

Nursing Students' Clinical Learning Environment in Norwegian Nursing Homes: Lack of Innovative Teaching and Learning Strategies

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Abstract

Background: Nursing students hesitate to choose aged care as a career, and the aged care sectors are on an edge regarding nursing positions. Clinical learning environments may influence nursing students' career choices. Few studies have explored learning environments in nursing homes, although students increasingly have placements there. **Objectives:** The aim was to produce information for developing nursing students' learning opportunities in nursing homes. **Design:** A cross-sectional survey design was used. **Settings:** The study was conducted at a university college in southeast Norway. **Participants:** Students in two cohorts of a bachelor degree program in nursing participated, N = 499. **Methods:** Data were collected on nursing students' perceptions of clinical learning environments during placements in five nursing homes. A 42-item validated questionnaire with the subscales personalization, individualization, involvement, task orientation, innovation, and satisfaction was used. **Data analysis** used descriptive statistics, t-tests, and linear regression analysis. **Results:** Total scores showed overall satisfaction with clinical learning environments in nursing homes. However, innovation subscale scores were very low. First year students had significantly higher scores than third year students on the total scale, and most subscales. Age was significantly associated with total scale scores and subscale satisfaction scores. Higher education and work experience before entering nursing education were significantly associated with involvement subscale scores. **Conclusions:** Students are more positive than negative about their clinical learning environments. Low valuation of innovation seems to be a consistent finding in studies in both nursing homes

and hospitals internationally. For innovative learning strategies to function they must be anchored at the organizational level. Future research should develop and test more innovative learning strategies for nursing students.

Keywords

Nursing Students, Nursing Homes, Care for Old Persons, Residential Care, Clinical Learning Environment

1. Introduction

Learning in clinical practice is an important component of nursing education. In many European countries, approximately 50% of the curriculum is allocated to teaching and learning in clinical placements [1] [2]. This allocation of time and effort underscores the clinical setting as a crucial place to learn nursing [3] [4] [5] [6].

Nursing homes are increasingly used for nursing students' clinical placements in the bachelor curriculum in nursing [7] [8] [9], and in some countries clinical placements in nursing homes are compulsory [1] [10]. However, limited numbers of nurses work in aged care, and compared to hospitals, positions for nurses in nursing homes have a low ratio per patient. A study among 53 nursing schools reported a lack of nurses as appropriate role models in nursing homes as a major problem for nursing students [11]. Poor recruitment and difficulties in retaining nurses in nursing homes are also a common situation worldwide. This threatens the quality of aged care, as well as nursing students' clinical learning opportunities [7] [8] [12]-[17]. Despite the growing use of nursing homes in nursing education, few studies have explored the efficacy of these clinical placements. This study contributes to remedying this gap in the research literature.

2. Background

Clinical learning in nursing is learning through hands-on situations with patients. Students often find that acting in patient situations takes on the form of performance, not learning. A "context of learning" is "created" when learning is acknowledged as a legitimate aspect of the nursing situation (e.g. when an experienced nurse accompanies the student either to observe or teach in the situation) [18] p. 18. However, students often must act in a "context of performance" where they are alone with the patient and try to do their utmost by practicing what they have already learned [19]. These two contexts are closely related, as performing (experience) and learning (knowledge) are interrelated aspects in learning processes [3] [20]. To be able to learn nursing care in clinical settings, students need to experience both contexts as well as appropriate opportunities for adequate guidance to connect performance and learning [20] [21]. Exploring clinical learning environments may contribute knowledge vital to develop both

learning contexts.

The clinical learning environment is understood as conditions in clinical wards that influence students' learning experiences [22] [23] [24]. Most studies investigating nursing students' clinical learning environments have focused on hospital settings. A good climate for learning experiences in clinical placements depends on supervision and innovative teaching and learning activities from ward nurses and clinical teachers. Planned and organised learning activities, including specific patient allocation, contribute to students' learning outcomes [6] [21] [23] [24] [25] [26]. Attention towards students' possible problems, student-involvement at the wards, and opportunities for students to interact personally with teachers and nurses are all aspects that may strengthen a climate for learning [4] [22] [23] [26] [27]. To improve nursing students' learning outcomes, routines and instructions for ward assignments should be planned, clear, and well-organized [12] [28] [29]. The way nurses care for patients at the wards, may also influence students' learning processes [11] [22] [30] [31].

Few studies have explored learning environments in nursing homes. In a comparative study, Skaalvik *et al.* [21] found that students in nursing homes generally evaluated clinical learning environments more negatively than students in hospitals. Nursing students practicing in nursing homes scored significantly lower on all items on the supervisory relationship scale. Other studies suggest that students experience clinical learning environments in nursing homes as more positive than negative [10] [18]. In both studies, aspects of supervision were highly rated as influencing their perception of clinical learning environments. In a longitudinal study, Brown *et al.* [16] found that nursing students were often exposed to impoverished environments characterized by poor standards of care and negative attitudes towards older people. Conversely, enriched environments were characterized by security, belonging, continuity, purpose, achievement, and significance.

The need to further explore and develop clinical learning environments in nursing homes is imperative as only approximately 10% - 15% of nursing students would like to work in aged care [7] [13] [32] [33] [34]. A recent study showed that nursing homes were considered the last and second last choice in nursing students' future careers [7]. The lack of interest in careers in nursing homes may be related to negative attitudes towards old people [7] [11] [16] [35]. Student nurses may change their attitudes in a positive direction towards old persons and their care during clinical placements [36] [37]. Studies have shown that the quality of clinical learning environments potentially influence their career choice [38] [39].

Aim and Research Questions

This study aimed to produce information for developing learning opportunities for nursing students during their placement in nursing homes. The following research questions were developed. 1) How do nursing students perceive clinical

nursing environments in nursing homes? 2) Are there differences between first and third year students' perceptions of learning environments? 3) Do background variables influence students' perceptions of learning environments?

3. Methods

3.1. Design

A cross-sectional survey design was used, in which two cohorts of nursing students completed the Clinical Learning Environment Inventory (CLEI) after finishing clinical placements in nursing homes. The study period was 2009-2011.

3.2. Sample and Setting

A convenience sample of all first and third year nursing students in two cohorts of a bachelor degree program in nursing at a university college in southeast of Norway were invited to participate by written invitation and information (N = 512). The only inclusion criteria were that students had completed the placement period in a nursing home. The final sample was 499 students (97%); 319 first year and 180 third year students. The students completed a 7 - 9-week module in five nursing homes. The first-year curriculum focused on learning outcomes related to basic nursing skills, while the third-year curriculum focused on learning outcomes regarding leadership in nursing and on nursing care towards older people. Supervision followed a preceptor model wherein each student had a registered nurse as preceptor. Clinical teachers from the university college supervised in the clinical settings and facilitated reflection-groups during clinical studies.

3.3. Instrumentation and Data Collection

The CLEI was used to collect data from the students. The CLEI was developed by Chan [27], based on three dimensions relevant in all tertiary learning environments: relationship dimensions, personal development dimensions, and system maintenance and system change dimensions [27] [40] [41]. Originally, the CLEI consisted of 35 items evenly distributed in five subscales. *Individualization* reflects to what extent students are allowed to make decisions and are treated differentially according to ability or interest. *Innovation* measures to what extent the clinical teacher/clinician plans new, interesting and productive learning experiences, teaching techniques, learning activities and patient allocations. *Involvement* assesses to what extent students participate actively and attentively in hospital ward activities. *Personalization* emphasises opportunities for individual students to interact with the clinical teacher/clinician as well as concern for students' personal welfare. *Task orientation* assesses whether instructions for hospital activities are clear and well organised [27], p. 629. These scales pertain to specific aspects of the clinical learning environment. Chan [23] also developed an additional seven-item scale, named *Satisfaction*, to assess students' overall satisfaction with the clinical learning environment. This subscale was later added

to the CLEI's final version [42]. In the original study Cronbach's alpha measuring internal consistency was between 0.73 - 0.84 [27]. Later studies reported Cronbach's alphas on the subscales between 0.45 - 0.90 [18] [28] [43] [44]. Cronbach's alpha in the present study ranged from 0.42 - 0.86. Responses to each item are on a four-point Likerttype scale with response alternatives strongly agree (5), agree (4), disagree (2), and strongly disagree (1). Omitted or invalid responses are scored 3 [22]. The 42 items are a mixture of positive and negative items with seven items in each subscale. To calculate mean scores, scores on negative items were reversed. In the present study, a translated version of the CLEI was used from a former Norwegian study [18].

3.4. Procedure

The questionnaires were administered either at the placement during the last week of the module, or in classrooms the following week after placement completion. One of the researchers was present in the classroom to answer questions. Students who responded to the questionnaires while on clinical placements completed the questionnaire and posted it in a preaddressed envelope.

3.5. Ethical Considerations

According to Norwegian regulations, this survey did not need approval by the Regional Ethical Medical Committee, as no sensitive data were involved. The dean in the nursing department at the university college gave access to the field. Due to a small number of male students in the sample, gender was not used as a background variable to ensure confidentiality. The questionnaires were anonymous and informed consent was indicated by questionnaire return. The researcher responsible for data collection did not participate in grading, testing, or clinical supervision of students in the target group.

3.6. Data Analysis

Data were optically scanned, entered into the Statistical Package for the Social Sciences (SPSS), version 20, analysed with descriptive statistics, t-tests, and linear regression analysis.

4. Results

Participant variables for the total sample and the two cohorts are presented in **Table 1**.

Due to issues of confidentiality, specific age and gender were not included as demographic variables. Students were divided into three age groups; the largest group in the sample included students between 19 - 24 years.

Total and subscale scores are presented in **Table 2**. Differences between first and third year students' perceptions of the learning environment were tested for significance with independent samples t-test.

Table 2 shows that first year nursing students had significantly higher scores

Table 1. Participant variables.

Variable	1st year students		3rd year students		Students in total	
	n	%	n	%	n	%
Age n = 496						
19 - 24	237	74.5	90	50.6	327	65.9
25 - 29	49	15.4	58	32.6	107	21.6
>30	32	10.1	30	16.9	62	12.5
Higher education n = 473						
Yes	88	29.2	61	35.5	149	31.5
No	212	70.4	111	64.5	323	68.3
Former health care work n = 475						
Yes	152	54.1	111	67.6	263	59.1
No	129	45.9	53	32.3	182	40.9

Table 2. Total and subscale scores.

No. of students	Subscales													
	Total scale ^a		Personal ^b		Involve ^b		Individual ^b		Task orient ^b		Innovation ^b		Satisfaction ^b	
	Score	SD	Score	SD	Score	SD	Score	SD	Score	SD	Score	SD	Score	SD
Total sample N = 499	151.1	19.80	26.9	4.45	26.7	3.41	24.3	4.53	25.6	4.23	20.4	4.10	27.1	5.43
1st year students n = 319	153.5	18.30	27.4	4.34	26.8	3.24	24.7	4.12	25.8	4.17	20.8	3.98	27.8	5.02
3rd year students n = 180	146.9	21.63	26.0	4.51	26.6	3.70	23.5	5.10	25.2	4.33	19.8	4.24	25.8	5.89
p	0.001		0.001		0.472		0.009		0.188		0.005		0.001	

^a = range 42 - 210, ^b = range 7 = 35.

on the total scale and on four of the subscales: Personalization, Individualization, Innovation, and Satisfaction. Scores on the Innovation subscale are markedly lower than on the other subscales in both groups.

Simple linear regression was performed to gauge associations between demographic variables and students' CLEI scores (**Table 3**). The dichotomized independent variables concerning higher education and work experience prior to entering education were entered into the regression. The independent variable "age" was originally coded 1 (<25 years), 2 (25 - 29 years), and 3 (>29 years). It was replaced by two dummies: "dummy-mid" (25 - 29) and "dummy-old" (>29), using as our reference group the largest student group, students <25 (n = 371, 74.3%).

Table 3 shows the significant linear regression results. Students in the middle

Table 3. Demographic variables associated with total scale and subscale scores.

Background variables	Total scale		Satisfaction		Involvement	
	B	P	B	P	B	P
Higher education prior to entering nursing education	3.205	0.106	0.762	0.154	1.037	0.002*
Working experience in health care setting prior to entering nursing education	-3.179	0.170	-0.469	0.453	-0.958	0.016*
Age-Dummy-mid (25 - 29)	-5.343	0.043*	-1.709	0.017*	-0.178	0.692
Age-Dummy-old (>29)	-2.889	0.348	-0.816	0.327	-0.899	0.088

*= $p < 0.5$.

age group scored significantly lower on the total scale and on the satisfaction subscale. Students with higher education prior to entering nursing education and students with no experience working in health care settings scored higher on the involvement subscale.

5. Discussion

The mean total scale score indicates that nursing students perceived clinical learning environments in nursing homes more positively than negatively. The same pattern of student satisfaction is reported in another Norwegian study measuring students' perceptions of their clinical learning environment [21], as well as in several other studies using the CLEI [4] [18] [22] [28] [36] [43]. Compared with an earlier study piloting the CLEI in Norway [18], the total scale score in the present study was higher. This may be due to the supervisory system in the latter university college. A preceptor model was used wherein each student was allocated to an RN at the ward. Additionally, the clinical teacher was frequently present at the ward for teaching and supervision. This type of supervisory system emphasizes students' clinical placements as both a context of learning and a context of performing as students can both perform and receive support and mentoring on their performances [14] [19]. Clinical teachers' impact on students' learning processes is also reported by Saarikoski *et al.* [24] who suggested that Finnish students' positive evaluation of clinical learning environments compared to nursing students in the UK was related to the clinical teachers' presence and their way of focusing on learning activities at the wards. When comparing three models of supervision for nursing students (facilitator model, clinical education unit model, and preceptor model), Henderson *et al.* [45] also found that students exposed to the preceptor model had significantly higher scores on five of the seven CLEI subscales (exceptions were individualization and innovation). Even if nursing students in our sample were more satisfied

than dissatisfied, the level of all scores indicates that improvement is possible on all dimensions of clinical learning environments in participating nursing homes.

There are large variations in the subscale scores. Satisfaction, personalization, and involvement have the highest scores, as is found in most studies that use the CLEI [46]. The innovation subscale has the lowest mean in this study. There is an international trend that innovation has low scores in research exploring students' perceptions of the learning environment in both nursing homes and in hospitals [3] [5] [8] [18] [23] [28] [38] [43] [46]. Low scores on innovation may indicate that nurses and clinical teachers in general teach students with a traditional and well-known transmission-approach rather than facilitating students to explore possibilities in practical situations [4]. The low ratio of nurses in nursing homes might be considered an obstacle when planning and executing individual learning activities for nursing students [8] [21] [34]. When few nurses are available for supervision, providing both necessary care for patients and innovative learning strategies for students might be a challenge. A more innovative learning approach in nursing homes might stimulate students' interest and commitment to the professional area. Students' attitudes towards aged care and their interest in careers in the field may also be influenced through an innovative learning approach [8] [13] [32] [33] [34] [47]. Lack of innovative learning activities for nursing students may also be due to lack of nurses' didactic knowledge in this particular setting [3] [4].

However, low innovation scores can also be understood in an organizational perspective. The individual preceptor at the wards should not have the sole responsibility for an innovative approach to students' learning needs in the ward. Innovation should be anchored at the organizational level among leaders. It is the leaders' responsibility to facilitate students' learning processes through appropriate learning strategies. We suggest that limited focus on organizational planning for students' learning processes may result in a lack of innovative learning activities [29] [48] [49].

There were significant differences between the first and third year students, both on the total scale and on several CLEI subscales. Overall, first year students perceived the clinical learning environment significantly more positively than third year students. One interpretation of these results, might be the fact that these particular third year students had their placements in nursing homes for the second time during the bachelor program in nursing. Their expectations of clinical learning environments may be higher compared to first year students' expectations [50] [51]. First year students may be occupied with adapting to the social and professional activities as novice students in the wards and might perceive clinical learning environments as more appropriate according to those expectations. To our knowledge only one other study has explored variations in perspectives on learning environments between nursing students at different educational levels. Henderson *et al.* [52] found the opposite: third year students had higher scores than first year students on some CLEI subscales. They suggested that third year students' higher scores could be associated with greater

motivation and commitment towards the placements because this might help them to find work after graduating. It must be noted however that those students had their practical placements in hospitals while students in the present study had placements in nursing homes [52]. Few Norwegian, or international students for that matter, chose aged care as their future career in nursing after graduation [7] [8] [12] [13] [14] [15] [16] [21] [53]. Showing special interest and attentiveness may have no special value related to future job possibilities in this context.

To our knowledge, no other clinical learning environment studies in nursing education compare possible influences of any demographic variables. Nursing students with higher education and students with no experience working in health care settings had higher involvement subscale scores. We can only speculate on the meaning of these findings. Study-skills obtained in former higher education, such as how to plan one's learning-process and obtain feedback, might influence students' perceptions of their involvement. Students with former higher education may also be more confident in their choice of a future nursing career, and subsequently take more responsibility in their own learning process, and participate more actively and attentively in ward activities. Having no former experience from health care settings may create some insecurity and thereby increase attentiveness and involvement in daily activities than seen in students with earlier health care experience.

Students in the age group 25 - 29 scored significantly lower on the total scale ($p = 0.043$) and on the satisfaction subscale ($p = 0.017$) than the youngest students. Studies show that younger nursing students had more positive attitudes towards older persons than older students did, as well as a greater interest in a geriatric care career [7] [34]. As age is not a variable formerly used in clinical learning environment studies, we can only speculate if the younger students' higher scores in the present study may be related to more positive attitudes and greater interest in nursing aged care.

6. Limitations

This study's response rate was excellent, but the student sample was a convenience sample from one University College. Additionally, only five nursing homes were involved in this study. This might have created bias, thus preventing our results from being generalizable to other nursing students and nursing homes.

7. Conclusion

This study explored first and third year nursing students' perceptions of learning environments in several nursing homes. Students generally perceived learning environments more positively than negatively. First year students' scores were consistently and most often significantly higher than those of third year students and some significant associations were found between CLEI scores and demographic variables. Most noteworthy were the low scores, across both cohorts and

year of study, on the innovation subscale. Innovation measures to what extent the clinical teacher or preceptor plans new, interesting, and productive learning experiences, and employs relevant teaching techniques, learning activities, and patient allocations. Low valuation of innovation seems to be a consistent finding in studies in both nursing homes and hospitals internationally. Leaders are responsible for the presence of innovative learning environments at the wards as well as facilitating for innovative learning strategies for nursing students. Future research should therefore plan and test interventions that aim to improve innovative learning strategies in clinical practice both at the organizational and personal level.

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Conflict of Interest

The authors have no affiliations with or involvement in any organization or entity with any financial interest or non-financial interest in the subject matter or materials discussed in this manuscript.

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Author Contributions

KB, GB and ITB contributed to all stages of the study and writing of the article.

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