

Competence assessment of the clinical tutor: a multicentric observational study

Rachele La Sala¹, Debora Coppola², Corrado Ruozi³, Michele Martelli², Alessandro Lo Coco², Romano Marchini⁴, Lucia Gotri¹, Giuseppe Pedrazzi⁵

¹Educational Director, Course of Degree in Nursing University of Parma, University Teaching Hospital, Parma, Italy; ²Bachelor of Nursing University of Parma, University Teaching Hospital, Parma, Italy; ³Psychology Potential Training and Development Manager, University Teaching Hospital, Parma, Italy; ⁴Manager of the Health Professions, AUSL Parma, Parma, Italy; ⁵Department of Medicine and Surgery-Unit of Neuroscience, and Interdepartmental center of Robust Statistics, University of Parma, Parma, Italy.

Abstract. *Background and aim of the study:* In the international literature there are no validated tools which investigate clinical tutors' skills. The main objective of the study has been to describe the clinical nurse tutor's skills, required to properly train nursing students during their educational path. *Methods:* In this observational study a non-probability sampling has been used. The study was led in two centers: the AOUPR of Parma and the AUSL of Parma, after obtaining the favorable opinion from the Ethics Committee of the Northern Emilia Large Section. The data have been collected by using a structured and self-given survey that investigated three areas. Each item has a 4-point Likert scale, in which 1 indicates "for nothing" and 4 "very much". The data have been analyzed with the statistical software IBM SPSS v.26 (R) and with the open-source statistical software Jamovi v.1.6.9 (<https://www.jamovi.org>). The number of factors in the original model was reduced using several established research steps and then evaluated for data quality and construct validity using principal component analysis and confirmatory factor analysis. *Results:* Among 397 administered questionnaires, only 300, which were considered valid, have been filled. The psychometric properties of the investigation tool turned out to be good in all the areas analyzed with a Cronbach alpha higher than 0.70. The extensive process resulted in a version with 4 factors. *Conclusions:* Nurses' answers have allowed to draw the required profile of the clinical tutors in the different organizational contexts. The results can target possible training proposals to create opportunities for the clinical tutors. (www.actabiomedica.it)

Key words: nurses' competence, nursing education, clinical experiences, student evaluation, learning experience.

Nursing care is a practice founded on the acquisition of scientific, ontological and ethical knowledge which continues for one's entire career, and also by constant reflection on the professional interventions in which it is realized. This process can be facilitated if during the educational journey the student engages in meaningful and formative internship experiences (1). The cultural perspective that is hidden behind the university internship actually abandons the idea of the

development of technical skill as the only pragmatic, applicable and revisable direction of the future nurse. Instead, the aforementioned perspective employs a reflective response featured as a project-oriented dimension of the aspiring health professional. It is accompanied by the awareness of the complexity in which professional procedures are performed today, and even more so in the future (2,3). For this reason, the formative activities and the tools used to assist

in the clinical training are guided by principles such as the active participation of the student and his self-determination (4), the gradual approach, sequentiality, the integration of knowledge, the formation of a tutorial relationship (5) and, equally important, the attention to the didactic setting. In this comprehensive journey, the tutorship takes on a notable importance so as to be considered a two-sided relationship between the trainee and the trainer. In this type of relationship, reflection serves to encourage and enforce the expertise and competence of the trainee through referencing, restructuring and rendering them operative in an authentic context (6,7). Specifically, at the national level, the reference figure of the nursing major in the context of the internship is called the clinical tutor/internship guide. At the international level, conversely, the preceptor would appear to be the figure that mostly reflects that of a clinical tutor/internship guide. The preceptor, in fact, through the acquisition of formative strategies, becomes an expert and specialist in a determined context which, with critical thinking skills and communicative abilities accompanies the student in the practical experience (8,9).

The tutorship is therefore an educational endeavor which through the institution of the formative setting, its modulation and successive dissolution, initially renders the educational procedure conceivable and then feasible, enough to make the internship a meaningful experience (4). Analysis of the literature has revealed some characteristics that define the formative internship setting, inside which the tutorial process takes place (10). The tutorship is in fact designed to:

1. Create the potential area of the formation, a vision that is defined as the function of “border or framework” (11).
2. Ensure continuity and unity in the formative process, a function of “process” (12).
3. Support and oversee the learning process of the individual as a guarantee of achieving the formative objectives (10), that is, a function of “support”.
4. Offer specific organizational support to the learning process, helping to use activities, people, objectives, and processes in an optimal way (13), namely an “instrumental” function.

These four characteristics of the formative setting place the tutorial care on the same number of procedural methodologies, considering these last ones among the true and proper approaches to the function, by reason of precise theoretical assumptions. The term “approach” rather than “models” is used deliberately, precisely to underline the fact that, identified mostly on an empirical basis, they are not to be perceived as rigid classifications (14). Such approaches are distinguished as:

- **Psychodynamic Approach:** in order to facilitate learning it is necessary to create the potential area of formation. The attention and the tutorial care are placed on the affective dimension involved in the teaching-learning process.
- **Connectionist Approach:** to facilitate learning it is necessary to ensure continuity and unity to the training process. The attention and the tutorial care are placed in the cognitive dimension, primarily on the contents of training (disciplinary, interdisciplinary).
- **Educational-Relational Approach:** the attention and the tutorial care are dedicated to providing support to the subject in order to promote a good outcome of the formative process.
- **Instrumental Approach:** in order to facilitate learning it is necessary to oversee the organizational dimension, with particular attention to the logistical aspects (physical spaces, technological instruments, etc.). Such an approach integrates with others and becomes functional at any moment of the teaching-learning process.

From an in-depth analysis of these methodological aspects of the individual approaches, making an exception for the instrumental one, the intervention of the clinical tutor/internship guide takes place, therefore, always preparing an opportunity for the student to: reflect (recognize, interpret, and interiorize); elaborate connections and acquire knowledge on the factors and phenomena involved in the learning process (2). From that comes the acknowledgement that the tutorial intervention implies “competence”, more

precisely understood, in this context, not as a state but as a process, which resides in the mobilization of the individual's resources (theoretical and procedural understanding, procedural, experiential, and social know-how), and not in the resources themselves. It takes shape, therefore, as knowing how to act (or react) in response to a specific situation-problem, in a specific context, with the purpose of delivering a performance, on which other participants must give an assessment. This definition of competence, described by Guy Le Boterf (15), coincides with the underlying theoretical principles of the educational intervention of the clinical tutor/internship guide and of the specific nature of the tutorial contexts. More precisely because it places the accent on the competence as a process that carries, in this case the teacher, to make sense of, project, and effectively follow through with actions in response to the learning objectives of the internship students.

From the revision of the literature and from an experience at the national level (16), the competency model of the clinical tutor that takes shape appears to identify five transversal areas or dimensions: cognitive (e.g., reveal and validate the potential of the student), relational/communicative (e.g., establish an educational relationship and trusting rapport), organizational (e.g., plan types and times of activities), psycho-pedagogical (know and use active didactic methodologies) and specific to the role (e.g., manage eventual conflicts in the relationship with the student). One study conducted the Emilia-Romagna region on clinical tutors (17), although with some nuances, confirms such areas, affirming that the core curriculum of the clinical tutor relies on clinical, didactic and formative competency, highlighting the psycho-pedagogical effects. Nevertheless, above all at the national level, calculated attempts of in-depth analysis of this model through proven methodological procedures are not evident. Also, in the international literature, most of the studies are oriented towards documenting the useful tools for evaluating some of the clinical learning contexts frequented by the nursing students (18,19) and the scales that measure the competency of the nurses (20) and the tools that evaluate the role and the functions of the clinical tutors (21). The studies that investigate specific areas of competence of clinical tutors through various investigative tools are almost

non-existent. All these factors make the indispensable process of evaluation, monitoring and maintenance of the competence of the clinical tutors difficult, with the risk of compromising the quality of the internship itineraries and make the internship less important for the student. The legislative, demographic, and technological changes underway, as well as the awareness in the field of healthcare, determine the necessity of training professionals who are more and more competent, who know how to respond to the needs of the users/patients/citizens and adapt to the specific aspects of the organization that provides the services in which they themselves are placed.

These are the premises that led the study to a further methodological and substantial investigation of the competency of clinical nursing tutors, with the purpose of creating easily reproducible foundations for other contexts as well.

Aim

The quantitative study, which is observational and multicentric in nature was aimed at confirming and describing the areas of competence of the clinical tutor for nursing students, beginning with those identified in previous studies.

Methods

Instrument

Based on results of the revision of the literature, a questionnaire was therefore created *ad hoc*.

The definitive version of the questionnaire was preceded by a "preparatory questionnaire", which was administered to 11 professionals, asking them to explain their own evaluation relative to the comprehension/clarity/structure of the questionnaire itself. The professionals were: 2 didactic tutors of the Nursing Major Curriculum of the University of Parma; 1 coordinator of the operational unit of the Surgical sector of the Parma University Hospital Agency; 5 clinical tutors from the Parma University Hospital Agency; 1 Training expert; 1 Education expert; 1 expert in Statistics.

Specifically, they were asked to give an evaluation regarding: difficulty of completion; terminology used; comprehension of the items. In addition, at the end of the questionnaire, in a designated space, they were asked to supply a numerical value for the questions that were particularly difficult to understand. The first three items, the ones about evaluating some aspects just listed, provided a 4-point *Likert* scale, in which the number 1 meant “easy” and the number 4 meant “difficult”. The other values represented intermediate positions. The definitive version of the questionnaire considered all the observations of the participants until a collaborative agreement was reached. The questionnaire was thus structured in two areas of research:

The first area of clinical tutor competency (item no.32) separated as traversing competencies, which include those that are cognitive (item no.6), relational/communicative (item no.6), organizational (item no.6), psycho-pedagogical (item no.11), and competencies specific to the role as related to the context of work, to the professional profile and the activities performed (item no.3). Each item has required the level of implementation as the measure level. By “implementation” we mean with what frequency the aspect in consideration was effectively put into practice throughout the course of the internship of the Nursing student. Each item provided a 4-point *Likert* scale, in which the value 1 corresponds to “not at all” and the value 4 to “very much so”; the other values represented intermediate positions.

The second area, which researches the perception of the clinical tutors regarding the evaluation of the tutorial activities and eventual specific formative requirements. A final space was provided at the end, which was open and optional, dedicated to eventual reflections and/or suggestions. Each questionnaire was categorized with an identification code and the data were processed anonymously, so that participants could not be recognized.

Sample

A non-probability sampling was adopted for convenience, recruiting 300 clinical tutors (232 clinical

tutors from the AOUPR center -the Parma University Hospital Agency and 68 from the AUSL center - The Department of Public Health in Parma) out of an estimated total of 500 clinical tutors. The participants were therefore the clinical tutor nurses recruited directly from the internship sites. The research was conducted during the period from May to December 2019. The criteria of inclusion were the clinical tutors with at least one tutorial experience in the clinical context that represent the tutorial sites for the nursing students from the University of Parma. Clinical tutors that did not formally request their participation in the study were also excluded.

Procedural Phases

The organizational plan of the study was based on three principal sequential phases and described below:

1st phase: informative presentation of the study to the coordinators and nurses in the clinical tutorial contacts.

2nd phase: submission of the questionnaires directly by hand in the internship sites. Twenty-five tutoring sites for the AO and 13 tutorial sites for the AUSL, to finally include all areas (medical, surgical, emergency, pediatrics, territorial).

3rd phase: gathering data.

Analysis of the data

The quantitative data, after having been collected, were inserted in a database onto an Excel sheet. The statistical analysis was conducted using the IBM SPSS Application, *Statistics* version 26 (22) and Jamovi version 1.6.9 (23). The descriptive statistics were used for the socio-anagraphic variables. The initial model of competency, from which it began, took five factors into consideration: the cognitive, psycho-pedagogical, relational, organizational and particular role were the areas (16). Upon completing the verification of such model, a Confirmatory Factor Analysis (CFA) was utilized (23). The indexes considered were CFI

(Comparative Fit Index), TLI (Tucker-Lewis Index), RMSEA (Root mean square error of approximation), SRMR (Standardized root mean soiree residual), BIC (Bayesian information criterion). For the CFI and TLI indexes the threshold of fixed acceptability was equal to or > to 0.90, while for the RMSEA < 0.06 and for the SRMR < 0.08 (24,25). The model with the lowest BIC was the preferred one (26). Subsequently an EFA, or Exploratory Factor Analysis was conducted in the end to determine the optimum number of dimensions/factors of the model. Once the model was confirmed, the synthesis indicators of each factor were constructed in order of explained variability then of importance. To verify the internal strength of the factor items in each researched area Cronbach's Alpha was calculated. After describing the relationship of the factors of the model Pearson's correlation coefficient was utilized.

Ethical considerations

The correlating data of the field research was contingent on the favorable opinion of the Ethics Committee of the Northern Area and the deliberation of the General Director of the AOUPR (deliberation no. 0001158 of 10/22/2019) and the determination of the AUSL (determination no. 0068674 of 10/24/2019). A documentation relative to the center known as "Center A" (Parma University Hospital Agency) and to the "Center B" (The Department of Public Health in Parma). The questionnaire administered to the clinical tutors was paired with the form for informed consent and with the form for the informative notice of the handling of personal data. To guarantee the anonymity of the questionnaires, the Coordinators were requested to return the completed questionnaires in a separate sealed envelope signed by the consensus.

Results

Participants' characteristics

The participants had an average age of 40, the minimum value being 24 and the maximum 62. The distribution of the participants seemed to be bimodal, with DS 9.8. Three hundred clinical tutors participated

Table 1. Participants' Characteristics (N=300): frequencies and percentages

Gender	Women	209	(69.7%)
	Male	91	(30.3%)
Education background	Regional diploma	102	(34.0%)
	Bachelor's Degree/ Degree	198	(66.0%)
Working area	AO	231	(77%)
	ASL	69	(23.0%)
Expertise of tutors	<1 year	42	(14.0%)
	1-5 years	86	(28.7%)
	6-10 years	47	(15.7%)
	>10 years	125	(41.7%)

in the study, of which 209 were of the feminine gender (69.7 %) and 91 of the masculine gender (30.3 %). In table 1 the principle descriptive characteristics of the participants are listed. About the level of education 102 clinical tutors (34.0 %) claim to have earned a regional (high school) diploma, while 198 clinical tutors (66.0%) have earned a bachelor's degree.

Among the participants, 42 (14.0%) confirmed having performed the activity of clinical tutor for at least one year, 86 (28.7%), for one to five years 47 (15.7%) for six to ten years and 125 (41.7%) for more than ten years. In addition, they were also asked who entrusted them with the position of clinical tutor. The centrality of the figure of the Operative Unit Coordinator, was evident in the results, as the one who creates the conditions for the student training in collaboration with the clinical tutor and oversees the formative activity in the clinical context.

The study required the involvement of two health care agencies, the Parma University Hospital Agency and the Department Public Health in Parma. Of the clinical tutors, 69 (23.0%) work at the AUSL, while 231 (77.0%) came from the AO of Parma. This allowed for the analysis of both the reality of the hospital and the territorial reality of Parma and the surrounding Province, in order to have a more complete outlook and from the perspective of the continuous collaboration between the two agencies. The participants were also asked to provide the department and the operational unit backgrounds that represented the internship contexts (table 2).

Table 2. Learning areas/working areas of participants (N=300): frequencies and percentages

Surgery	60	(20%)
Medicine	77	(25.6%)
Critical care/Emergency Department	73	(24.4%)
Pediatrics	42	(14,0%)
Territorial assistance	48	(16%)

This allowed for research in many departmental areas with the purpose of having a vision that includes more categories of healthcare assistance activities, and therefore a variety of training contexts. The most widely represented department was the Department of General and Specialized Medicine for the AO (16.3%) and the Department of Primary Care (14 %) for the AUSL. From the confirmatory factorial analysis of the initial five factor competency model (cognitive, psycho-pedagogical, relational, organizational, and specialization of the role), an index emerged of adequacy and adherence to the model that was inferior to the expectations; in fact, the indexes considered, CFI and TLI, resulted in a lower threshold of acceptability (<0.90). In light of that, the Exploratory Factor Analysis, or EFA, determined the optimal number (or sub-optimal) of the factors. The four-factor model is preferable to that of five factors, in fact it presented an acceptability of the considered indices (>0.90), with a model that revealed an adequate *fit* for the data (table 3).

The results of the factor analysis are represented in tables 4 A and 4 B by way of the modality of factorial extraction “oblimin’ rotation” and “varimax rotation” (23).

In synthesis, assuming the order of the explained variability, the four underlying factors or dimensions of the construct “competency of clinical tutors” are found to be: psycho pedagogical dimension (factor 1) relational dimension (factor 2), cognitive dimension

Table 4-A. Factor analysis with oblimin’ rotation

	Factor Loadings				Uniqueness
	Factor				
	1	2	3	4	
Question 1A		0.761			0.441
Question 2A		0.560			0.623
Question 3A		0.623			0.562
Question 4A		0.526			0.468
Question 5A		0.481			0.569
Question 6A		0.381			0.650
Question 7A			0.428		0.683
Question 8A			0.312		0.649
Question 9A	0.370				0.597
Question 10A			0.496		0.557
Question 11A			0.778		0.380
Question 12A					0.565
Question 13A	0.354				0.625
Question 14A					0.613
Question 15A				0.661	0.515
Question 16A				0.810	0.276
Question 17A				0.403	0.597
Question 18A			0.651		0.471
Question 19A	0.340				0.593
Question 20A	0.549				0.606
Question 21A	0.364				0.642
Question 22A	0.305				0.522
Question 23A	0.444				0.724
Question 24A	0.717				0.551
Question 25A	0.695				0.446
Question 26A	0.409				0.516
Question 27A	0.448				0.625
Question 28A	0.538				0.580
Question 29A				0.366	0.577
Question 30A	0.589				0.626
Question 31A	0.470				0.580
Question 32A	0.543				0.581

Tabella 3. Model Fit Measures

Model Fit Measures							
RMSEA	RMSEA 90% CI				Model Test		
	Lower	Upper	TLI	BIC	χ^2	df	<i>p</i>
0.0443	0.0377	0.0511	0.921	-1537	594	374	< .001

Table 4-B. Factor analysis with varimax' rotation

Factor Loadings					
	Factor				Uniqueness
	1	2	3	4	
Question 1A			0.688		0.441
Question 2A			0.530		0.623
Question 3A			0.573		0.562
Question 4A			0.544		0.468
Question 5A			0.497		0.569
Question 6A			0.399		0.650
Question 7A		0.464			0.683
Question 8A		0.405			0.649
Question 9A	0.435				0.597
Question 10A		0.543			0.557
Question 11A		0.741			0.380
Question 12A		0.407			0.565
Question 13A	0.419				0.625
Question 14A	0.331				0.613
Question 15A				0.617	0.515
Question 16A				0.754	0.276
Question 17A				0.442	0.597
Question 18A		0.646			0.471
Question 19A	0.418				0.593
Question 20A	0.530				0.606
Question 21A	0.418				0.642
Question 22A	0.417				0.522
Question 23A	0.437				0.724
Question 24A	0.626				0.551
Question 25A	0.651				0.446
Question 26A	0.482				0.516
Question 27A	0.471				0.625
Question 28A	0.530				0.580
Question 29A				0.420	0.577
Question 30A	0.533				0.626
Question 31A	0.497				0.580
Question 32A	0.514				0.581

(factor 3) and organizational dimension (factor 4). The initial five factor model was, therefore, perfected. The dimensions of the traversing competencies of the initial model are fairly refined, while those of the specific role competencies linked to the work context, to the professional profile and to the activities performed (item no.3) by and large are absorbed into the organizational dimension. The psychometric properties of the scale, which examines the four dimensions/factors, came out well; the results for each factor can be found in table 5.

All the dimensions that describe the competency of the clinical tutors correlate positively and in a significant way among themselves ($P < 0.01$), reaching indices near the maximum value "1" (table 6).

The psycho-pedagogical dimension

In the description of the competency of the clinical tutors the psycho-pedagogical dimension is found to be the most important. There are many aspects to take into consideration like: the ability of the clinical tutors to know and utilize the active didactic methodologies, to re-elaborate the emotions of the students based on the defined objectives, to assign mandates coherent with the objectives and the training pathway of the students, to use an educational approach based on quality health care standards and on problem solving, to ascertain and utilize their potential. Regarding this dimension the participants usually claimed to put the above-described aspects into action during the students' training process. They feel particularly more focused on creating opportunities for the student to pose questions and ask for help (M 3.51, DS.581), sustaining it in ethical-deontological situations that could come up (M 3.19, DS.702), the whole thing is accompanied by a focus on guaranteeing safe conditions for the safety of the student (M 3.62, DS .568).

Table 5. Descriptive statistics (mean e and standard deviation) and Cronbach's Alpha

Dimensions/factor	N. item	Cronbach α	Min	Max	M	SD
Psycho-pedagogical	16	.906	1.94	4.00	3.21	.45
Relational	6	.813	1.67	4.00	3.38	.46
Cognitive	6	.806	1.67	4.00	3.11	.02
Organizational	4	.778	1.50	4.00	2.88	.60

Table 6. Pearson's correlation of the dimensions of competence

	Cognitive dimension	Psycho-pedagogical dimension	Relational dimension	Organizational dimension
Cognitive dimension	1	.648**	.579**	.603**
Psycho-pedagogical dimension		1	.723**	.699**
Relational dimension			1	.567**
Organizational dimension				1

Relational dimension

The second most important dimension that plays a role in describing the competency of the clinical tutors is the relational one. It places attention above all on the ability of the clinical tutor to develop an educational relationship that stimulates the training of the student, favors his or her placement and his or her inclusion within the professional staff and guides him in the expression of his own expectations regarding the objectives of the training. To this dimension, the participants claim to develop an open communication with the student (M 3.57, DS .559), based on mutual trust (M 3.46, DS .608) which stimulates active learning in the student (M 3.44, DS .649).

Cognitive dimension

The characteristics that describe the cognitive dimension of clinical tutor competence are generally focused on the ability of the clinical tutor to facilitate the integration of theory and practice for the student, finally reaching the objectives of the training. In this process of integration, the verification of the training requirements, student expectations, the assessment of the training opportunities in a real-life context and special attention to the recognition of eventual difficulties takes on new meaning. These aspects of the experience are generally put into practice by the students. However, there are some specific tutorial interventions that are usually carried out in a smaller way with regard to others of the same dimension. For example, how to select the specific clinical experiences for the development of certain abilities of the student (M 2.99, DS .715), redirect the internship pathway in case a student has a learning issue (M 2.96, DS .835) and assess

the actual feasibility of the internship project based on conditions of the clinical context (M 2.94, DS .682).

Organizational dimension

The organizational dimension of clinical tutor competence substantiates the true meaning of the formative setting; specifically, of the ability of the clinical tutor to create organizational conditions with the purpose of supporting the student for optimal use of the activities, objectives, and educational processes. From the results of the study, this dimension received fewer points on average with respect to those of the other dimensions which describe the competence of the clinical tutor, which were found to be good in general. Namely, the main tutorial interventions made reference to the planning of the formative session like, for example, the documentary and technical material (M 2.75, DS .819), to the manner and times of the assistance activities, to formative value, (M 2.85, DS .793), to the use of an educational approach based on the logic of the outcomes of care (M 2.97, DS .744), and to create diverse experiences for the student for the clinical training (M 2.99, DS .754).

Beyond the results that confirmed the four-factor model of clinical tutor competence, describing characteristics of the dimension and the perception of the same by the participants, other results of the study have highlighted the formative journey undertaken and the emergent formative requirements of the clinical tutor. The most notable data is that most of the clinical tutors (no.193/300) claims to have not participated in any structured formative course and to have acquired the tutorial competence in the field through experience. Instead, 107 out of 300 took a technical or university course. In pointing out the principal aspects of tutorial

activities that one should develop in a formal course, the clinical tutors referred to, in order of frequency, to the tutorial strategies (no.171), to the evaluation process of the students (no.147). To the responsibility of the clinical tutors (no.135), to the communication and to the relationship with the student (no.111).

Discussion

The definition of tutorship is understood as an educational action that makes learning from experience feasible for the student, along with the construct of competency, understood as a process and not as a state of being, which carries the instructor, to assign meaning and to project and to plan the educational experiences (15) have provided the theoretical framework and the baseline rationale of the study.

The initial five factor model of competency of the clinical tutor/internship guide was perfected by upholding four dimensions: the psycho-pedagogical dimension, the relational dimension, the cognitive dimension and the organizational dimension. Such dimensions come to be well examined by the research tool utilized, as was demonstrated by the good psychometric properties of the same and by some comments provided by the participants: "...all very comprehensive..." (Part. N.199) - "... The questions administered touch on some key points of the issues linked to the subject (Part. N. 288)".

The research team has decided, therefore, to call the instrument the Clinical Tutor Competence Scale (CTCS).

The psycho-pedagogical dimension of the competence of the clinical tutor turns out to be the most important. One understandable result being the educational invention founded essentially on principles of adult education and learning from experience. This importance, moreover, reflects how much it is recognized in literature, which emphasizes how the formative activities of the clinical tutors must allow for the development of diagnostic reasoning and the operative decision-making and the progressive acquisition of autonomy and the mastery of professional performance (3). The tutor transmits a sense of importance of the use of training techniques to the student. (4). The

participants, who were providing years of experience as clinical tutors/internship guides, acquired mostly on site, usually see the psycho-pedagogical dimension of the competence at work, above all through an affective attention (e.g., supporting the student in ethical-deontological situations) during the process of teaching-learning of the student (psychodynamic approach) (14).

The learning development of the student also turns out to be based on an educational relationship (relational dimension of competence) which favors above all the inclusion of the student within the professional healthcare staff. This dimension of competence, which emerged as second in level of importance, shows that the dual relationship that is established between the trainee and the trainer who, as an expert, promotes the professional development through reflection on the experience (6,7). This relational dimension of competence is usually realized by the participants above all by way of open communication with the student a trusting rapport and attention given to supporting the student toward a good outcome of the formative process (educational-relational approach) (14).

The third dimension that describes the competence of the clinical tutors appears to be the cognitive. This dimension is aimed at encouraging the integration of theory and practice in the intern, with the goal of ensuring continuity and unity in the formative process. The participants, in general, feel that they provide some aspects of this dimension (e.g., ascertain the training requirements and the expectations of the student, create learning opportunities). However, other aspects that assume a methodological structure, deserve to be recognized (e.g., choosing the specific clinical experiences for the development of determined abilities of the student, redirecting the pathway of the internship in case of a student learning setback, assess the actual feasibility of the internship project based on the conditions of the clinical context). In this sense, the tutorial intervention that functions in the cognitive dimension of competence, primarily on the contents of disciplinary and interdisciplinary learning (connective approach; 14), deserve further exploration.

The last dimension of clinical tutor competence, namely organizational, centers the tutorial action in creating the organizational conditions with the

purpose of supporting the student in optimizing the educational activities, objectives and processes. Relative to the participants' claims, some aspects carried out, which implies the presence of the organizational dimension (instrumental approach), prove to be sensitive to future developments (e.g., preparation of the formative session, preparation of the documentary ad technical material, definition of the methods and times of the assistance activities of formative value). Fully performing in the organizational dimension of competence in fact becomes fundamental, in so much that it is integrated with the aspects of the other dimensions, becoming operational in every moment of the teaching-learning process.

Besides describing the dimensions of the clinical tutor/internship guide competence so well, the participants revealed their principal formative requirements linked to the tutorial activity. Specifically, they agreed on the premise of the study and on how much the literature emphasized it, namely, that tutorship presupposes the acquisition, monitoring and maintenance of competency. Some excerpts of the comments left by the participants are quoted below:

"...every nurse should take a course and be evaluated before becoming a clinical tutor..." (Part. N 170).

"Personally, I think the placement of the nursing students should not occur "randomly" ...the choice of a professional trained on site (not only clinical experience but also post-base formation) and critical thinking (scientific literature) are fundamental for teaching our future colleagues. Thank you" (Part. N 107).

"I believe it's appropriate, nevertheless, a formative course is necessary to acquire the right competencies to better approach this role with the aim of assisting the student in effective training" (Part. N 120).

"For this I ask for a beginning level formative course if possible and refresher courses so that we can always be prepared to approach this role which I personally believe is important" (Part. N.163).

Most of the participants would like to explore the tutorial strategies in more detail (e.g., briefing and

debriefing), the evaluation process of the students, the responsibility of the clinical tutors, the communication and the relationship with the student. These results are also confirmed by some excerpts from the comments provided by the participants: *"I would like to explore the aspects relative to the role of the tutor, how to approach the relational aspect with the student to encourage him to carry out the internship experience in the best ways" (Part. N. 41).*

"A formative course specifically for the figure of the clinical tutor would be useful, during which we can take on subjects like teaching techniques and strategies, and also like methodologies and assessment of the student" (Part. N.233).

The results of the formative requirements place in relation with the results that emerged from the description of the dimensions of competency by the participants, confirm that the "competence" of the clinical tutors/internship guides is to be considered as an active process to implement the expertise and competencies of the trainee, referring to them, restructuring them and rendering them operational in a real-life context (6,7).

Conclusions

The four-factor model of the clinical tutor/internship guide competency would appear to be the optimal one and all of the dimensions underlying the researched construct are worthy of consideration. The Clinical Tutor Competence Scale (CTCS) utilized turned out to be a good tool for researching the four dimensions (psycho-pedagogical, relational, cognitive and organizational) enough to create assumptions for future studies and therefore replicable in other settings and with other participants (for example the clinical tutors of the students in other Healthcare Profession Courses of Study). Being a multicentric study, one possible limit was identified by the impossibility of reaching all of the clinical nursing tutors of the two centers, not recruited, for example, because they are absent for various reasons. The implications of the results of the study occupy a variety of levels: in research, because it

opens doors to other studies in other training contexts; in ECM education, because it has provided important elements for planning formative courses aimed at maintaining the competence of the clinical tutors/internship guides; in practice it offered insights for reflection in order to harmonize the integration of the didactic and the clinical.

Conflicts of interest: Each author declares that he or she has no commercial associations (e.g. consultancies, stock ownership, equity interest, patent/licensing arrangement etc.) that might pose a conflict of interest in connection with the submitted article.

References

- Palese A, et al. Lo strumento italiano di misurazione della qualità dell'apprendimento clinico degli studenti infermieri. [The Italian tool for measuring the quality of clinical learning in nursing students]. *Assist Inferm Ric* 2017; 1.36: 41-50.
- Conferenza Permanente delle Classi di Laurea delle Professioni Sanitarie. Documento di indirizzo su standard e principi del tirocinio nei Corso di Laurea delle Professioni Sanitarie. [Permanent Conference of Degree Classes of Health Professions. Guidance Document on standards and principles of internship in the CL of the Health Professions] *Med. Chir*, 2009; 47: 2036-2045.
- Mortari L. Apprendere dall'esperienza. Il pensare riflessivo nella formazione [Learning from experience. Reflective thinking in training]. Carocci, 2003.
- Zannini L. La tutorship nella formazione degli adulti. Uno sguardo pedagogico [Tutorship in adult education: a pedagogical perspective]. Guerini Scientifica, 2005.
- Gamberoni L, Marmo G, Bozzolan M, Loss C, Valentini O. Apprendimento clinico, riflessività e tutorato. Metodi e strumenti della didattica tutoriale per le professioni sanitarie [Clinical learning, reflexivity and mentoring. Tutorial teaching methods and tools for health professions]. Edises, 2009.
- Chen Y, Hsu L, Hsieh S. Clinical nurse preceptor teaching competencies: relationship to locus of control and self-directed learning. *J Nurs Res* 2012; 3.20: 237.
- Schön D. Il professionista riflessivo [The Reflective Practitioner]. Dedalo, 1993.
- Wensel TM. Mentor or preceptor: What is the difference? *Am J Health Syst Pharm*, 2006.
- Boyer SA. Competence and innovation in preceptor development: Updating our programs. *J Nurses Staff Dev* 2008; 24 (2), E1-E6.
- Scandella O. Tutorship e apprendimento. Nuove competenze dei docenti nella scuola che cambia [Tutorship and learning. New skills of teachers in the changing school]. La Nuova Italia, 1995.
- Mottana P. Formazione e affetti. Il contributo della psicoanalisi allo studio e alla elaborazione dei processi di apprendimento [Training and affections. The contribution of psychoanalysis to the study and elaboration of learning processes]. Armando Editore, 1998.
- Contessa G. La formazione. Manuale per la gestione di progetti e servizi di formazione [Training. Handbook for project management and training services]. CittàStudi, 1993.
- Ferraio M. Mentore e rapporto di mentorato: un modello e un punto di vista sull'applicabilità nella società di oggi. Il mentore come antimaestro [Mentor and mentoring relationship: a model and point of view on applicability in today's society. The mentor as a no-teacher]. Clueb, 1996.
- Scandella O. Pensare alla tutorship. Riflessioni su una funzione emergente. Adulthood, Metodi per la formazione [Think about tutorship. Reflections on an emerging function. Adulthood, Methods for training]. Guerini, 2004.
- Le Boterf G. Costruire le competenze individuali e collettive. Agire e riuscire con competenza. Le risposte a 100 domande [Construire les compétences individuelles et collectives: Agir et réussir avec compétence, les réponses à 100 questions]. Guida Editori, 2008.
- Pellegatta C. Tutor clinico tra Università e Azienda sanitaria: ruolo o funzione per il professionista infermiere? [Clinical tutor between University and Healthcare Company: role or function for the nurse practitioner?] *L'Infermiere*, 2010 (5-6): 45-48.
- Regione Emilia-Romagna. Dossier 246-2014. I tutor per la formazione nelle Aziende sanitarie dell'Emilia-Romagna. Area vasta Emilia Nord.
- Palese A, et al. Strumento di Valutazione Italiano degli Ambienti di Tirocinio per gli studenti infermieri (SVIAT): protocollo di validazione [Italian Evaluation Tool for Internships for Nursing Students (SVIAT): validation protocol]. *Assist Inferm Ric* 2016; 35: 29-35.
- La Sala R, et al. Nursing students' perception of the quality of clinical learning: a mixed methods inquiry. *Acta Biomed for Health Professions* 2019; Vol. 90, S. 6: 78-86.
- Nilsson J, et al. A short version of the nurse professional competence scale for measuring nurses' self-reported competence. *Nurse Educ Today*, 2018; 71: 233-239.
- Bertozzi A, Montani D. Tutor clinico: percorsi e strumenti per la valutazione [Clinical tutor: paths and tools for evaluation]. *L'Infermiere* n.4, 2016; 46-50.
- IBM SPSS Statistics Version 26: Windows Installation Instructions (Authorized User License).
- The jamovi project. Jamovi. (Version 1.6.9) [Computer Software], 2020. Retrieved from <https://www.jamovi.org>.
- R Core Team. R: A Language and environment for statistical computing. (Version 3.6) [Computer software], 2019. Retrieved from <https://cran.r-project.org/>.

25. Rosseel Y, et al. lavaan: Latent Variable Analysis. [R package], 2018. Retrieved from <https://cran.r-project.org/package=lavaan>.
26. Revelle W. psych: Procedures for Psychological, Psychometric, and Personality Research, 2019 [R package]. Retrieved from <https://cran.r-project.org/package=psych>.

Correspondence:

Received: 26 October 2020

Accepted: 5 March 2021

Rachele La Sala, University Teaching Hospital, Parma,

Via Gramsci,14 - 43121 Parma, Italy,

Phone: +39 0521 703230, Fax : 0521/702569

E-mail: rlasala@ao.pr.it