' perception of this "force" within their clinical learning experience could be useful to assess the effect of different models of educational support to improve the overall perception of a clinical learning environment and to strengthen the development of students' clinical competence.

A nurse teacher guides students' clinical learning through a wide range of strategies to improve reflection on action such as briefing and debriefing on experiences, providing cooperation between university and ward staff, planning with ward staff and ward manager students' involvement in ward activities and assessing competency development (13, 17, 18, 19). So the nurse teacher role is mainly characterized as a liaison between

university and health care settings in order to provide the conditions to facilitate a good clinical learning environment and to improve learning from clinical experience (20, 21).

Taking in to account these considerations the CLES+T includes 9 new items concerning students' perception of the nurse teacher role in integrating theory and practice, in cooperating with the ward staff and in promoting a good relationship between mentor and student, as theoretically defined by the author (16).

The most recent version of CLES+T includes 34 items and psychometric testing has assessed 5 factors: pedagogical atmosphere (9 items derived from the 4 items of the "ward atmosphere" factor and 5 items from the "premises of learning" factor), leadership style of the ward manager (4 items), supervisory relationship (8 items), premises of nursing in the ward (4 items) and role of nurse teacher (9 items). Students answer each statement on a five point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). CLES+T items are designed to assess the students' perceptions of clinical learning environments in a hospital setting (10, 16).

In the original study, which recruited 549 students in Finland, the CLES+T scale showed alpha coefficients ranging from 0.77 to 0.96 and the 5 factors identified were able to explain 67% of the variance, with "supervisory relationship" as the main factor explaining 40% of the variance. Items loading indicated a 5 factors model, using principal component analysis (16).

Another study carried out in Sweden with a sample of 324 students (22), found alpha coefficients ranging from 0.75 to 0.96 and a variance of 60.2% in the 5 factors model, with the main factor "supervisory relationship" explaining 22.5% of variance. However item loadings for the Swedish version of CLES+T suggest a different distribution of one item (the nurse teacher being like a member of the nursing team) among factors but authors argued this item could be affected by a translation bias or was not consistent with Swedish educational system, showing a possible cultural sensitivity of the instrument. Most of all, the Swedish CLES+T version suggested a 4-factor model in which "pedagogical atmosphere" and "premises of nursing in the ward" become one factor called "pedagogical and caring atmosphere on the ward". However the criteria to perform a factor analysis (14) were not fully reached in this study and the sample size could be an underestimate to perform a reliable factor analysis.

The aim of this study was to validate the Italian version of the CLES+T scale and to test its psychometric proprieties.

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## Methods

### Translation procedures

A forward-back translation procedure was applied to establish content validity of the nurse teacher scale: the other factors were already submitted to the translation process in the previous study (10) and reached the se-

semantic equivalence and the cultural coherence with the Italian context. The White and Elander criteria (23) have been used as in the pilot study (10): firstly, the nurse teacher scale was translated into Italian and submitted to an expert panel (5 expert nurses from nursing education and research) that compared the original English version with the Italian one and provide to the semantic and cultural coherence of the items; secondly, an English lecturer translated the Italian version back to English as a blind. Finally, the back-translated instrument and the original one were compared by the CLES+T's author to establish the content validity of the double translated instrument.

### Sampling procedures

The students attending the Bachelor in Nursing Science in the Universities of Udine, Verona and Ancona were included in the study with a convenience criterion. All students who gave informed consent and who were attending a clinical placement in hospital for at least 1 week were involved to fill the CLES+T, according to the purpose for which the CLES+T was designed.

### Sample description

The main sample included 875 students, however 20 respondents had more than 7% of data missing and were not eligible for data analysis (28): the final sample included 855 students. The mean age was 24.0 years (SD 5.77, median 21, min 19, max 54) and 74.8% of the sample was female while 25.2% male. First year students were 43.6% of the sample, second year students 42.6% and 13.8% third year students. 44.0% of the students declared at least 3 meetings with the nurse teacher during the clinical placement, while 42.9% 1 or 2 meetings and 13.1% declared no meetings with the nurse teacher. During the clinical placement 45.7% of the students had no communications via e-mail or telephone with the nurse teacher, while 42.3% from 1 to 3 e-communications and 12% more than 4 communications. 72.3% of the students declared themselves to be satisfied or strongly satisfied with the clinical placement attended. The average duration of the clinical placement was 5.5 weeks (SD 1.41, median 5, min 1, max 10), 49.5% of the sample attended a medical ward, 34.7% a surgical ward, 3.1% a critical area ward, 1.8% a maternal or paediatric ward and 10.6% unspecified ward.

### Data collection procedures and additional variables

The students completed the instrument in the last week of training in order to avoid recall bias. Each student received, at the beginning of the clinical placement, information about the CLES+T scale and a reminder in the middle of the training period (24). The return of the completed questionnaire was considered to imply informed consent. Together with CLES+T scale, students completed additional questions related to demographic characteristics (age, gender and year in program) and their clinical placement experience (duration, number of meetings with the nurse teacher, electronic communications occurred, ward attended and the overall satisfaction

about the placement). The overall compilation time of the scale was under 20 minutes.

### Data analysis procedures

The internal consistency was measured with Cronbach's alpha (15) and variation of alpha values if each item was deleted one by one was calculated in order to identify the contribution of each item to the overall internal consistency (15, 25).

Kurtosis and Skewness were calculated to verify the answers' variability (26, 27): acceptable values are considered between -1 and 1, however values between |1| and |2| are not considered critical (30).

If the percentage of missing data in the total amount of variables for each respondent was more than 7% the case was deleted listwise (28).

Corrected item to total correlations (15) were assessed considering values under 0.30 as not acceptable correlations (14).

Exploratory factor analysis (EFA) has been performed using direct oblimin rotation: previous studies (8-10) demonstrated the strong correlation between factors, so oblique rotation should fit better to understand the CLES+T factor pattern than orthogonal rotation (such Varimax rotation), that argue the independence between the factors (29, 30). Correlation matrix was calculated in this study in order to verify factors' correlations: oblique rotation is justified if correlations are more than |0.30| between at least 2 factors (30). Principal Axis Factoring (PAF) was chosen due to the probabilistic nature of this approach instead of the deterministic approach of Principal Component Analysis (PCA): PCA is useful to identify the maximum variance in a given set of variables and known factors while PAF analyses the covariance between variables in order to identify latent factors, for this reason some authors argue that PCA is not properly a factor analysis approach (31). Moreover not every item showed a normal distribution so PAF was preferred instead of Maximum Likelihood. Conditions to perform the factor analysis were evaluated through Keiser-Meyer-Olkin (KMO) index and Bartlett's test of sphericity (29). EFA has been chosen because previous studies showed different factor patterns among different educational national systems (16, 22): it is necessary to clarify the factorial structure in the Italian context with an explorative approach.

After EFA, a Confirmatory Factor Analysis (CFA) through Structural Equation Modelling was performed in order to assess the model fit (32).

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## Results

### Validation

#### Reliability

Cronbach's alpha in the 34 items was 0.95 and ranged between 0.80 and 0.96 among factors identified in the theoretical structure of CLES+T (16). No variations in internal consistency reliability were found after deleting each item one by one (table I).

**Table I. Position and shape indexes, item to total correlation and Cronbach's alpha of the IT-CLES+T (n=855)**

Items	Mean $\pm$ SD	Skewness	Kurtosis	Corrected item to total correlation	Cronbach's alpha if item deleted
<b>Pedagogical atmosphere (<math>\alpha=0.91</math>) (9 items)</b>					
1. The staff was easy to approach	4.0 $\pm$ 0.93	-0.91	0.44	0.58**	0.95
2. During staff meetings (e.g. before shifts) I felt comfortable taking part in the discussion	3.6 $\pm$ 1.06	-0.54	-0.21	0.62**	0.95
3. I felt comfortable going to the ward at the start of my shift	4.1 $\pm$ 0.96	-1.22	1.28	0.60**	0.95
4. There was a positive atmosphere on the ward	3.9 $\pm$ 1.01	-0.87	0.42	0.62**	0.95
5. The staff was generally interested in student Supervision	3.7 $\pm$ 1.14	-0.69	-0.22	0.65**	0.95
6. The staff learned to know the students by their personal names	4.2 $\pm$ 1.01	-1.31	1.32	0.47**	0.95
7. There were sufficient meaningful learning situations on the ward	4.2 $\pm$ 0.86	-1.35	2.12	0.60**	0.95
8. The learning situations were multidimensional in terms of content	4.1 $\pm$ 0.91	-0.97	0.84	0.62**	0.95
9. The ward can be regarded as a good learning environment	4.3 $\pm$ 0.92	-1.54	2.36	0.62**	0.95
<b>Leadership style of the ward manager (WM) (<math>\alpha=0.85</math>) (4 items)</b>					
10. The WM regarded the staff on her/his ward as key resource	3.9 $\pm$ 0.98	-0.85	0.46	0.52**	0.95
11. The WM was a team member	3.3 $\pm$ 1.23	-0.36	-0.80	0.51**	0.95
12. Feedback from the WM could easily be considered a learning situation	3.3 $\pm$ 1.05	-0.36	-0.32	0.58**	0.95
13. The effort of individual employees was appreciated	3.7 $\pm$ 0.92	-0.61	0.23	0.59**	0.95
<b>Premises of nursing in the ward (<math>\alpha=0.80</math>) (4 items)</b>					
14. The ward's nursing philosophy was clearly defined	3.8 $\pm$ 0.93	-0.71	0.35	0.55**	0.95
15. Patients received individual nursing care	3.6 $\pm$ 1.03	-0.57	-0.09	0.50**	0.95
16. There were no problems in the information flow related to patients' care	3.6 $\pm$ 0.88	-0.56	0.26	0.50**	0.95
17. Documentation of nursing (e.g. nursing plans, daily recording of nursing procedures, etc.) was clear	4.0 $\pm$ 0.93	-0.91	0.72	0.38**	0.95
<b>Supervisory relationship (<math>\alpha=0.96</math>) (8 items)</b>					
18. My supervisor showed a positive attitude towards supervision	3.9 $\pm$ 1.11	-0.97	0.40	0.72**	0.95
19. I felt that I received individual supervision	3.2 $\pm$ 1.34	-0.26	-1.09	0.62**	0.95
20. I continuously received feedback from my supervisor	3.4 $\pm$ 1.25	-0.39	-0.82	0.70**	0.95
21. Overall I am satisfied with the supervision I received	3.7 $\pm$ 1.21	-0.83	-0.22	0.75**	0.95
22. The supervision was based on a relationship of equality and promoted my learning	3.7 $\pm$ 1.17	-0.82	-0.07	0.74**	0.95
23. There was a mutual interaction in the supervisory relationship	3.7 $\pm$ 1.16	-0.77	-0.11	0.74**	0.95
24. Mutual respect and approval prevailed in the supervisory relationship	4.0 $\pm$ 1.15	-1.07	0.44	0.72**	0.95
25. The supervisory relationship was characterized by a sense of trust	3.9 $\pm$ 1.18	-0.95	0.13	0.72**	0.95
<b>Role of the nurse teacher (NT) (<math>\alpha=0.91</math>) (9 items)</b>					
26. In my opinion, the NT was capable to integrate theoretical knowledge and everyday practice of nursing	3.6 $\pm$ 1.06	-0.55	-0.25	0.43**	0.95
27. The NT was capable of operationalize the learning goals of this clinical placement	3.7 $\pm$ 1.05	-0.65	-0.04	0.48**	0.95
28. The NT helped me to reduce the theory-practice gap	3.5 $\pm$ 1.13	-0.47	-0.47	0.46**	0.95
29. The NT was like a member of the nursing team	2.6 $\pm$ 1.24	0.27	-0.94	0.40**	0.95
30. The NT was capable to give his or her pedagogical expertise to the clinical team	2.8 $\pm$ 1.19	0.01	-0.90	0.48**	0.95
31. The NT and the clinical team worked together supporting my learning	2.9 $\pm$ 1.24	-0.05	-1.04	0.53**	0.95
32. The common meetings between myself, mentor and NT were comfortable experience	3.2 $\pm$ 1.22	-0.37	-0.71	0.63**	0.95
33. Climate of the meetings was congenial	3.4 $\pm$ 1.21	-0.53	-0.56	0.58**	0.95
34. Focus on the meetings was in my learning needs	3.4 $\pm$ 1.22	-0.50	-0.62	0.56**	0.95
<b>Total IT-CLES+T (<math>\alpha=0.95</math>)</b>					

\*\* p&lt;0.01

Skewness and kurtosis showed a normal distribution in items' response in most of the items, and a weak trend toward higher levels of agreement in the items concerning "pedagogical atmosphere" (items 3, 6, 7, 9) (table I). Concerning these items, statistical transformations were not adopted because skewness and kurtosis deviation was not critical and methods used in data analysis were not affected by data distribution (30).

Item to total correlations were above 0.30 for every item, however items of the factor "role of the nurse teacher" had the lowest correlations, especially in the items concerning the theory-practice reconciliation and the integration of the nurse teacher with the ward staff (table I).

*Validity*

Criteria to perform the factor analysis were verified: Keiser-Meyer-Olkin (KMO) index was 0.95 and Bartlett's test of sphericity showed a p-value <0.000 (chi square=22487.74 and df=561) (29). Moreover the students (N) to item (n) ratio was 25.7 (N/n>10) (14).

EFA with direct oblimin rotation method was performed: correlation matrix showed correlations above |0.30| between most of the factors (table II). EFA showed a 7 factor model explaining the 67.27% of the variance in the CLES+T scale. The main factor explaining the variance is "pedagogical atmosphere" (37.61%) and the second is a sub-factor detected in the "role of the nurse teacher" factor that explained 10.70% of the variance, "supervisory relationship" explained 7.41% of the variance, while other factors explained each less than 5% (table III).

Factor analysis detected 3 sub-factors in the "role of the nurse teacher" factor, these were labelled "theory-practice integration", "cooperation with the ward staff" and "relationship with mentor and student": the overall variance explained by these sub-factors is 15.95%, and the main sub-factor is "theory-practice integration" (10.70% of variance).

Except item 2, all items loadings are > 0.50 and confirm the theoretical structure detected in the original framework (16).

Results from CFA indicate the following fit indexes for the 7 factors model: SRMR 0.045, RMSEA 0.061 (IC 90%=0.58-0.64), NFI 0.908 and CFI 0.929. The 5 factors model was also tested with CFA showing SRMR 0.064,

RMSEA 0.097 (IC 90%=0.095-0.100), NFI 0.798 and CFI 0.817.

**Discussion**

The psychometric characteristics of the Italian version of CLES+T show the same aggregation of items in factors as other international studies (16, 22). This strengthens the international reliability and validity of the instrument among different educational systems, cultures and languages. However some results differ from previous studies: in particular the "role of the nurse teacher" sub-scale is split in 3 factors, generating a 7-factor model of CLES+T, according to the initial theoretical framework of the nurse teacher scale but in contrast with the 5-factor model empirically found by Saarikoski et al. (16) and Johansson et al. (22). This last study in particular suggested that a 4-factor model could better fit the data (21). These differences are mainly determined by the nurse teacher factor and its perception among students: Finnish and Swedish students could perceive the nurse teacher role as a unique role homogeneously enacted in the 3 dimensions detected in the Italian sample, where the 3 dimensions could be differently enacted by the nurse teachers.

Another difference is the factor weightings in explaining student's perception of the clinical learning environment: the main factor in Italian sample is "pedagogical atmosphere", followed by the "role of the nurse teacher" and in particular his/her role in integrating theory and practice. In Italian data "supervisory relationship" had a lower weight in determining the overall clinical learning environment perception in comparison with previous studies in Finnish and Swedish educational systems, where this factor is the main one: this could be explained by different models of student supervision, such as group supervision in the ward, that could emphasise ward climate in the Italian students perception despite a one to one supervisory relationship with a mentor. Moreover the Italian sample reports a higher number of meetings with the nurse teacher: the Swedish sample has a mean number of meetings of 2.8 in a 7.4 weeks clinical placement (22) while almost half of the Italian sample reports more than 3 meetings in a mean clinical placement duration of 5.5 weeks. This could generate a higher perceived role of the nurse

**Table II. Factors' correlation matrix**

Factors	1	2	3	4	5		
					a	b	c
1. Pedagogical atmosphere (PA)	1						
2. Leadership style of the ward manager (LS)	0.45	1					
3. Premises of nursing in the ward (PN)	0.53	0.43	1				
4. Supervisory relationship (SR)	-0.50	-0.40	-0.41	1			
5. Role of the nurse teacher (NT)	a. Theory-practice integration	0.25	0.27	0.27	-0.19	1	
	b. Cooperation with ward staff	0.15	0.21	0.08	-0.15	0.40	1
	c. Relationship with mentor and student	0.27	0.28	0.27	-0.47	0.49	0.44



teacher in guiding learning from experience and in reconciling theory and practice, even if the nurse teacher is not perceived at all as a part of the ward staff and does not have a direct role in nursing care practice. The other 2 sub-factors concerning nurse teacher role in fact showed a marginal contribution in explaining variance. These results confirm the CLES+T's capacity to detect cross-cultural differences among different educational systems and supervisory models. Even if the Bologna process enhanced homogenization of the educational systems in Europe, nursing students' clinical supervision could be highly sensitive to cultural attitudes in supervising students, pedagogical models and organizational contexts within hospitals (e.g. workloads and nurse to patient ratio). The 7-factor model could be useful to highlight, in an international comparison, different nurse teacher roles and to deepen effective strategies to improve clinical learning.

The variance explained by this model is the same one found in the original framework by Saarikoski et al. (16) using a different methodology.

Cronbach's alpha of the total scale was 0.95 and ranged from 0.80 to 0.96 among factors: these results are consistent with those in the Swedish sample (22) and confirm the high scale reliability. Moreover there is no indication to drop any items according to EFA items' loading (25).

Good answer variability was found: it is possible to confirm that the items' phrasing does not generate a preferred answer toward higher or lower levels of agreement and the variability assumption of a Likert scale is stated (27).

CFA approach showed better model fit indexes for the 7-factors model (32).

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## Conclusion

To our knowledge this study brings the results of the widest pooled national sample in the CLES+T research area. This study has demonstrated the good psychometric proprieties of the Italian version of CLES+T and has completed the previous validation of CLES, expanding it both methodologically and in terms of content: in particular a wider sample was involved, a more detailed psychometric evaluation was performed and a new scale (the nurse teacher scale) was added according to the international evolution of the CLES framework.

Italian results confirm the items' aggregation and the main factor structure found internationally, however the "role of the nurse teacher" factor showed 3 sub-factors and suggested an overall 7-factor model in spite of a 4 or 5-factor model being found in other studies. Moreover the Italian study has shown different weights of the factors' variance in explaining students' overall perception of a clinical learning environment.

The Italian version of the CLES+T shows both an international coherence, and cultural sensitive characteristics in explaining student's perception of the clinical learning environment, so it could be useful to detect differences in educational systems in international research, in order

to compare different supervisory models and to find effective strategies to improve students' clinical learning.

A multicentric international approach could be useful to confirm theoretical framework in CLES+T structure. Pooling together data from different national samples, and the use of Structural Equation Modelling (SEM) is recommended as the next step in the development of the CLES+T.

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## Annex 1

## Clinical Learning Environment and Supervision plus Nurse Teacher Scale

Scala di valutazione:

1=forte disaccordo; 2=disaccordo; 3=né accordo né disaccordo; 4=accordo; 5=forte accordo.

1. Tutta l'equipe si è dimostrata disponibile nei miei confronti.
2. Durante i momenti di discussione sui pazienti (es.: consegne, discussione dei casi) mi sono sentito a mio agio nel prendere parte alla discussione.
3. Mi recavo volentieri in reparto per iniziare il turno di tirocinio.
4. Nel reparto c'era un clima positivo.
5. Tutta l'equipe è stata partecipe del mio apprendimento clinico.
6. L'equipe si rivolgeva a me usando il mio nome.
7. Nel reparto ci sono state sufficienti e significative occasioni di apprendimento.
8. Le occasioni di apprendimento sono state multi-dimensionali, ovvero varie in termini di contenuto.
9. Il reparto può essere considerato un buon ambiente di apprendimento.
10. Il Coordinatore considerava l'equipe del suo reparto una risorsa determinante per la qualità dell'assistenza.
11. Il Coordinatore era un membro del team ("uno di loro").
12. I feedback del Coordinatore erano considerati agevolmente dall'equipe come occasioni d'apprendimento.
13. I contributi dei singoli membri dell'equipe erano apprezzati.
14. Il modello di assistenza infermieristica del reparto era ben definito.
15. I pazienti ricevevano assistenza infermieristica personalizzata.
16. Non c'erano problemi nei flussi di informazioni correlati all'assistenza dei pazienti.
17. La documentazione infermieristica (ad es. diario infermieristico) era di chiaro utilizzo.
18. Il mio tutor clinico <sup>1</sup> ha dimostrato atteggiamenti positivi verso il tutorato <sup>2</sup> .

(continue)

<sup>1</sup> Il tutor clinico è l'infermiere di reparto che si occupa del tutorato dello studente nella specifica realtà clinica.<sup>2</sup> Il concetto di tutorato clinico si riferisce al guidare, supportare e valutare gli studenti infermieri da parte del personale di reparto. Il tutorato clinico può essere di tipo individuale o inteso come funzione diffusa di tutta l'equipe di reparto.



(continue) **Annex 1**

19. Ho sentito di aver ricevuto un tutorato personalizzato.
20. Ho ricevuto continui feedback dal mio tutor clinico.
21. Complessivamente sono soddisfatto del tutorato ricevuto.
22. Il tutorato clinico è stato fondato su una relazione equa e ha promosso il mio apprendimento.
23. Nella relazione di tutorato c'è stata un'interazione reciproca.
24. Nella relazione tra tutor clinico e studente hanno prevalso reciproco rispetto e riconoscimento.
25. La relazione di tutorato è stata caratterizzata da un senso di fiducia.
26. Secondo me il tutor universitario <sup>3</sup> è stato capace di integrare la conoscenza teorica con la pratica infermieristica quotidiana.
27. Il tutor universitario è stato capace di dare concretezza agli obiettivi d'apprendimento di questo tirocinio.
28. Il tutor universitario mi ha aiutato a ridurre il gap teoria-pratica.
29. Il tutor universitario è considerato parte dell'equipe infermieristica di reparto.
30. Il tutor universitario è stato in grado di condividere la sua competenza pedagogica con l'equipe infermieristica del reparto.
31. Il tutor universitario e l'equipe del reparto hanno lavorato insieme per favorire il mio apprendimento.
32. Gli incontri periodici fra me, il tutor clinico e il tutor universitario sono stati esperienze gradevoli.
33. Il clima che si è creato durante gli incontri è stato partecipativo.
34. Gli incontri erano focalizzati sui miei bisogni di apprendimento.

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<sup>3</sup> Per tutor universitario si intende un tutor assegnato a svolgere il proprio ruolo presso l'università.