O r i g i n a l   a r t i c l e :   p r o f e s s i o n a l   e d u c a t i o n

Nursing students' experiences of and satisfaction with the clinical learning environment: the role of educational models in the simulation laboratory and in clinical practice

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Abstract. *Background and aim of the work:* Student satisfaction is an important element of the effectiveness of clinical placement, but there is little consensus in the literature as to the preferred model of clinical experience for undergraduate nursing students. The aim of this study was assess, for each academic year, students' perception of the roles of nurse teachers (NT) and clinical nurse supervisors (CNS) who perform tutoring in both apprenticeship and laboratories and to identify and evaluate students' satisfaction with the environment of clinical learning. *Method:* This analytic cross-sectional study was conducted in a sample of 173 nursing students in the Northern Italy. The research instrument used is the Clinical learning environment, supervision and nurse teacher (CLES+T) evaluation scale. Data were statistically analysed. *Results:* 94% of our sample answered questionnaires. Students expressed a higher level of satisfaction with their training experiences. The highest mean value was in the sub-dimension "Pedagogical atmosphere on the ward". Third year students expressed higher satisfaction levels in their relationship with the CNS and lower satisfaction levels in their relationship with the NT. This result may be due to the educational model that is adopted in the course, in which the simulation laboratory didactic activities of the third year are conducted by CNS, who also supervises experiences of clinical learning in the clinical practice. *Conclusions:* The main finding in this study was that the students' satisfaction with the supervisory relationship and the role of NT depend on how supervision in the clinical practice and in the simulation laboratory is organized.

Key words: nursing education, undergraduate nursing student, clinical learning environment, clinical practice, simulation laboratory, clinical nurse supervisor, nurse teacher, CLES+T

Introduction

The complexity of expertise required for efficient and effective patient care needs has increased with the explosion of scientific knowledge in nursing care and the growing attention to the issues of patient-centred care and patient participation. For these reasons the education of nurses has shifted from a hospital-based training model where the routine practice of tasks and activities are emphasised, to a university-based preparation that educates students to understand situations and seek and judiciously use evidence in practice (1,2).

Italian nursing education is part of higher education provided by the universities; the curriculum consists of 180 European Credit Transfer System (ECTS) points, in accordance with the Bologna process, and the duration of studies is 3 years. As part of vocational training and qualifying, the training activity practice

and clinical training is particularly important, corresponding to at least 3 ECTS for professional labs and 60 reserved for the clinical training (3,4). The universities and various health care institutions have drawn up contracts concerning clinical practice in nursing. Each contract outlines the requirements mutually set for the clinical learning environment (CLE); this allows the nursing degree course to assess and control clinical practice in nursing education (5). In its general plan the Italian Ministry of Education, University and Research in agreement with the Ministry of Labour, Health and Social Policy (2009) states that each student has the right to receive expert advice, supervision and support to facilitate learning in clinical practice. How this is arranged may vary between the different university programmes and clinical sites (3,6).

One of the main features of nursing as a science and a profession is that nursing education is characterized by a close relationship between theory and practice, meaning that nursing cannot be learned through either theory or practice only (7). In addition to practice in the clinical learning environment (in-patient and out-patient services), one of the most common places for nursing students to learn clinical and practical skills is in the simulation laboratory (SL) (8,9). The SL is designed to simulate real clinical practice in a safe and secure environment, without the pressure of real-word performance, for practising skills; it constitutes a bridge between the university and the clinical setting in which students integrate theory and practice and develop a reflective stance (9-14). Simulation is a widely used educational strategy, which can be presented through different approaches, methods and levels including low- and medium-fidelity simulations such as case studies, written clinical scenarios, live actors, standardized patients, role playing, games, static mannequins and part-task trainers. High-fidelity simulation is a relatively new method in nursing education, utilizing high technology simulation monitors and computers where different healthcare scenarios are built with computerized models (2,14-20). To be effective, simulation must reflect reality; students need authenticity of the situation and an understanding of its relevance for clinical practice (9,21,22). The involvement of both didactic and clinical faculties in simulations is another way for students to visualize the connections between

the classroom and the clinical setting, helping them to overcome their perception of a disconnection between the academic ideals learned in the classroom and the real life applications experienced in clinical practice (23-26). In accordance with Ewertsson et al. the theoretical origin for simulation situations in the SL could be related to the Theory of Experiential learning (14). In such a way, the use of simulation offers a process that can facilitate learning through active participation, integration, repetition, evaluation and active reflection, which are all important elements of the future education of the "reflective practitioner" (2,22,27,28). Literature highlights a number of advantages and positive outcomes that can be obtained with the use of simulation for undergraduate nursing students. In the SL students can develop practical psychomotor and communication skills, which may improve problem solving, decision making and critical thinking skills, by encouraging them to think deeply and ask appropriate questions and by providing immediate feedback (9,16,19,25,29-31). Other advantages offered by simulation-based learning are the reduction in students' anxiety before entering clinical practice (32,33) and improved levels of satisfaction, self-confidence, knowledge, safety and clinical competence (15,16,19,21,27,34,35). The literature shows further motives supporting the use of SL in undergraduate nursing education, such as the reduction in the number of hospital beds, the reduced length of in-patient stay and the shortage of nurses, which unintentionally have decreased the educational opportunities supplied by the learning practicum (14,36). Despite the accepted efficacy of SL, several scholars point out that simulation should be integrated and linked to clinical placements, since experiences in the laboratory need to be strengthened and repeated in real clinical practice (36-41).

A mixture of simulation and training in practice may be preferred and vital for undergraduate nursing students' learning (2,42). Clinical placement, clinical practical experience, clinical practicum and clinical learning environment (CLE) are terms used to describe the placement of a student within a clinical venue such as a hospital, aged care facility or other non-university location to support an aspect of experiential learning (43). Clinical placements provide students with the opportunity to combine knowledge, cogni-

tive, psychomotor, and affective skills, attitudes and values of a registered nurse. The CLE is necessary for nursing students to become competent in their profession (5,36,42-45). Experience in the clinical setting provides for circumstantial learning, where the student can socialize into the profession and develop a professional identity, while time management skills essential for registered nurses are being developed (43,46-51). Various research studies highlight the factors that may influence the effectiveness of clinical learning.

According to the theoretical framework by Saarikoski and Leino-Kilpi (2002), the CLE has a dyadic nature: one is the learning environment including the ward atmosphere, the culture and the complexities of care, and the other is the supervisory relationships between students, clinical and school staff (7,52). The study by Warne et al. (2010), conducted in nine European countries, explored the CLE experiences of nursing students utilizing the Clinical Learning Environment, Supervision and Nurse Teacher evaluation scale (CLES+T) (53). This study confirmed that students greatly valued individualized supervisory relationships (41). Studies have also shown that student nurses consider clinical nurse supervisors to be the best suited to teaching practical skills and do not want to receive "hands on" education from the nurse teacher (NT) (54-56). Other factors enabling quality in clinical placements include teamwork and good staff morale, a positive staff attitude toward patient care, a quality best-practice culture and active support for learning with feedback and positive role models (42,45,49,50,57-63). Regarding the CLE, the leadership style of the ward manager holds a pivotal role in creating a positive ward atmosphere that is conducive to learning (6,7,52,64). A good clinical learning environment is established through good co-operation and strong partnerships between the nurse teachers (university educators) and placement areas (clinical nurse supervisors, ward manager and staff nurse (5,41).

It has been suggested that the success of nurse educational programmes depends on the effectiveness of clinical placements (1,41,50), and that nursing students perceive the clinical setting as the most influential context for acquiring knowledge and nursing skills (42,65). To this end, it is important that the nurse educators should provide clinical placements offering a

positive learning environment to support the achievement of clinical learning outcomes (5,42,44,45,50,66), and make a systematic monitoring of CLE quality (1). Given the correlation between student satisfaction and clinical learning outcomes, the opinion of students is important, since it may help to identify factors which obstruct or favour the learning process (67), and also to reduce course withdrawal rates (68,69). Student satisfaction is an important element of the effectiveness of clinical placement, although there is still a lack of quantitative studies evaluating the CLE in the Italian context and little consensus in the literature as to the preferred model of clinical experience for undergraduate nursing students.

Aims of the study

The aim of this study was to explore the students' experiences and satisfaction of the clinical learning environment and supervision of the educational model adopted.

The specific objectives were:
1. To assess and evaluate, for each academic year, students' perception of the roles of nurse teachers and clinical nurse supervisors who perform tutoring in both apprenticeship and laboratories;
2. To identify and evaluate, for each year, students' satisfaction with the environment of clinical learning;
3. To create a data base of clinical learning and supervision that will form a starting point for future studies in Italy.

Method

Design

This analytic cross-sectional study was conducted in the academic year 2013-14 in Northern Italy.

Setting

In a Nursing undergraduate course in Northern Italy, the simulation laboratory is characterized by a

classroom equipped with simulators including Sim-Man® of Laerdal, which allow realistic scenarios to be built using advanced technology and equipped environments (20). The SL reproduces many hospital rooms for adults with a total of 5 beds in accordance with the model for intensive care, in which there are several mannequins (1 SimMan®, 3 Nursing Anne® with VitalSim® and SimPad® and 1 Convalescent Kelly® system). The area is also equipped with ECG monitor, vacuum cleaners, an electrocardiograph and medical-surgical devices that enable a realistic reproduction of the educational activities in the simulations. For the paediatric patient, the SL offers 1 Nursing Baby® with SimPad® system, some infant mannequins for basic care, simulators for venous access on newborns and specific devices. The educational model adopted by the undergraduate course requires Nurse teachers (NT) to conduct simulations with 1st and 2nd year students, while the 3rd year teaching laboratory is entirely conducted by clinical nurse supervisors (CNS), as experts of the specialized topics covered in the course (Table 1). The planning of educational laboratory activities is integrated with, and is closely related to, the content of the nursing disciplines and learning objectives of the curricular training. Finally, the student planning assigned clinical cases by adopting the taxonomy of nursing diagnoses approved by NANDA-I (North American Nursing Diagnosis Association-International) (70) and the nursing bifocal model of L.J. Carpenito (71), with the use of the course nursing documentation. The supervision activities of care planning are conducted by NTs who follow students in each year of the course. The NTs hold university posts involving both teaching and research.

They visit the clinical settings for meetings with students and the CNS, but do not participate in the daily clinical work. In the clinical placement, the students are assigned a personal supervisor from among the clinical nurses and the preceptor's role is to supervise the students in the daily patient care, facilitate their learning of practical skills and take part in the assessment and grading of the students' performance.

Participants and procedure

The degree programme board decided to investigate the climate of learning environments training involving, in 2013/14, 173 students enrolled in the three-year course. Participation was voluntary; on delivery of the documents required for the internship, the students were reserved a space in which the aims of the study and the operating procedures for the completion of the questionnaire were explained. Learners were asked to complete the questionnaire at the end of each internship period and to place it in an urn, in order to guarantee the anonymity of both the student and the CU in which the internship was done.

The research instrument

The research instrument used in the study is the Clinical learning environment, supervision and nurse teacher (CLES+T) evaluation scale. The CLES+T was developed for evaluating the learning environment in the clinical placement from the perspective of the students (52,72) and the Italian version has proved to be a reliable and valid instrument in psychometric tests among Italian student nurses (73). The scale

Table 1. Student and staff distribution according to the year of the course

		Academic supervision by Nurse Teacher (NT)		Clinical Simulation Laboratory by NT in 1st and 2nd year CNS in 3rd year			Clinical Learning Environment by Clinical Nurse (CNS) Supervisor	
	Students n(%)	NT n(%)	Ratio (NT/Students)	NT-CNS n(%)	Modules/ Students for group	Ratio (NT-CNS/Students)	CNS n(%)	Ratio (CNS/ Students)
1st Year	59(34.1)	2(33.3)	1/29.5	11(33.3)	7/12	NT 1/5	97(30.1)	1.5/1
2nd Year	60(34.7)	2(33.3)	1/30	10(30.3)	5/5	NT 1/12	118(36.6)	2.1/1
3rd Year or +	54(31.2)	2(33.3)	1/27	12(36.4)	3/9	CNS 1/6	107(33.3)	1.4/1

or + = Students after the 3rd Year

has also been used extensively in international nursing studies (6,53,56,67). The evaluation scale consists of 34 statements, which form 5 sub-dimensions: Pedagogical atmosphere on the ward (9 items); Supervisory Relationships (8 items); the Leadership Style of the Ward Manager (4 items); Premises of Nursing in the ward (4 items); and the Role of the Nurse Teacher (9 items). A 5-point Likert scale on all 34 statements of the CLES+T was used: (1) fully disagree; (2) disagree to some extent; (3) neither agree nor disagree; (4) agree to some extent and (5) fully agree (53). The CLES+T asks participants to express their agreement with each statement.

Statistical analysis

Statistical analysis was conducted with SPSS 20.0 (IBM, Statistics demo-version) software. Internal consistency was analysed using Cronbach's Alpha (74). Quantitative variables were described with mean, standard deviation, median and median. Mean differences in the five dimensions of CLES+T across years were tested with multivariate analysis of variance (MANOVA), with Bonferroni correction for multiple comparisons.

Demographic variables were described with frequency and percentage, and the chi-squared test was used to analyse distribution differences. Statistical significance was set for $P < 0.05$.

Results

Considering the number of students attending the course, 780 questionnaires were expected in all; the actual number of collected questionnaires was 733 (response rate = 94%). Some questions regarding personal details were skipped; for example, age was reported by only 689 participants (88.3%).

The total CLES+T had a good internal reliability (Cronbach's α = >.90, see Table 2).

583 (84.6%) participants were aged between 19 and 25 years. Table 3 reports characteristics of the sample. First year students had a mean age of 22.08 years (SD = 7.867), second year students 23.66 (SD = 5.449) and third year students 24.13 (SD = 4.699). Participants were primarily women (79.9%), with a difference among years. In the first, second and third year, the percentages of women were 84.8%, 80.7% and 75.6% respectively (P = .040) 29.1% of third year students had a job, while the percentages were lower for students in the first (20.4%) and second (20.9%) year (P = .037). First year students attended mainly internships in medical areas (96.2%), while second year students attended mainly internships in surgical and paediatric areas (87.7%). Third year students attended mainly internships in critical areas, mental health and primary care (74.8%). Except for medical and specialist areas, other areas have been labelled "other" in Table 3.

Table 4 shows the student nurses' ratings of perceptions of the clinical learning environment according to the 5 sub-dimensions "Pedagogical atmosphere" (PA), "Leadership style of the ward manager" (WM), "Premises of nursing in the ward" (PN), "Supervisory relationship" (SR) and "Role of the nurse teacher" (NT).

The results indicated that students were generally satisfied with their training. The sub-dimension "Pedagogical atmosphere" received the highest score independently of course year. Similar scores emerged for

Table 2. Dimensions of CLES+T and reliability

Domains	Item		Reliability	Scale of items
	n.	n. (%)		
Pedagogical atmosphere	9	783 (86.7)	α = .915	5 points
Leadership style of the ward manager	4	782 (86.6)	α = .868	Likert scale:
Premises of nursing in the ward	4	782 (86.6)	α = .825	fully disagree = 1
Supervisory relationship	8	782 (86.6)	α = .964	-
Role of the nurse teacher	9	770 (85.3)	α = .949	fully agree = 5
Total	34	768 (85)	α = .965	

Table 3. Demographic characteristics of participants

	1st year		2nd year		3rd year		Total		
	n.	%	n.	%	n.	%	N (%)	X^2	P
Gender									
Female	168	84.8	176	80.7	227	75.6	571 (79.7)	6.415	.040*
Male	30	15.2	42	19.3	73	24.4	145 (20.3)		
Working students									
Yes	39	20.4	44	20.9	86	29.1	169 (24.2)	6.577	.037*
No	152	79.6	167	79.1	210	70.9	529 (75.8)		
Already graduated									
Yes	11	6	9	4.4	18	6	38 (5.5)	.755	.686
No	174	94	198	95.6	281	94	653 (94.5)		
Area of placement									
Medicine	177	96.2	25	12.3	58	21.6	260 (39.6)	659.444	.000**
Other areas	7	3.8	179	87.7	210	78.4	396 (60.4)		

** P = < .01
* P = < .05

Table 4. Student nurses' evaluation on CLES+T sub-scales

	1st Year (n = 204)				2nd Year (n = 228)				3rd Year (n = 301)				Range			
	Mode	Median	Mean	SD	Mode	Median	Mean	SD	Mode	Median	Mean	SD	Min	Max	F	P
Pedagogical atmosphere	45	39.50	38.46	5.851	45	38	37.56	6.364	45	41	38.71	6.543	9	45	2.222	.109
Leadership style of the ward manager	20	16	15.97	3.489	20	16	16.20	3.314	20	17	16.36	3.466	4	20	.813	.444
Premises of nursing in the ward	20	17	16.72	2.862	16	16	16.28	2.690	20	17	16.69	3.095	4	20	1.667	.190
Supervisory relationship	40	35	33.25	7.611	40	34	32.70	7.570	40	37	34.27	7.031	8	40	3.073	.047*
Role of the nurse teacher	45	35.50	35.00	8.054	45	36	34.36	9.098	45	32	31.75	10.14	9	45	8.809	.000**

** *P* = < .01
* *P* = < .05

"Supervisory relationship" and "Premises of nursing in the ward" subscales. The "Role of the nurse teacher" subscale received the lowest score. No differences across years appeared regarding the "Leadership style of the ward manager" and "Premises of nursing in the ward" subscales. However, significant differences appeared regarding "Supervisory relationship" (*P* = .047) and "Role of the nurse teacher" (*P* = <.000). The rela-

tionship with the clinical tutor is better appreciated by third year students (M = 34.27; SD = 7.031) than by first (M = 33.25; SD = 7.611) and second (M = 32.70; SD = 7.570) year students. Third year students scored lower on their relationship with their university tutor (NT, M = 31.75; SD = 10.14) than second (M = 34.36; SD = 9.098) and first (M = 35.00; SD = 8.054) year students.

Table 5. Contingency table of items with significant differences

Domain / Items	1ˢᵗ Year ∑ Likert 4 & 5		2ⁿᵈ Year ∑ Likert 4 & 5		3ʳᵈ Year ∑ Likert 4 & 5		Tot (%)	X^2	P
	∑	%	∑	%	∑	%			
Pedagogical atmosphere									
The staff got to know the students by their personal names	184	90.1	202	88.5	261	86.7	674(91.9)	17.544	.025*
Leadership style of the ward manager (WM)									
The WM was a team member	126	66.7	166	73.1	207	68.7	499(68.1)	17.793	.023*
Premises of nursing care									
Patients received individual nursing care	169	82.8	176	77.5	251	83.3	596(81.4)	22.389	.004**
There were no problems in the information flow related to patients' care	158	77.4	166	73.1	232	77	556(75.9)	16.770	.033*
Supervisory relationship									
Mutual respect and approval prevailed in the supervisory relationship	172	84.7	186	81.5	266	88.3	624(85.2)	15.977	.043*
Role of the nurse teacher (NT)									
In my opinion, the NT was capable of integrating theoretical knowledge and everyday practice of nursing	152	76	176	77.8	189	64.2	517(71.8)	16.922	.031*
The NT was capable of operationalizing the learning goals of this placement	164	82	171	75.6	183	62.2	518(71.9)	30.092	.000**
The NT was capable of bringing his or her pedagogical expertise to the clinical team	121	60.5	135	59.7	140	47.6	396(55)	17.718	.023*
The common meetings between myself, mentor and NT were comfortable experiences	133	66.5	134	59.2	140	47.6	407(56.5)	25.591	.001**
Climate of the meetings was congenial	142	71	137	60.6	162	55.1	441(61.2)	17.453	.026*
Focus of the meetings was on my learning needs	141	70.5	139	61.5	161	54.7	441(61.2)	18.224	.020*

** P = <.01
* P = <.05

A post hoc test indicated that scores on *Supervisory relationship* of second and third year students were significant (MD = -1.57; *P* = .048). On *Role of the nurse teacher*, differences appeared between third and first years (MD = -3.24; *P* = .000) and third and second years (MD = -2.61; *P* = .005).

Summing points 4 and 5 of the Likert scale (see Table 5), third years students showed higher levels of satisfaction with their relationship with the CNS and lower satisfaction levels with their relationship with the NT.

The variables that have the greatest impact on the third year students' perception of their relationship with the NT concern the NT's ability to share his/her pedagogical skills with the nursing staff and the pleas-antness of the regular meetings between the CNS, NT and students. These two items received an approval that was lower than 50%. Overall, the sub-scale on the role of NT indicated a reduction in student satisfaction from the first to the last year of the course. The other four sub-scales, while showing significant differences between course years, do not show such a marked reduction in the same direction.

Discussion

Firstly, a higher response rate appeared in this research, with a percentage (94%) similar to (73) or higher than that of other studies (67,75), suggesting a

strong interest for nursing students. This enabled the creation of a database that will be useful for future research on learning environments and supervision.

Nursing students in our sample were similar in gender and age distribution compared with the Italian literature on this topic (53,67,73,75). Cronbach's Alpha of the questionnaire was excellent (74) and similar to that obtained in the Italian validation of the scale (73).

Students expressed a higher level of satisfaction with their training experiences, with levels of satisfaction that were equal to or greater than those reported in other Italian and European studies (6,53,67,75,76). The highest mean value was in the sub-dimension "Pedagogical atmosphere on the ward", similarly to other studies (67,75), confirming that the PA was seen to be an important aspect of the clinical learning environment (52) by students who may experience a feeling of vulnerability during their internship and need the understanding and respect of all those involved in their education (77,78). As stated by Warne *et al*, the most important feature of a good learning environment is a sense of ontological security (53). Other domains that were positively evaluated were "Supervisory relationship" and "Premises of nursing in the ward". Student nurses emphasized the quality of clinical practice, as both the quality of mentoring and the quality of patient care (5,50). Third year students expressed higher satisfaction levels in their relationship with the clinical nurse supervisor and lower satisfaction levels in their relationship with the NT. This result may be due to the educational model that is adopted in the course, in which the SL didactic activities of the third year are conducted by the CNS, who also supervises experiences of clinical learning in the clinical practice. In this sense, for the CNS to meet again, at the units at which the training takes place, the same nurses who conducted simulations in the laboratory not only facilitates the relationships between them, but also helps to reinforce the knowledge and skills learned in the SL, furthering the sharing of learning goals (36-41).

As stated by Riley (2011), knowing that an attachment figure is available and responsive can lead to a feeling of security (27), and good interpersonal relations, support and feedback are factors influencing student learning in CLE (1,41,45,49,50). Moreover, in

this way, there is increased integration between theory and practice for the education of a "reflective practitioner nurse" (2,14,22-28,79). Nursing as a science and a profession requires a close relationship between theory and practice (7). According to Fool and Robinia (2014), the overcoming of the classroom-clinic gap has the potential to positively impact future nursing practice and ultimately patient care (26). The education model used allows for the achievement of what was affirmed by Kaphagawani and Useh (2013), that is to say that if students are given opportunities to practice what they have learnt in the classroom and skills laboratory and are supervised and supported and provided with feedback in an environment where there is a good interpersonal relationship and communication, the learning is effective (63). In line with our findings, other studies claim that student nurses consider the CNS to be the best suited to teaching practical skills and do not want to receive "hands on" education from the nurse teachers (54-56). Students in the third year seem to consider the NT as not being an important facilitator of their clinical learning experiences, in accordance with results by Papp et al. (5) showing that the teacher was considered mainly as an additional support and an organizer of the clinical placement. First year students, on the other hand, expressed a less critical opinion of the NT. According to the educational model used, in this case the NT is the expert tutor who conducts all activities of simulation in the laboratory, with a tutor/student ratio of 1:5. Supposedly, this educational model favours satisfaction with this figure, which presents the nursing profession to novice students and which may thus be appreciated because of the new learning experience which contributes to the building of a positive role model. It is worth noting that the first apprenticeship experience represents the opportunity for undergraduate nursing students to experience motivations and meanings that they have symbolically connected with their educational choice. Moreover, the preparation and tutorial support at this initial phase are fundamental both for effective learning and to avoid withdrawal from the course of studies (68,75). Our data, in accordance with other studies, show that the sub-dimension of "Role of the NT" tends to receive scores which are slightly lower than other domains of CLES+T (56,67,75,76). It is difficult

to interpret this result univocally. One way of interpreting this may be that because of the change of nursing education from hospital-based to university education, the role of the NT is changing and is still in search of a definition and of an easier and more efficient integration with clinical education practice. For this reason, it is possible that some items of the sub-scale "Role of nurse teacher" tend to receive a lower score.

Conclusion

Overall, students are satisfied with the clinical learning environment. The main finding in this study was that the students' experiences of and satisfaction with the supervisory relationship and the role of nurse teacher depend on how supervision in the clinical practice and in the simulation laboratory is organized. The strong involvement of clinical nurse supervisors in the simulation laboratory can, in our opinion, successfully bridge the theory-laboratory-practice gap, with a positive effect on the training of the future professional nurse.

Limitations and advantages

The limitations of this study are that the results are restricted to one university, thereby reducing the external validity of results that must then be interpreted in the light of the limitations connected to cross-sectional study design and self-reporting on variables. Nevertheless, the study offers a contribution to a greater appreciation of the influence of educational models on nursing students' perceptions of experiences of clinical learning environment and supervision.

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