



ORIGINAL ARTICLE

Undergraduate nursing student's attitudes to learning during clinical practice in different semesters when using a conceptual learning model grounded in a caritative caring perspective – A cross-sectional study

Maria Koldestam RN, MSc, Intensive Care Specialist Nurse^{1,2,3}  |
 Bo Rolander MScPT, MD, Statistician^{4,5} | Anders Broström RN, PhD, Professor^{6,7,8}  |
 Gunilla Lindqvist RN, RM, PhD, Associate Professor³ | Susanne Knutsson RN, PhD,
 Intensive Care Specialist Nurse, Associate Professor^{3,9}

¹Department of Accident and Emergency, Region Jönköping County, Jonkoping, Sweden

²Department of Medical and Health Sciences, Linköping University, Linköping, Sweden

³Faculty of Health and Life Sciences, Department of Health and Caring Sciences, Linnaeus University, Vaxjo, Sweden

⁴Futurum, Academy for Health and Care, Jönköping County Council, Jonkoping, Sweden

⁵Department of Social Work, School of Health and Welfare, Jönköping University, Jonkoping, Sweden

⁶Department of Nursing, School of Health and Welfare, Jönköping University, Jonkoping, Sweden

⁷Department of Clinical Neurophysiology, University Hospital, Linköping, Sweden

⁸Department of Health and Caring Sciences, Western Norway University of Applied Sciences, Bergen, Norway

⁹CHILD Research Group, Jönköping University, Jonkoping, Sweden

Correspondence

Maria Koldestam, Faculty of Health and Life Sciences, Department of Health and Caring Sciences, Linnaeus

Abstract

Aim: To describe undergraduate nursing students' attitudes to learning during clinical practice in different semesters when using the conceptual learning model, Model for Improvements in Learning Outcomes (MILO) grounded in a caritative caring perspective.

Background: With the intention to support interlinking between theory and praxis and offer understanding and structure to facilitate learning, MILO, theoretically grounded in hermeneutics and a caritative caring perspective based on ethical values, was implemented. MILO consists of four contextual concepts (peer learning, co-clinical teachers, student-centred and student-active supervision) and four intrapersonal concepts (nursing, a reflective approach, a critical approach, quality and safety).

Methods: A descriptive comparative quantitative study design was applied at a Swedish university, 3 hospitals and 13 municipalities in one county. Cross-sectional data collected via a questionnaire developed to assess attitudes to learning related to MILO's contextual and intrapersonal concepts and their applications were used.

Results: 209 students in semester 3, 4 and 6 participated in 6 different clinical practice courses. In comparison, intrapersonal concepts, that is, the student's own characteristics and abilities were viewed to be of greater value for learning than contextual, that is, organisational-related concepts in all semesters. Understanding the needs of others and reflective learning were rated to be of major importance. Students in semester 3 valued the use of the applications the highest. To be supervised in pairs was rated the lowest in semester 6. Some of the concepts and their applications were to great extent not applied.

This is an open access article under the terms of the [Creative Commons Attribution](https://creativecommons.org/licenses/by/4.0/) License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited.

© 2023 The Authors. *Scandinavian Journal of Caring Sciences* published by John Wiley & Sons Ltd on behalf of Nordic College of Caring Science.

University, SE-351 95 Växjö, Sweden.
Email: maria.koldestam@rjl.se

Funding information

Futurum - Akademin för Hälsa och
Vård, Region Jönköpings läns

Conclusions: In all semesters, fundamentals in caritative caring and characteristics and abilities related to the individual student were rated to be of greater importance for learning than environmental support. Providing students opportunities to develop independency seems essential. Use of a learning model such as MILO is dependent on a bearing of a caritative caring culture and a shared understanding between all involved in student learning during clinical practice.

KEYWORDS

attitudes, caring culture, caritas, clinical practice, concepts, implementation, learning, learning models, questionnaire

INTRODUCTION

How learning takes place during clinical practice is important for undergraduate nursing students to progress in becoming professional nurses. Most students seek opportunities, space and support for their learning. Desirable components to facilitate these processes are the use of peer learning, student centeredness, a good learning environment and cooperation between the clinical placement and the university [1]. To develop professionally, to learn to become a competent and compassionate nurse [2,3], there is a need for students to have the ability and the prerequisites to intertwine theory and clinical skills with caring encounters together with accomplished educators [4,5]. A solid, well-organised clinical practice including a qualitatively good learning environment, that is, to be given prerequisites to become aware of own approaches, attitudes, values and feelings [6] is therefore important. From a didactic perspective, cooperation as well as a shared responsibility between nursing educations and healthcare organisations where clinical practice takes place is needed [7]. This has been identified as an important indicator of good quality by governments and authorities [7,8]. Well-functioning cooperation, where responsibility for conscious strategies for the mission of education are taken, between the universities and the healthcare organisations is crucial for interlinking caring and learning [9]. The feeling of being part of the same mission is essential if a caring relationship, built on caring ethical values and approaches, is to develop between the supervisor and the student during clinical practice [10].

Eriksson [11] means that a caring culture is created by humans where ethos, the inner core of caring, is expressed [2,12]. Eriksson [13] describes ethos as caritas, love and compassion, to lead the way in alleviating suffering and restoring dignity. Such caring ethics [12] are involved in the process of becoming a caring nurse [14], and Hilli et al. [15] mean that both personal and professional development accordingly occur. Ethical caring elements, in terms of responsibility and creation of relationships, are described to be similar between preceptor and student, as

between nurse and patient. Therefore, an ethical climate in units, with a permissive and open atmosphere where the students feel cared for and where a sense of belonging is created, is described as essential for learning. It is the leadership that sets the tone in the units, and the attitude of the leadership and the preceptor is thus essential when approaching students [15]. Caring and learning in the perspective of caring science didactics share common ethical values, that is, love and compassion, therefore this implies that a shared caring culture is important [4,16]. Conceptual models, understood as a copy of reality, yet not actual reality, can display how theoretical values can be reflected and applied in practice in both education and nursing [2,17]. To our knowledge, no model focusing on learning nursing skills, that is, in a synthesis of ethical, aesthetical, theoretical and practical knowledge [2], pathophysiology and medicine, intertwined with caritative caring, for use in clinical practice has been reported [18]. For that reason, Koldestam and colleagues [19] developed the learning model, MILO, Model for Improvements in Learning Outcomes, with a clear ground in caritative caring theory [13,20].

MILO's theoretical foundation is anchored in hermeneutics, for learning, viewing knowledge and understanding as based on past experiences, openness and context [21] and in the perspective of caritative caring theory, viewing caring as the core in nursing involving acts out of caritas, love and compassion, and the caring relationship as essential [13,20]. There is an understanding of caring and learning as parallel phenomena [22] which means that caring and learning in an interconnected manner simultaneously take place [23] and that an application of a compliant approach [24] is essential in the model. Eight concepts are included. The 4 intrapersonal concepts, that is, the students' own characteristics and abilities important for learning, are nursing, a reflective approach, a critical approach and quality and safety (Quality and Safety Education for Nurses (QSEN) competencies) [25] (Figure 1). The 4 contextual concepts, that is, environmental concepts, are peer learning, co-clinical teachers, student-centred and student-active supervision, and a good

FIGURE 1 A description of the intrapersonal concepts included in MILO, elaborated and in more detail described in Koldestam et al. [19].

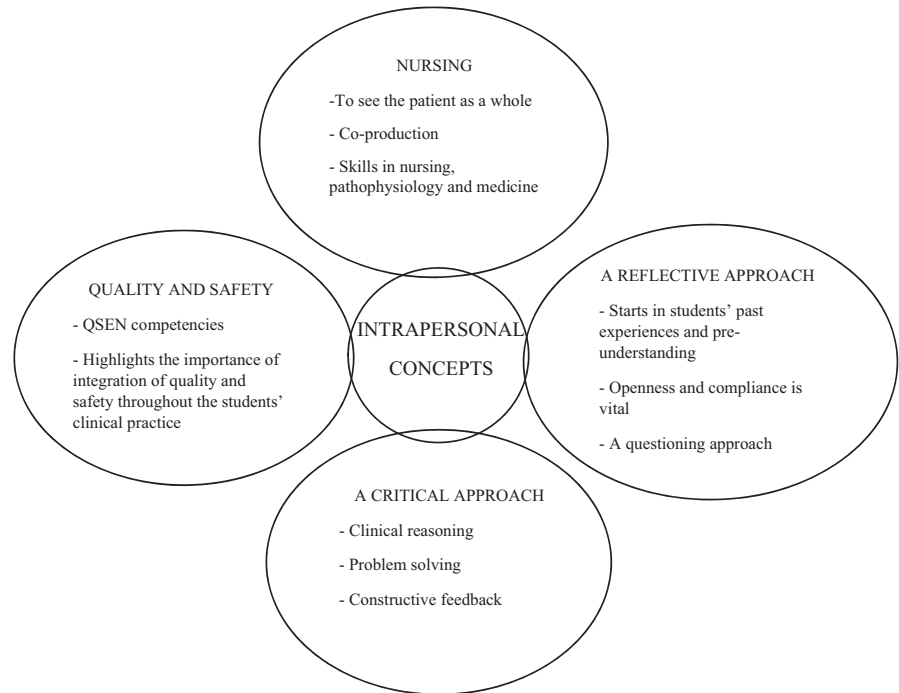
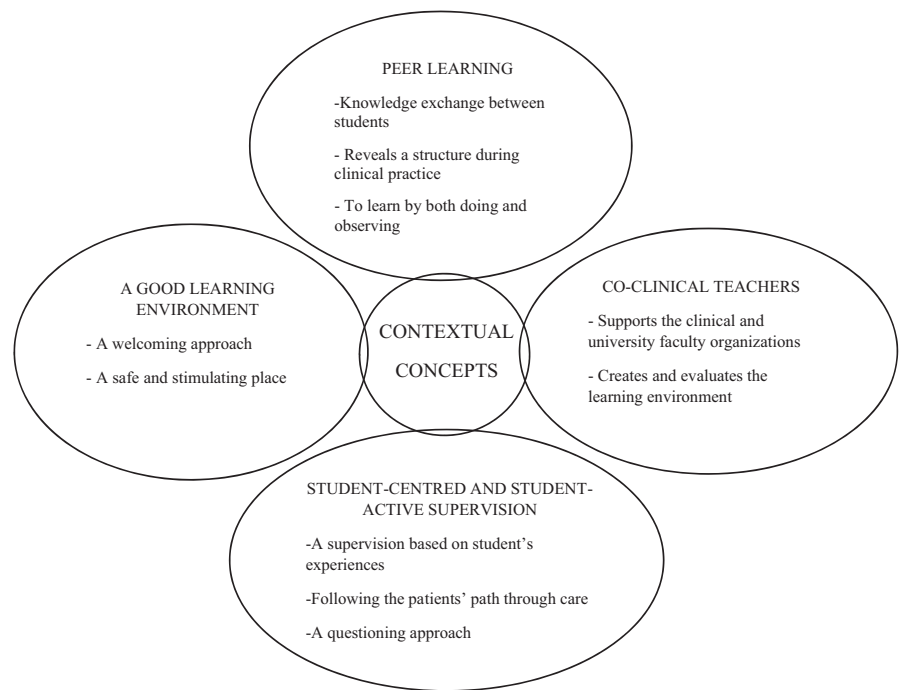


FIGURE 2 A description of the contextual concepts included in MILO, elaborated and in more detail described in Koldestam et al. [19].



learning environment (Figure 2). The intent is that theory and praxis in a hermeneutical unit, as intertwined in MILO through the individual parts and overall [21], meet when using the different applications connected to the concepts. MILO is to be used by students, as well as their supervisors, with the intention to offer understanding and structure to facilitate the students' path in learning [19].

However, the students' attitudes, defined theoretically as 'the way you think and feel about something' [26], to their learning when using MILO during clinical practice

is not known. To proceed, advance and be adaptable to changes and demands in connection with health care and the students' needs when learning, it is essential to have knowledge about the students' learning experiences using the learning model. Such knowledge could contribute to an understanding of how a learning model grounded in a caritative caring perspective could facilitate nursing students' learning about becoming a skilful, competent and caring nurse and how caritative caring and culture could be applied in praxis. Therefore, the aim of this study was

to describe undergraduate nursing students' attitudes to learning during clinical practice in different semesters, when using the conceptual learning model MILO grounded in a caritative caring perspective.

METHODS

Design

A descriptive comparative quantitative design [27] based on cross-sectional data using a questionnaire was applied. The STROBE [28] reporting guideline was used to enhance quality and transparency of the data.

Settings and participants

The implementation and introduction of MILO, which were prepared and performed through collaboration between the university and the clinical faculties included 19 steps and took place in a medium-sized county in southern Sweden between autumn 2015 and spring 2018 and have been described previously by Koldestam et al. [19]. The use of MILO in connection to students' learning from the perspectives of supervisors has also been reported [29]. The study was carried out in autumn 2018 in a 3-year nursing programme at a university with clinical placements in one medium-sized county hospital, two smaller hospitals and 13 municipalities in southern Sweden. MILO was applied during two 5-week courses in year 2 (semester 3, $n=118$ students), two 5-week courses in year 2 (semester 4, $n=92$ students) and two 7-week courses in year 3 (semester 6, $n=103$ students). The 5- and 7-week courses were worth 7.5 and 15.0 higher education credits, respectively, and their syllabuses focused primarily on clinical aspects of nursing. The inclusion criterion was students who had completed their clinical placement and the exclusion criterion was students who, for some reason, had not finalised their clinical placement within the course. Nineteen students were excluded. Eligible students in semester 3 ($n=115$) had performed their clinical placements in one of the three hospitals in orthopaedic, medicine, surgery, urology, emergency, geriatric, oncology, medical rehabilitation or infection departments. Eligible students in semester 6 ($n=90$) had had the same placements with the addition of gynaecology or psychiatric departments, or in home care in one of the municipalities. Eligible students in semester 4 ($n=89$) conducted their clinical practice in the municipalities. Due to their location, some of the placements in more rural areas also involved home care

as well as elderly care. MILO was used for the first time by eligible students in semester 3 and the students in semester 4 and 6 had used MILO during all previous clinical practice courses.

Data collection

Quantitative data were collected during autumn 2018 1–6 weeks after the students had completed their course, using a questionnaire to assess the students' attitudes to their learning when using MILO's specific concepts based on their last placement. All eligible students ($N=294$) were sent an email with the questionnaire attached via the learning platform used in the university. Agreement to participate in the study was by answering the questionnaire at a set time in a classroom on the student's own computer or telephone within ordinary teaching contexts. One reminder email was sent to the students.

No questionnaires were available to assess attitudes to learning related to the specific concepts used in MILO, therefore a questionnaire was developed by the same group of researchers who had developed MILO. The questionnaire was based on consensus agreement of an expert panel. The panel included six registered nurses from the university and clinical faculties holding research-based academic and clinical competence with extensive experience of both theoretical and clinical aspects of clinical practice in undergraduate education. The questionnaire involved 12 items, that is, statements about the students' attitudes to their learning when using MILO's 8 concepts and 4 specific applications. The items were assessed using a 5-point Likert-type scale (4, of very great importance; 3, of great importance; 2, of less importance; 1, of no importance; 0, did not occur). The questionnaire was divided into three areas: a contextual area with four variables, an intrapersonal area with four variables and an application area including four variables. The use of a diary and a reflection sheet were merged into more overarching statements (i.e. the use of learning activities/study assignments related to the learning goals). Each area had a maximum score of 16 points (i.e. a higher score representing a more positive attitude). The maximum score in the questionnaire was 48 points and encompassed MILO's intrapersonal and contextual concepts, along with their applications. Background data were collected regarding gender, age, semester and clinical placement, as well as previous professional care experience, secondary schooling, ECTS credits received before entering nursing education and satisfaction with own study results in the nursing education.

Data analysis

SPSS for Windows, release 27 [30], was used to perform the statistical analyses. No internal non-responses were identified. For reliability, Cronbach's alpha was calculated separately for each area of the questionnaire to confirm the internal consistency (contextual, $\alpha=0.57$; intrapersonal, $\alpha=0.83$; application, $\alpha=0.78$). The students' demographic data were analysed including frequencies (mean values) and distributions (%). During the analytical process all 12 variables in the questionnaire were dichotomised. The alternatives 'of very great importance'/'of great importance' were merged into 'of major importance'. The alternatives 'of less importance'/'of no importance' were merged together into 'of minor importance'. The response alternative 'did not occur' is presented separately. Using the chi-squared test, questionnaire variables measuring the students' attitudes (%) were computed concerning their learning in the three different semesters (i.e. 3, 4 and 6). Using the Kruskal-Wallis test, the total scores and the scores for separate areas in the questionnaire were compared between the student groups in the different semesters. A p value <0.05 was considered significant.

RESULTS

Demographics

The overall response rate was 71% (209 students). Most of the participants were women and <40 years of age. Sixty-one percent had more than 1 year of previous care experience working as nursing assistants or enrolled nurses and 73% had no ECTS credits before entering nursing education. The distribution of students in hospital-based clinical placements, such as medical/surgical care, was 59% and 38% had clinical placements in elderly homes/home care (Table 1).

Attitudes to the contextual concepts

In semesters 3 and 4, 57% and 60% of students scored supervision in pairs as of major importance for learning, compared with 33% of the students in semester 6 ($p=0.03$). Around one third of the students in semesters 3, 4 and 6 rated support from co-clinical teachers to be of minor importance (Table 2), and almost 40% of the students in the various semesters stated that this had not occurred (Table 3). Supervision grounded in a learning environment, emphasising affirmation, openness, and compliance, was rated to be of major importance for

TABLE 1 Demographical data for the undergraduate nursing students ($N=209$).

Variables	Distribution
Gender, n (%)	
Women	188 (90)
Men	19 (9)
Other	2 (1)
Age, ^a n (%)	
20–29 years	158 (75)
30–39 years	33 (16)
40–49 years	10 (5)
50–53 years	2 (1)
Mean age, years (SD)	26.3 (6)
Distribution of students in the semesters, n (%)	
Semester 3	70 (33)
Semester 4	75 (36)
Semester 6	64 (31)
Distribution of students on clinical placements over the three semesters, n (%)	
Medical care	71 (34)
Surgical care	52 (25)
Psychiatric care	7 (3)
Community care/home care	79 (38)
Previous professional care experience, n (%)	
<1 years	80 (38)
1–2 years	25 (12)
3–5 years	59 (28)
>5 years	45 (21)
Distribution for upper secondary school, n (%)	
With a focus on care	52 (25)
Other	157 (75)
Achieved ECTS credits before entering nursing education, ^b mean (SD)	17.0 (43.5)
Satisfaction with study results for nursing education, n (%)	
Very pleased	58 (28)
Pleased	122 (58)
A little displeased	8 (4)
Displeased	3 (1)
Neither	18 (9)

^aData missing for six students.

^bData missing for eight students.

learning by around 80% of the students in all three semesters. A total of 86% of the students in semester 6 rated supervision grounded in a student-centred and student-active approach, emphasising a questioning approach and person-centred care, to be of major importance for learning (Table 2).

TABLE 2 Distribution of student attitudes (% of students in each semester) concerning learning when using MILO in different semesters.

	Semester 3 (n = 70)		Semester 4 (n = 75)		Semester 6 (n = 64)	
	Of major importance	Of minor importance	Of major importance	Of minor importance	Of major importance	Of minor importance
The contextual area						
To be supervised in pairs	57 ^{T6*}	29 ^{T6*}	60 ^{T6*}	24 ^{T6*}	33	45
Support from co-clinical teachers	34	29	29	32	31	31
Supervision grounded in a learning environment emphasising affirmation, openness and compliance	82	4	73	8	83	1
Supervision grounded in a student-centred and student-active approach emphasising a questioning approach and person-centred care	79	4	79	8	86	5
The intrapersonal area						
Supervision grounded in nursing emphasising the patient as a whole and a caring approach	83	1	80	4	84	2
Reflective learning starting in past experiences and pre-understanding	77	3	77	8	83	6
A critical approach with a desire to see the unique in every situation	90	3	86	3	81	5
The use of QSEN competencies related to the profession	78	3	73	4	78	9
The application area						
The use of learning activities/study assignments related to the learning goals	37	27	37	28	34	33
The use of a checklist containing actions/practical skills related to the profession	42	24	24	35	25	25
The use of a weekly schedule that exemplifies how each week can be carried out/outlined	34	29	43	23	30	30
Reflection seminars with open reflection on a situation or an experience	63 ^{T4***}	17 ^{T4***}	32	37	56 ^{T4***}	13 ^{T4***}

Note: The alternatives 'of very great importance'/'great importance' are merged together into 'of major importance'. The alternatives 'of less importance'/'of no importance' are merged together into 'of minor importance'. Significance levels for attitudes are indicated for variables and semesters where differences existed.

* $p < 0.05$; *** $p < 0.001$.

TABLE 3 The distribution (% of students in each semester) regarding the alternative 'did not occur' when using MILO in the different semesters.

	Did not occur		
	Semester 3 (n = 70)	Semester 4 (n = 75)	Semester 6 (n = 64)
The contextual area			
To be supervised in pairs	14	16	22
Support from co-clinical teachers	37	39	38
Supervision grounded in a learning environment emphasising affirmation, openness and compliance	14	19	16
Supervision grounded in a student-centred and student-active approach emphasising a questioning approach and person-centred care	17	13	9
The intrapersonal area			
Supervision grounded in nursing emphasising the patient as a whole and a caring approach	16	16	14
Reflective learning starting in past experiences and pre-understanding	20	15	11
A critical approach with a desire to see the unique in every situation	7	11	14
The use of QSEN competencies related to the profession	19	23	13
The application area			
The use of learning activities/study assignments related to the learning goals	36	35	33
The use of a checklist containing actions/practical skills related to the profession	34	41	50
The use of a weekly schedule that exemplifies how each week can be carried out/outlined	37	34	40
Reflection seminars with open reflection on a situation or an experience	20	31	31

Attitudes to the intrapersonal concepts

Around 80% of the students in semesters 3, 4 and 6 rated the four variables included in the intrapersonal section to be of major importance for learning. Supervision grounded in nursing emphasising the patient as a whole and a caring approach was rated to be of major importance for learning in the three semesters (83%, 80%, and 84%, respectively). Reflective learning starting in past experiences and pre-understanding was rated to be of major importance by 83% of the students in semester 6, while a fewer per cent indicated this in semesters 3 and 4 (Table 2). Twenty per cent in semester 3 reported that this had not occurred (Table 3). A critical approach with a desire to see the unique in every situation was rated to be of major importance for learning by 90% of the students in semester 3 (Table 2). Twenty-three per cent of students in semester 4 reported that the QSEN competencies had not been used (Table 3).

Attitudes to the applications of the concepts

The use of learning activities/study assignments related to the learning goals was rated to be of major importance for

learning by 37% of the students in semesters 3 and 4 and by 34% in semester 6. Forty-two per cent of the students in semester 3 rated the checklist to be of major importance for learning (Table 2), and 50% of the students in semester 6 stated that it had not been used, showing an increasing trend from semester 3 (34%) and 4 (41%) (Table 3). The use of a weekly schedule exemplifying how each week can be carried out/outlined was rated to be of major importance for learning by 43% of the students in semester 4, 34% in semester 3 and 30% in semester 6 (Table 2). Forty per cent of the students in semester 6 stated that the weekly schedule had not been used (Table 3). Seminars with open reflection on a situation or an experience were rated to be of major importance for learning in semesters 3 (63%) and 6 (56%) ($p < 0.001$), and in semester 4 (32%) (Table 2).

The total scores and scores for the separate sections

The median calculated for the total score was evenly distributed in semesters 3, 4 and 6. The intrapersonal section had the highest score with a median score of 12 in all three semesters; the application section had the lowest median score with a score of 6 in semester 4 (Table 4).

Variables	Semester 3 (n = 70)	Semester 4 (n = 75)	Semester 6 (n = 64)
Total score	27.0 (22.0/34.0)	27.0 (22.0/31.0)	27.0 (22.0/31.0)
The contextual area score	9.0 (7.0/12.0)	9.0 (8.0/11.0)	9.0 (8.0/11.0)
The intrapersonal area score	12.0 (9.0/13.0)	12.0 (9.0/13.0)	12.0 (9.0/13.3)
The application area score	8.0 (6.0/9.0)	6.0 (4.0/9.0)	6.5 (4.3/9.0)

TABLE 4 The total scores and scores for the separate areas in the questionnaire with central tendency data describing the students' ($N=209$) attitudes to their learning in the different semesters when using MILO. Values are medians (Q1/Q3).

DISCUSSION

The result, based on students' attitudes, shows that MILO's intrapersonal concepts in the three different semesters were rated higher for their importance for learning than the contextual concepts and that the use of the applications was valued greater at the beginning of the students' education. The study also shows that some of the concepts and the applications to a great extent had not been applied in accordance with the fundamental idea of a caritative caring science perspective and implementation of MILO.

Among the contextual concepts, the use of peer learning and support from co-clinical teachers scored lowest for their importance for learning. When it comes to peer learning, students in semester 6 displayed, with a statistical significance, the lowest scores when rating the importance of peer learning in comparison with the students in the other two semesters. Vucovic and Landgren [31] found that collaboration between student peers contributes to the development of a sense of security in nursing students and that competition between students may occur when nursing tasks need to be shared. In our study, the students close to the end of their studies (semester 6) when many of the students performed their clinical practice in a somatic context, may have been very active in seeking challenging skills to perform on their own without their peers, in contrast to the students in the earlier semesters. The findings in the application area where the area moderately scored higher in semester 3 than in semesters 4 and 6 also reflect this which may indicate that in the earlier years of their education, students assign a higher value to structural support for learning. However, in another study, an interview study by Koldestam et al. [29] with supervisors using MILO with students in semester 3 experienced that the students took their own responsibility, even when in pairs and even from the start of their clinical practice course, and thereby developed early in learning. A recent study [32] exploring both students' and supervisors' perspectives, showed that students who used peer learning in year 2 developed independence when carrying out various work tasks such as patient assessments and problem solving. Own responsibility may therefore be a successful indicator for learning since it is connected to independence [32].

Support from co-clinical teachers scored very low in all three semesters. The students also, to a great extent, rated that this kind of support had not occurred during clinical practice. This result is in line with the findings in the interview study with supervisors using MILO together with students in semester 3 (when MILO had been used for the first time), showing that the supervisors did not identify this kind of support (i.e. the creation of a learning environment) as being part of the students' learning [29]. Awareness of pre-existing attitudes and behaviours in relation to an implementation process is important and these challenges may affect learning new practices [33]. In frameworks, support provided for carrying out implementation activities successfully is limited and even if different barriers of relevance and importance, such as motivation, norms and values, are identified and addressed, different methods may be required for ontological and epistemological reasons [34]. Foss et al. [35] describe that a caring science perspective on leadership in clinical contexts should be directed towards a responsibility for the substance of caring. The tone of the learning space, that is, a caring relationship between the preceptor and the student is essential and a pre-requisite for learning during clinical practice [36] since students expect guidance and hope to find role models during clinical practice [37]. This underlines the importance of including all parties when a learning model, such as MILO grounded in a clear caring science perspective, involving several people in several organisations is to be implemented.

In all semesters, the results show that the students rated supervision grounded in a learning environment emphasising affirmation, openness and compliance, that is, features of caritative caring and supervision grounded in a student-centred and student-active approach to be of great value for learning. In MILO, these approaches involve supervision based on the student's experiences and where a caring questioning approach should be used. Koskinen et al. [38] described that the educator, when acting as a role model for the students, must present an ethical bearing that is consistent with how patients should be approached. The ethical basic motive for being a role model in education includes a humanistic view together with a willingness to be an educator. In the context of simulation involving caritative caring, Knutsson et al. [39] highlight that a bearing of caritas in the teacher is

critical if the students are to appropriate a caritative caring approach. Features of a caritative preceptor and leadership in education include encouragement of a culture of love, trust and forgiveness and the support of *Bildung* [21], the mission of education, brought into praxis [40], where *Bildung* is displayed in the professional act [21]. In a clear vision of a caritative leadership, being part of a caring organisational culture, is ministering to the suffering human being [41]. The ethos of serving, is described as the innermost room of the heart, the action of the hand as love and a cultivation of the head towards nursing leadership, including responsibility for the training of students [42]. Hilli and Eriksson [43] described that, in nursing, being able to be in contact with one's innermost room (i.e. one's inner ethical dimension) leads to a capacity to invite the patient into a caring relationship. Awareness of this is seen to be important in nursing education when supporting the students to become competent and compassionate when caring and in our study, the intrapersonal concept in MILO involving supervision grounded in nursing, emphasising the patient as a whole and a caring approach, that is, values of caritative caring was viewed as being of major importance for learning by the students in all semesters. These results, in line with the findings from previous studies [38-43], highlight the importance of discussing and approaching ethical values in relation to students' learning during clinical practice. An ethical culture involves the whole organisation where everyone in the team wants to do their best for the patient [44].

The importance of reflective learning starting in past experiences and pre-understanding scored the highest among the students in semester 6. Between semester 4 and the two other semesters, statistical significance was found when students rated the importance of reflection seminars using open reflection on a situation or an experience. The students in semesters 3 and 6 viewed these open reflections as more important for their learning. Also, in semester 3, a critical approach with a desire to see the unique in every situation scored the highest. This level, when using reflection, involves self-awareness [45]. Eriksson [20] states that 'it is by its very activity of thinking that the meaning is to be heard'. In MILO, the reflection seminars were held twice during clinical practice in each course, using patient stories and open reflection in line with Gadamer's thoughts [21]. Gadamer [21] meant that, for learning, there is a need to challenge one's own pre-understanding. Use of open reflection where feelings are challenged, instead of using structured reflection, is described as a pre-requisite for that. A previous study [46] has also highlighted the importance of spreading reflection seminars over longer periods if a deeper understanding in caring science is to be acquired. Previous studies also highlight that openness and sensitivity are essential in the

creation of a caring attitude and discuss the importance of the carer taking an approach of listening to the patient's life story with the intended meaning to understand the patient as a whole [47]. Use of stories in reflective learning supports student nurses, and compassionate care can be achieved when understanding the needs of others [48]. Jaastad et al. [49] found that students' language for caring develops when reflection grounded in caring theory is used and that it also helps students to broaden their perspectives about themselves. The reason why the students in semesters 3 and 6 rated the importance of the reflection seminars higher than the students in semester 4 is not known but could be related to contextual reasons, that is, the surrounding organisation and culture of inquiry. These results shows the challenge, and not least the importance, of reaching out to all involved in the students' learning, that is, students, supervisors, co-clinical teachers, nursing leadership, university and clinical faculties about the essence and theoretical underpinning in the application of open reflection during reflection seminars. In this study, no major differences in the students' overall attitudes to learning between the three involved semesters were identified. This could be dependent on the design of the study or related to curriculum designs, the students' learning contexts, expectations and pre-existing attitudes. Additional studies could spread more light over these results.

Methodological considerations

There are some limitations that need to be considered. The cross-sectional design, involving a relatively small number of students from three semesters in one Swedish university may have influenced the results, as well as the generalisability to other contexts and countries. One can assume that theoretical and practical maturity differ between students from, for example, semesters three and six, but future longitudinal multicentre studies with larger sample sizes are needed to investigate changes-, as well as predictors for how attitudes might change during the course of education. To be part of the study, it was considered necessary that the students had used MILO during their whole clinical placement. Therefore, only students who had finalised their clinical practice were included in the study. This means that the results of the study may have been different if students who had not finished their placement or reached their learning objective had been included. The time between students completing their clinical placement and when data were collected varied (i.e. 1-6 weeks). This is, however, assumed to have only had a minor impact on the results, as no new clinical placements were initiated during this period. Another limitation

might be the newly developed questionnaire that was used to collect data. As the study aimed to describe undergraduate nursing students' attitudes to learning during clinical practice, and a theoretically well-grounded questionnaire [13,20,21,22] displaying views of the parts and wholeness of MILO in relation to their learning was missing, it had to be developed. Unfortunately, the small number of students meant that psychometric testing, involving construct validity, could not be performed in the current study, but this important aspect will be targeted in future studies. However, consensus agreement of a multi-professional expert panel that was established during the development of the questionnaire strengthens the content validity. Moreover, the internal consistency of most of the areas of the questionnaire (i.e. contextual, intrapersonal and the applications) showed acceptable values [27]. Importantly, none of the teachers involved in the students' clinical practice was part of the actual data collection and none of the researchers was involved in the assessments of the students' performances during clinical practice.

CONCLUSIONS

MILO's intrapersonal concepts reflecting the fundamentals in caritative caring and the student's own characteristics and abilities were valued higher in importance for learning in comparison with the structural concepts related to the organisations. Students in the earlier semesters valued peer learning and the use of the applications the greatest compared with students in later semesters and support from co-clinical teachers scored very low in all semesters. Some of the concepts and their applications were to a great extent not applied in agreement with the fundamental idea and implementation of MILO. Collaboration between university and clinical faculties is of major importance to achieve all this, and one way forward is to further involve everyone taking part in students' learning during clinical practice, for example, through additional discussions, workshops, joint presentations and training. A shared understanding is needed on how to act out an ethical bearing if a caritative caring culture embracing ethical values is to evolve during clinical practice. An awareness of all this is essential for university and clinical faculties when improving MILO and for everyone encountering students in different semesters during clinical practice in a caring, affirming and student-centred way support them to develop independency and to become competent and compassionate nurses.

AUTHOR CONTRIBUTIONS

MK, AB and SK designed the study and developed the questionnaire. MK performed the data collection with

assistance from SK. Statistical analysis was performed by MK with support from BR. All authors were involved in the data analysis and interpretation of the data. MK was responsible for drafting the manuscript. All authors contributed to critical revisions.

ACKNOWLEDGEMENTS

Futurum – the Academy for Health and Care, Region Jönköping County, Sweden (Futurum-859991/964201/974852). The authors wishes to thank the students for participating in the study.

FUNDING INFORMATION

This work was supported by Futurum – the Academy for Health and Care, Region Jönköping County, Sweden (Futurum-859991/964201/974852).

CONFLICT OF INTEREST STATEMENT

The authors have no conflicts of interest to declare.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

ETHICS STATEMENT

The study was conducted in accordance with the Declaration of Helsinki [50]. The students were orally informed by the first author, who had not had any contact with the students neither during their clinical placement nor theoretical parts, and written informed by the letter attached to the email, which also informed the student about the study's aim, confidentiality, informed consent and that an answered questionnaire was considered as an agreement to participate in the study. The research project was reviewed by the regional Boards of Ethics committee in Linköping, Sweden (Ref: 2018/490-31) and the Dean at the university approved the study. Approvals were also given from medical, surgical and psychiatric healthcare directors and the head of social services in the 13 municipalities in the region involved.

ORCID

Maria Koldestam  <https://orcid.org/0009-0000-4639-7582>

Anders Broström  <https://orcid.org/0000-0002-0433-0619>

REFERENCES

1. Swedish Association of Health Professionals. Vårdförbundet Students VFU-rapport 2022: Vårdförbundets Studentmedlemmar om den verksamhetsförlagda utbildningen

- [The Swedish Association of Health Professionals Students' about clinical practice]. Stockholm: Vårdförbundet; 2022 Available from: <https://www.vardforbundet.se/siteassets/studenter/vardforbundet-students-vfu-rapport-2022.pdf>
2. Eriksson K. *Vårdvetenskap: vetenskapen om vårdandet: om det tidlösa i tiden* [Caring science: the science about caring: about the timeless in time]. Stockholm: Liber; 2018.
 3. Swanson KM. Nursing as informed caring for the well-being of others. *Image J Nurs Sch*. 1993;25(4):352–7.
 4. Eriksson K. *Vårddidaktik* [The didactics of caring science]. Stockholm: Almqvist & Wiksell; 1985.
 5. Eriksson K. *Vårdvetenskap som akademisk disciplin*. [Caring science as an academic discipline]. Vasa: Åbo akademi, Institutionen för vårdvetenskap; 2001.
 6. Swedish Society of Nursing. *Svensk sjuksköterskeförenings strategi för utbildningsfrågor* [The Swedish Society of Nursing's strategy for educational issues]. Stockholm: Svensk sjuksköterskeförening; 2021.
 7. Swedish Society of Nursing. *Handbok för politiker: Implementering av WHO:s globala strategi för sjuksköterskor i Europa 2021–2025* [Handbook for politicians: implementation of WHO's Global Strategic Directions for Nurses in Europe 2021–2025]. Stockholm: Svensk sjuksköterskeförening; 2022.
 8. World Health Organization. *State of the World's Nursing 2020: Investing in Education, Jobs and Leadership*. Geneva: World Health Organization; 2020.
 9. Ekebergh M, Lindberg E. The interaction between learning and caring – the patient's narrative as a foundation for life-world-led reflection in learning and caring. *Reflective Pract*. 2020;21(4):552–64.
 10. Honkavuo L. Nursing students' perspective on a caring relationship in clinical supervision. *Nurs Ethics*. 2019;27(5):1225–37.
 11. Eriksson K. *Pausen: en beskrivning av vårdvetenskapens kunskapsobjekt* [The pause: a description of the knowledge object of caring science]. Stockholm: Almqvist & Wiksell; 1987.
 12. Eriksson K, Lindström UÅ. *Gryning II: klinisk vårdvetenskap* [Dawn II: clinical caring science]. Inst. för vårdvetenskap, Åbo akademi: Vasa; 2003.
 13. Eriksson K. Caring science in a new key. *Nurs Sci Q*. 2002;15(1):61–5.
 14. Sandvik A-H, Eriksson K, Hilli Y. Becoming a caring nurse – a Nordic study on students' learning and development in clinical education. *Nurse Educ Pract*. 2014;14(3):286–92.
 15. Hilli Y, Melender H-L, Salmu M, Jonsén E. Being a preceptor—a Nordic qualitative study. *Nurse Educ Today*. 2014;34(12):1420–4.
 16. Matilainen D. Caritativ didaktik - en bildning i vårdandets tjänst [Caritative didactics – formation in the service of caring]. In: Eriksson K, Matilainen D, editors. *Vårdvetenskapens didaktik: Caritative didaktik i vårdandets tjänst* [The didactics of caring science: Caritative didactics in the service of caring]. Vasa, Finland: Department of Caring Science, Åbo akademi; 2004. p. 21–37.
 17. Fawcett J. Thoughts about conceptual models, theories, and quality improvement projects. *Nurs Sci Q*. 2014;27(4):336–9.
 18. Nyoni CN, Dyk LH, Botma Y. Clinical placement models for undergraduate health professions students: a scoping review. *BMC Med Educ*. 2021;21(1):598.
 19. Koldestam M, Broström A, Petersson C, Knutsson S. Model for Improvements in Learning Outcomes (MILO): development of a conceptual model grounded in caritative caring aimed to facilitate undergraduate nursing students' learning during clinical practice (Part 1). *Nurse Educ Pract*. 2021;55:103144.
 20. Eriksson K. Concept determination as part of the development of knowledge in caring science. *Scand J Caring Sci*. 2010;24(s1):2–11.
 21. Gadamer H-G. *Truth and method*. London: Bloomsbury Publishing; 2013.
 22. Ekebergh M. *Att lära sig vårda: med reflexion och handledning. Learning to care: through Reflexion and supervision*. Lund: Studentlitteratur; 2018.
 23. Ekebergh M, Andersson N, Eskilsson C. Intertwining of caring and learning in care practices supported by a didactic approach. *Nurse Educ Pract*. 2018;31:95–100.
 24. Ekebergh M. Caritativ didaktik i patientnära kontexter - konsten att stödja lärandet på en vårdvetenskaplig grund [Caritative didactics in patient-related contexts - the art of supporting learning grounded in caring science]. In: Eriksson K, Matilainen D, editors. *Vårdvetenskapens didaktik: Caritative didaktik i vårdandets tjänst* [The didactics of caring science: caritative didactics in the service of caring]. Department of Caring Science, Åbo akademi: Vasa, Finland; 2004. p. 101–13.
 25. Sherwood G, Zomorodi M. A new mindset for quality and safety: the QSEN competencies redefine nurses' roles in practice. *Nephrol Nurs J*. 2014;41(1):15–22.
 26. Oxford Advanced Learner's Dictionary [Internet]. Attitude. [cited 2023 April 5]. Oxford: Oxford University Press; 2023.
 27. Polit DF, Beck CT. *Essentials of nursing research: appraising evidence for nursing practice*. Philadelphia, PA: Wolters Kluwer; 2022.
 28. von Elm E, Altman DG, Egger M, Pocock SJ, Gøtzsche PC, Vandenbroucke JP. The strengthening the reporting of observational studies in epidemiology (STROBE) statement: guidelines for reporting observational studies. *Int J Surg*. 2014;12(12):1495–9.
 29. Koldestam M, Broström A, Knutsson S. Supervisors' experiences of undergraduate nursing students' learning in clinical practice when applying caring and learning as parallel processes in a caritative caring conceptual learning model (part 2). *Nurse Educ Pract*. 2021;52:103004.
 30. IBM Corp. *IBM SPSS statistics for windows, version 27.0*. Armonk, NY: IBM Corp; 2020.
 31. Vuckovic V, Landgren K. Peer learning in clinical placements in psychiatry for undergraduate nursing students: preceptors and students' perspective. *Nurs Open*. 2021;8(1):54–62.
 32. Jassim T, Carlson E, Bengtsson M. Preceptors' and nursing students' experiences of using peer learning in primary healthcare settings: a qualitative study. *BMC Nurs*. 2022;21(1):66.
 33. Nilsen P, Neher M, Ellström PE, Gardner B. Implementation of evidence-based practice from a learning perspective. *Worldviews Evid Based Nurs*. 2017;14(3):192–9.
 34. Nilsen P. Making sense of implementation theories, models and frameworks. *Implement Sci*. 2015;10:53.
 35. Foss B, Eriksson K, Naden D. Love and responsibility: a new understanding of leadership. *Nurs Sci Q*. 2018;31(2):148–56.
 36. Hilli Y, Sandvik A-H. A Nordic model for learning compassionate care in clinical education. *Nurse Educ Today*. 2020;90:104454.
 37. Albinsson G, Carlsson-Blomster M, Lindqvist G. In search of a caring relationship – nursing students' notions of

- interactions in the nurse-patient relationship. *Nurse Educ Pract.* 2021;50:102954.
38. Koskinen C, Koskinen M, Koivula M, Korpi H, Koskimäki M, Lähteenmäki ML, et al. Health and social care educators' ethical competence. *Nurs Ethics.* 2020;27(4):1115–26.
 39. Knutsson S, Axelsson J, Lindqvist G. An application of the caritative caring approach – nursing students' experiences of practising caring and uncaring encounters by simulation at a clinical training centre. *Int J Qual Stud Health Well-being.* 2022;17(1):2100610.
 40. Näsman Y. The theory of caritative leadership applied to education. *Int J Leadership Educ.* 2018;21(4):518–29.
 41. Bondas TE. Caritative leadership: ministering to the patients. *Nurs Adm Q.* 2003;27(3):249–53.
 42. Honkavuo L, Eriksson K, Näden D. Discovering the ethos of serving in nursing leadership from the first half of the 20th century in three Nordic countries – an idea-historical research approach. *Scand J Caring Sci.* 2018;32(4):1492–501.
 43. Hilli Y, Eriksson K. The home as ethos of caring: a concept determination. *Nurs Ethics.* 2019;26(2):425–33.
 44. Koskinen C, Kaldestad K, Rossavik BD, Ree Jensen A, Bjerga G. Multi-professional ethical competence in healthcare – an ethical practice model. *Nurs Ethics.* 2022;29(4):1003–13.
 45. Horton-Deutsch S, Sherwood G. Reflection: an educational strategy to develop emotionally-competent nurse leaders. *J Nurs Manag.* 2008;16(8):946–54.
 46. Knutsson S, Lundvall M, Lindberg E. Participating in reflection seminars: progressing towards a deeper understanding of caring science described by nursing students. *Nord J Nurs Res.* 2017;38(2):111–6.
 47. Hörberg U. The meaning of using caring science theory and concepts in the field of care. *Scand J Caring Sci.* 2020;34(4):805–6.
 48. Adamson E, Dewar B. Compassionate care: student nurses' learning through reflection and the use of story. *Nurse Educ Pract.* 2015;15(3):155–61.
 49. Jaastad TA, Ueland V, Koskinen C. The meaning of reflection for understanding caring and becoming a caring nurse. *Scand J Caring Sci.* 2022;36(4):1180–8.
 50. World Medical Association. WMA declaration of Helsinki: ethical principles for medical research involving human subjects. World Medical Association; 2013 Available from: <https://www.wma.net/policies-post/wma-declaration-of-helsinki-ethical-principles-for-medical-research-involving-human-subjects/>

How to cite this article: Koldestam M, Rolander B, Broström A, Lindqvist G, Knutsson S. Undergraduate nursing student's attitudes to learning during clinical practice in different semesters when using a conceptual learning model grounded in a caritative caring perspective – A cross-sectional study. *Scand J Caring Sci.* 2023;00:1–12. <https://doi.org/10.1111/scs.13229>