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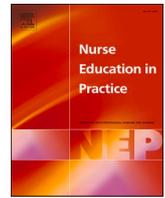
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First-year nursing students' collaboration using peer learning during clinical practice education: An observational study

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ABSTRACT

The purpose of this observational study was to describe the collaboration between first-year nursing students using peer learning during their first clinical practice education. In earlier, predominantly interview studies, peer learning has been described as a model with several positive outcomes. However, no studies on how students act in collaboration in a real-life context have been found. The present study observed sixteen arbitrarily paired nursing students (eight pairs) on three to five occasions per pair, in total 164 h from September 2015 to March 2016. Repeated unstructured observations including informal conversations were used. Using qualitative content analysis, one theme 'Involuntary collaboration leads to growth in different competencies' emerged and three categories 'Practising nursing skills and abilities when working together', 'Establishing knowledge by helping each other to understand' and 'Sharing thoughts, feelings, and knowledge and put them into words'. In conclusion, nursing students using peer learning were observed practising several competencies, some of them not so easily elicited according to earlier research as organization, nursing leadership, teaching, and supervision.

1. Background

Clinical practice education (henceforth clinical practice) enables nursing students to develop competencies and prepare for their future profession (Newton et al., 2011). Detailed competence requirements for nurses are specified in the US as well as in Sweden. These competencies include six areas, i.e., person-centred care, teamwork and collaboration, evidence-based practice, quality improvement, safety and informatics. Moreover, each competency involves skills, knowledge bases and attitudes nurses should have regarding various topics (Quality and Safety Education for Nurses (QSEN), 2012; The Swedish Society of Nursing, 2017). In Sweden, two additional areas have been added, i.e., leadership and pedagogics in caring (The Swedish Society of Nursing, 2017). Although students have reported high achievement of learning outcomes in clinical practice (Löfmark et al., 2012), areas such as nursing leadership and organizational as well as supervision skills have been

identified as deficient, both by nursing students (Gardulf et al., 2016) and in a review focused on newly graduated nurses (Theisen and Sandau, 2013). To prepare nursing students for their future profession different clinical practice models have been discussed (Henderson et al., 2011), one of which is peer learning. In the research, the term peer learning is used to designate student learning that occurs in pairs or small groups and includes a wide range of activities. Peer learning refers to a two-way, reciprocal learning activity that is mutually beneficial and involves the peers sharing knowledge, ideas and experiences. Furthermore, it involves individuals from similar social groups helping each other to learn and learning themselves by providing help (Boud et al., 2001).

Peer learning is based on the idea that learning involves social cognition and that understanding, knowledge building and experience are shaped in interactions between humans (Boud et al., 2001). The social theory of learning called 'Communities of Practice' (CoP)

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(Wenger, 1998) takes an integrated approach to learning, which is achieved through a combination of social engagement and collaborative work in an authentic practice environment. A CoP is described as a group or pair of individuals who share a concern, and who deepen their knowledge in the area by interacting. When spending time together, they share information, understanding, and advice. They solve problems, help each other and discuss their situation, goals, and needs, explore ideas and bounce ideas with each other. Over time, they develop a body of common knowledge, practices, and approaches.

Previous studies on nursing students in similar contexts as in the present study, i.e. pairs of students, enrolled in the same course where peer learning is used during clinical practice, are in line with the above describe theory and have revealed several positive outcomes. Students using peer learning have described sharing, discussing and reflecting on information, knowledge, and experiences with each other (Stenberg and Carlson, 2015). Interview studies on peer learning have suggested that the method provides an opportunity to practise and develop skills in collaboration (Stenberg and Carlson, 2015) – skills such as problem-solving (Hellström-Hyson et al., 2012; Stenberg and Carlson, 2015), caring (Austria et al., 2013; Hellström-Hyson et al., 2012) and clinical skills (Briffa and Porter, 2013). Furthermore, a recent quasi-experimental study (Pålsson et al., 2017) showed that peer learning improves nursing students' professional self-efficacy to a greater degree than traditional supervision does. Challenges associated with peer learning described are, e.g., competition with one's peers, which can both improve students' performance and cause stress (Stenberg and Carlson, 2015) as well as incompatibility in the pair (Austria et al., 2013; Briffa and Porter, 2013). In the present study, collaboration concerns how students working in pairs learn with and from each other.

In summary, peer learning in clinical practice is used for healthcare students in several countries (Austria et al., 2013; Hellström-Hyson et al., 2012; O'Connor et al., 2012; Pålsson et al., 2017; Ruth-Sahd, 2011; Stenberg and Carlson, 2015), and previous studies on peer learning, most of them involving interviews, have described the model as having several positive outcomes. However, it is still unclear what elements of the collaboration that seem to lead to positive outcomes for students during clinical practice. The objective of clinical practice education is to train and develop different essential nursing competencies, and depending on where the students are in their education, different learning outcomes are specified for the clinical practice courses. Interview studies have generated knowledge about nursing students' experience of using peer learning, but research on how they actually act in the collaboration is still lacking and would provide additional knowledge about peer learning. Thus, the present study used observations to investigate nursing students' use of peer learning in a real-life context, the aim being to describe the collaboration between first-year nursing students using peer learning during their first clinical practice.

2. Methods

2.1. Design

A qualitative observational study with a descriptive design was used to investigate peers in a real-life learning context (Patton, 2002).

2.2. Setting and the used peer learning model

The participating hospital wards were selected using purposive sampling, the aim being to include different specialities and units using different models of nursing, i.e. person-centred care, care teams and staff working in pairs. One inclusion criterion was that peer learning has been implemented and used on the hospital ward for more than one year. At the participated wards, the peer learning model had been implemented since at least a year ago in the context of a collaboration between the county councils and the university. The participating students were enrolled in the same course, arbitrarily paired together, scheduled on

the same shifts, and were supervised by a registered nurse selected as a preceptor. The students learned from and with each other as well as supported each other while sharing responsibility for a group of patients. The preceptors' role was to support students in their learning process, reflect and give feedback to students and ensure patient safety, and to accomplish all of this in an unobtrusive way. The students' learning environment included several categories of staff, shift changes and patients with complex medical and nursing needs. The nursing students' schedule included dayshifts (6.45–15.30) and evening shifts (13.30–22.00).

The students were in their second semester of a 3-year Bachelor's programme in nursing at a university in central Sweden, attending their first clinical practice on three hospital wards. For nursing students in Sweden, about one-third of the nursing education programme contains clinical practice. The university sets broad learning outcomes for periods of clinical practice. During this first clinical practice period, the learning outcomes were: 1) Identify important factors in interpersonal encounters and reflect on and relate these factors to theoretical knowledge. 2) Using a critical and professional approach, assess, plan, accomplish and evaluate patients' fundamental care needs. 3) Apply safety precautions in nursing work. Based on these learning outcomes, the students were supposed to formulate their individual learning outcomes.

2.3. Participants

Sixteen nursing students (eight pairs) were invited to participate in the study and all of them participated; for participant demographics, see Table 1.

2.4. Data collection

Repeated unstructured observations were carried out by the first author (YP), including informal conversations. Situations in which the peers were collaborating were written down, noting what happened, which individuals were involved and in what context. The observer used general information such as time, context and activities for support when writing the observations (Polit and Beck, 2016). Noted and audio-recorded informal conversations with the students were used to complement certain questions that arose from the observations. While observing, YP participated in social situations, but played a peripheral role, striving for a low level of interaction; if addressed, YP referred the students to the preceptor. The observer's own reflections during the fieldwork were documented to elucidate any preconceptions that may have influenced the observation (Hammersley and Atkinson, 2019). YP, a PhD-student, had worked as a nurse and clinical lecturer and was familiar with clinical practice, but was not involved in the participants' education. The research group had discussed in advance how YP should act in different scenarios where YP might have to interrupt the observation or deal with situations in which the students needed immediate support. Immediately after the observations, and when the observer took a break during the observation, an extended description of the

Table 1
Participants demographics and information on the observations.

	N = 16 (8 pairs)
Gender (Female/male)	
Female	14
Male	2
Age (years)	20–44 years mean 26.5 years, median 25.5 years
Previous work experience as nurse assistant in health care before entering nurse education	0–20 years mean 6 years, median 4 years
Hospital wards participating (1 hospital)	
Medical	1 ward, 4 student pairs
Surgical	1 ward, 2 student pairs
Orthopedically	1 ward, 2 student pairs

observation was written down. When there were calm periods in the ward and the students seemed comfortable, informal conversations were audio-recorded. The observations were conducted during the students' last two weeks of a 4-week-long clinical practice, over a total time frame of six months between September 2015 and March 2016. Participants were observed in three to five occasions for periods at the ward lasting between 2 h 45 min and 7.5 h (mean 5 h 10 min, median 5 h 15 min). The overall length of the observations was approximately 164 h undertaken on 32 occasions. The first (YP) and last (ME) authors conducted the first two data collection occasions together, the goal was to develop ideas about how to best carry out the observations and conversations.

2.5. Ethical considerations

An application was sent to The Regional Ethical Review Board (2015/200), but no ethical approval was needed according to Swedish law (SFS, 2003:460). Permission to conduct the study was obtained from the head of the faculty at the university and from the second-line managers at hospital wards. After an ethics advisory statement was issued, the first author contacted first-line managers to inform them about the study. The participants received oral and written information about the study and gave their written informed consent. Participation in the study was voluntary, and all participants and patient-related data were confidential. Furthermore, the participants were informed that they could withdraw from the study at any time, without any explanations or consequences. Before the fieldwork began, information meetings were held with nursing students and staff on the wards. A template including the study aim was set up on the wards to inform staff, patients and relatives about the study. The involved patients received written and oral information about the study from the observer and were thereafter asked if they would permit an observer to accompany the students into their room. If the patient was not able to give consent (written or oral), a relative was asked to grant consent. If consent could not be obtained, the observer did not enter that patient's room.

2.6. Data analysis

The written observations and notes from informal and recorded conversations were analysed using qualitative content analysis according to Graneheim and Lundman (2004). In qualitative content analysis, the focus is on the subject and content, and emphasis on similarities and differences. Graneheim and Lundman (2004) describe that data can be comprehended in various ways and that a text contains multiple meanings. Furthermore, they assume that how a text is understood is dependent on subjective interpretation and that interpretation can vary in depth and level of abstraction. Following Graneheim and Lundman (2004), the audio-recorded conversations were transcribed verbatim. All text was read and re-read to acquire an overview and general impression of the data. Meaning units corresponding to the study aim were identified, coded and sorted by the first author. The first and last author carefully discussed the observations and field notes as well as the analysis process. The sorted codes were inductively abstracted into categories and a theme. A category represents a group of codes that shares a commonality; it answers the question "what" and refers generally to a descriptive level, whereas a theme is described as an interpretation of the underlying meaning, answering the question "why" (Graneheim and Lundman, 2004). All authors engaged in repeated discussions concerning the interpretations and categorizations, resulting in a consolidation of the findings so as to ensure trustworthiness. According to Graneheim and Lundman (2004), the purpose of discussions among the authors is not to confirm that the data have been coded and sorted in exactly the same way, but to agree about the way in which the data were sorted and coded. Descriptions of the participants' demographic characteristics, the analytical procedure, and the interview quotations were presented to give readers the opportunity to assess the study's trustworthiness (Graneheim and Lundman, 2004). The

co-authors were senior researchers and well experienced in qualitative research.

3. Results

A theme, 'Involuntary collaboration leads to growth in different competencies', and three categories 'Practising nursing skills and abilities when working together', 'Establishing knowledge by helping each other to understand' and 'Sharing thoughts, feelings and knowledge and put them into words' were revealed (Table 2). Data are presented as extractions from the written observations and informal interviews, where S stands for a student.

3.1. Involuntary collaboration leads to growth in different competencies

After being arbitrarily paired, students collaborated in different ways and to different extents using peer learning. All students were observed practising several competencies together, such as nursing leadership and organization of nursing care, nursing care, collaboration/teamwork, medical and technical care, documentation in the patient records, reporting and routines, e.g., hygiene procedures. The collaboration and competencies being practised differed based on the patient's needs and what nursing skills were to be performed; with time the students came to perform some of the nursing care individually.

Based on the observations, it was found that students '*Practised nursing skills and abilities when working together*'. The peers jointly planned, prioritized, shared, performed, evaluated, documented and reported on caring for a group of patients several times a day. The students themselves discussed the situations and bounced ideas off each other regarding what to do, when to do it and what they wanted to do jointly and separately. When the peers were planning, they usually wrote down their intended actions on a whiteboard.

Student (S)5 & S6 go through their patients in front of the whiteboard. What is supposed to be done in the evening? They talk about one patient at a time (Observation); They check off what has been done and go through what is left to do. What should we do together, what can we do separately, what needs to be done first? (Observation).

When the peers had achieved a plan for organizing their workday or the near future, they presented it to and discussed it with the preceptor.

Then the students go through the whiteboard with the preceptor. They complete each other's sentences explaining how they have organized the day ... (Observation).

When the peers performed nursing care together, they discussed what to do and how to do it beforehand and while performing.

The students go over every step of how they will give a subcutaneous injection (Observation); S2 needs to call the relatives again. They discuss what will be said to the relatives (Observation).

Together the students explored whether they should perform a certain nursing skill, why as well as different ways of performing it and adjusting it to the individual patient's needs. The students typically talked out loud about what they ought to do, thereby involving the

Table 2

Theme and Categories concerning the collaboration in student peers using peer learning.

Theme		
<i>Involuntary collaboration leads to growth in different competencies</i>		
Categories		
'Practising nursing skills and abilities when working together'	'Establishing knowledge by helping each other to understand'	'Sharing thoughts, feelings, and knowledge and put them into words'

patients in the care. Furthermore, the peers informed the patient, asked for and listened to their advice on how to best perform the activities.

The students help the patient with washing her body. They talk to the patient the entire time, telling her what they plan to do and asking if that is all right. The patient is also telling them what she wants them to do (Observation).

Occasionally, the students imitated each other.

S1 gives the same information to his/her patient as S2 just gave (Observation).

The peers evaluated planned actions by talking to each other, the preceptor or nurse assistant. Thus, the students had the opportunity to practise nursing leadership and teamwork skills both together and in collaboration with the preceptor and nurse assistant.

S8 wonders if one patient was rubbed with cream in the morning. S7 says it's been checked off on the whiteboard (Observation); S11 doesn't just tell S12 what she should do but also explains why. Sometimes S11 needs to pause to consider how she should explain something to S12. S11 also gets to practise being in charge and allocating tasks to S12 (Observation).

The peers practised supervision skills on each other by guiding and demonstrating how to perform a nursing skill as well as giving each other feedback on the work accomplished. The students asked each other to accompany them when they were about to perform a care task they had not done very often or at all.

S15 wants S16 to be with her because S15 has never showered anyone. S15 sometimes asks S16 what she should do, for example, should I rinse now? Is there anything else I should wash? S16 guides her (Observation); S12 asks S11 if she can read through what she's documented. S11 reads through it and writes down a few things she thinks are missing or unclear, and she also tells S12 why she has done so (Observation).

If a treatment, examination or a particular nursing skill was going to be performed, the students searched for each other so both could take part or watch the other student perform.

When it's time to pull out the catheter, S15 goes and fetches S16 (Observation).

The students practise their reporting skills on each other by constantly keeping each other updated on what and how they accomplished the various nursing skills. Furthermore, they checked with each other to see that everything was all right and asked if the peer needed help. When the pairs reported to others as the preceptor, nurse assistant and during the next work shift and the doctor's rounds, they usually did this together. Sometimes when one of the peers could not answer a question, did not know what else to report or felt insecure, he/she sought support from the other student by e.g. searching his/her eye.

The preceptor asks S6 what she should think about concerning one of the patients. S6 hesitates and looks at S5, who supplies the information (Observation).

Although the peers mostly chose to spend time in each other's company, some of the students preferred working alone.

Based on the observations, it was found that the peers *'Established knowledge by helping each other to understand'* and they did this by jointly going through their patients to ensure that they both perceived and understood everything correctly, e.g., after a report or the doctor's round. The students shared knowledge and discussed difficult words and abbreviations as well as examinations and treatments their patients had undergone.

They find a quiet room they can sit in and start going through what they'd written about their patients on their report sheet. Did we understand what was said in the report? Were there any strange words, examinations or abbreviations? (Observation).

The students had participated in various patient situations and examinations in part; they also had different earlier experiences they could use when sharing knowledge.

S3 talks about what happened during the angiography (Observation); I learn a lot from you because you ask questions and then I know a bit and I have to think about it. I have to learn to assess things and I learn when I talk about something, if I know something then that's that if I don't then we look it up together (Informal conversation).

In areas where neither of the students had enough knowledge, they searched for information on the Internet or in the patient's records.

You get used to it constantly when you run up against something – "what's that? – "if you know, then I know, how much do I know about it, if we don't know the whole answer, what do we do then?" (Informal conversation).

The peers discussed and reflected on what they read and related it to their theoretical knowledge as well as to their patients.

The students discuss what two of the patients' degree of consciousness is and compare the patients' (Observation).

Because the students shared patients and everyday situations, they could link diseases and symptoms to patients and compare different cases. Discussing with one's peer was seen as a natural part of peer learning.

Now we can sit here and talk and there's nothing wrong with sitting and talking and bouncing ideas around. But if I'd been sitting here alone and had nothing to say or no one to exchange ideas with and everyone else was out working it would have felt , nobody thinks it's strange that we sit down and talk through things (Informal conversation).

Occasionally the students misunderstood each other, which impeded their exchange of knowledge. If there were something the students did not understand after discussion, they asked their preceptor or other staff. When the preceptor was nearby, some students primarily turned to her/him.

The observations showed that, by talking out loud and discussing together, the peers *'Shared their thoughts, feelings, and knowledge and put them into words'*. When the students performed nursing skills side by side, e.g. dispensing medications, documenting in the patient's record or reading, they talked out loud about what they were doing and how they were thinking. This enabled them to get a response to questions, confirmation or to start a discussion.

Partly because we get to say things out loud all the time. That we're always bouncing things around, like ... knowledge. It's like ... that way of thinking has made its mark on me ... (Informal conversation).

Furthermore, the peers put into words how they perceived the patients and their needs.

They discuss how difficult it is when doctors promise more pain relief and say that the patient should have extra tablets at home to take when needed when they know the patient both forgets taking them, gets very drowsy from them and has said she wished she could end her life (Observation).

The discussions sometimes resulted in solving a problem in a way that staff might not have been done.

Well, when the man in 20:1 started crying, then you would say “what should we do, should we call his wife?” Then we talked to our preceptor, the one from last week. He was sad and we said so. He got sedatives ... But we never gave him them because you called his wife and then he calmed down (Informal conversation).

The students could talk about events and associated thoughts and feelings with each other. When sharing thoughts and feelings the peers also discussed their formal professional role as a nurse.

Both students felt the patient was difficult to talk to and described why they felt this way. The students reflect on whether they could have done things differently to avoid the patient constantly doubting their questions and not wanting to give certain information (Observation).

Sometimes a look or a smile was used to convey a joint understanding of a situation.

The peers discussed their learning and each other’s individual and general learning outcomes. They identified areas they wanted to learn more about and events they wanted to participate in.

The students talk about what goals they have for the clinical education period. They write what they want to practise on a piece of paper (Observation); One of their patients will be going home and needs help with showering. S15 has set this as a goal and S16 asks if she wants to do it (Observation).

When the students experienced nursing skills as difficult, they offered to practise them on each other.

They talk about how S6 can practise reporting for S5 ahead of time if she wants to (Observation).

4. Discussion

The main findings revealed that when the students collaborated in different ways using peer learning, they practised several competencies together. In all of the pairs, the competencies practice included organizing and performing nursing care, cooperation/teamwork, medical and technical care, documentation in the patient records, reporting and routines, e.g., hygiene procedures. All of the above are included in nurses’ competencies (Quality and Safety Education for Nurses (QSEN), 2012; The Swedish Society of Nursing, 2017). Interestingly, our study revealed that all of the pairs, irrespective of how close the students collaborated, practised the same competencies, although to different extents. Which skills were practised depended on the patient’s needs, what nursing skills were to be performed and which level of clinical practice development the students were in. Holst et al. (2017) observed nursing students at different stages in the programme and described that collaboration problems within a peer are often due to lack of mutual respect for each other’s learning and how one person’s learning affects the other. Furthermore, they highlighted the fact that preceptors are essential in creating structure and routine for peers’ collaboration when it is lacking.

The present observations revealed that the students practised nursing leadership and teamwork skills while accomplishing nursing skills. Observations were made of peers who organized, performed, evaluated and reported on caring for a group of patients, i.e., they practised the process of caring for their patients by bouncing ideas off each other. Earlier interview studies on peer learning have described how student pairs tested ideas and solved problems together (O’Connor et al., 2012; Ruth-Sahd, 2011; Stenberg and Carlson, 2015), although these studies have not described peers practising the whole process of caring. Nursing leadership and organizational skills, including prioritizing care needs, are described as major stressors for newly graduated nurses (Higgins et al., 2010) and identified as competencies that newly graduated nurses

lack and need to practise during their education (Theisen and Sandau, 2013). An integrative review based on studies from different countries (Hawkins et al., 2019) found that not enough time was spent during nursing education on practising prioritization and organization of nursing care. The finding that peers in peer learning practise leadership on each other has not been revealed as distinctly in previous studies. One possible explanation is that students are not aware they are practising nursing leadership on each other, and consequently have not described this in interview studies.

In the present study, students’ opportunities to practise teaching and supervision skills were observed; these actions seem to be a natural part of the peer relationship. Nursing students have also self-reported teaching and supervision skills as deficient (Gardulf et al., 2016). Jesse (2016) suggested that having the opportunity to educate and be educated by peers increases students’ self-efficacy; this might be related to results from a recent quasi-experimental study indicating that increased self-efficacy is an effect of peer learning Pålsson et al., 2017. The peers were also observed helping each other understand something, and if more information or knowledge was needed, they worked in collaboration to search in different sources, e.g. on the Internet, and then related their knowledge to patients they shared. We know from earlier interview studies that the above findings are among the advantages of peer learning, i.e., discussions of theory and practice and joint reflection (Hellström-Hyson et al., 2012; O’Connor et al., 2012; Ruth-Sahd, 2011; Stenberg and Carlson, 2015). Spitzer and Perrenoud (2006) pointed out the importance of using clinical instruction models that prepare nursing students for self-directed learning, which would allow them to become life-long learners and, thus, meet the needs of a rapidly changing healthcare system. Reflection and the use of patient cases have been suggested as ways of gaining experience-based knowledge and encouraging learning in practice (Miraglia and Asselin, 2015). It has been reported that nursing students experienced insufficient time to share and discuss during clinical practice, which is important if they are to make sense of what they are learning (Newton et al., 2011). The observations revealed that the pairs discussed and identified learning outcomes and assumed joint responsibility for achieving them, which corresponds well with the social theory of learning, according to which participating in a CoP entails a complex process that combines performance, discussions, thoughts, feelings and belonging (Wenger, 1998).

Observations were made of the peers’ joint discussions before and while performing nursing care. The students were observed inviting their patients to take part, asking patients when and how they preferred being helped and, in turn, the patients guided the students in performing tasks in the smoothest way. It became obvious that the peers respected the patients’ autonomy. Manninen et al. (2014) reported that creating a good atmosphere and dialogue with patients leads to a mutual relationship, where the patients are active participants in students’ learning. Earlier interview studies on peer learning have not described how students’ collaboration while working in pairs also involved their patients. However, in Strömwall et al. (2018), patients described that peer students’ care was more flexible and their approach more open than that of ordinary staff. According to the social theory of learning, ‘CoP’, by including patients in their caring, students incorporate patients’ views into their learning experience and these views become part of their professional capital (Le May and Wenger, 2009).

5. Study limitation

The study involved participants from one university; including participants from different educational settings would have reinforced transferability. However, the participants concluded their clinical practice on three different hospital wards, with different specialities and nursing models. Furthermore, the participants differed in age, perspectives and earlier experience, which can be seen as a strength. We have tried to facilitate transferability by describing the participants, setting and using quotes.

6. Conclusions

The present findings showed that learning with a peer gives opportunities to practise several competencies that will be useful in the future profession; earlier studies have described some of these competencies as rather difficult to learn in the context of clinical practice. These findings might help to explain earlier results showing improved performance Pålsson et al., 2017 in the form of improved self-efficacy, learning and development as well as psychological empowerment when using peer learning. Furthermore, the present findings can contribute to an increased understanding of the theories that surrounds peer learning by a description of how students collaborate in peer learning.

7. Recommendations for nursing education and nursing research

Based on the present study and earlier peer learning studies, it would seem reasonable to recommend use of peer learning in nursing education as a learning strategy during clinical practice. However, future research is needed, including longitudinal studies that follow students through multiple peer learning placements at different educational levels. Furthermore, observations focused on the preceptor's role could be useful in generating more knowledge about how preceptors influence the way in which students make use of peer learning.

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Ethical approval details

An application was sent to The Regional Ethical Review Board (2015/200), but no ethical approval was needed according to Swedish law (SFS, 2003:460).

Declaration of competing interest

None.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.nepr.2020.102946>.

References

- Austria, M.J., Baraki, K., Doig, A.K., 2013. Collaborative learning using nursing student dyads in the clinical setting. *Int. J. Nurs. Educ. Scholarsh.* 10, 1–8. <https://doi.org/10.1515/ijnes-2012-0026>.
- Boud, D., Cohen, R., Sampson, J., 2001. *Peer Learning in Higher Education: Learning from and with Each Other*. Kogan Page Limited, London. <https://doi.org/10.1108/et.2002.00444fad.001>.
- Briffa, C., Porter, J., 2013. A systematic review of the collaborative clinical education model to inform speech-language pathology practice. *Int. J. Speech Lang. Pathol.* 15, 564–574. <https://doi.org/10.3109/17549507.2013.763290>.
- Gardulf, A., Nilsson, J., Florin, J., Leksell, J., Lepp, M., Lindholm, C., Nordström, G., Theander, K., Wilde-Larsson, B., Carlsson, M., Johansson, E., 2016. The Nurse Professional Competence (NPC) Scale: self-reported competence among nursing students on the point of graduation. *Nurse Educ. Today* 36, 165–171. <https://doi.org/10.1016/J.NEDT.2015.09.013>.
- Graneheim, U., Lundman, B., 2004. Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. *Nurse Educ. Today* 24, 105–112. <https://doi.org/10.1016/J.NEDT.2003.10.001>.
- Hammersley, M., Atkinson, P., 2019. *Ethnography : Principles in Practice*. Routledge, Abingdon, Oxon.
- Hawkins, N., Jeong, S., Smith, T., 2019. Coming ready or not! an integrative review examining new graduate nurses' transition in acute care. *Int. J. Nurs. Pract.* VO 25. <https://doi.org/10.1111/ijn.12714>.
- Hellström-Hyson, E., Mårtensson, G., Kristofferzon, M.-L., 2012. To take responsibility or to be an onlooker. Nursing students' experiences of two models of supervision. *Nurse Educ. Today* 32, 105–110. <https://doi.org/10.1016/j.nepr.2011.02.005>.
- Henderson, A., Briggs, J., Schoonbeek, S., Paterson, K., 2011. A framework to develop a clinical learning culture in health facilities: ideas from the literature. *Int. Nurs. Rev.* 58, 196–202. <https://doi.org/10.1111/j.1466-7657.2010.00858.x>.
- Higgins, G., Spencer, R.L., Kane, R., 2010. A systematic review of the experiences and perceptions of the newly qualified nurse in the United Kingdom. *Nurse Educ. Today* 30, 499–508. <https://doi.org/10.1016/j.nepr.2009.10.017>.
- Holst, H., Ozolins, L.-L., Brunt, D., Hörberg, U., 2017. The learning space—interpersonal interactions between nursing students, patients, and supervisors at developing and learning care units. *Int. J. Qual. Stud. Health Well-Being* 12, 1368337. <https://doi.org/10.1080/17482631.2017.1368337>.
- Jessee, M.A., 2016. Influences of sociocultural factors within the clinical learning environment on students' perceptions of learning: an integrative review. *J. Prof. Nurs.* 32, 463–486. <https://doi.org/10.1016/j.profnurs.2016.03.006>.
- Le May, A.E., Wenger, E., 2009. *Communities of Practice in Health and Social Care*. John Wiley & Sons, Incorporated, Hoboken, UNITED KINGDOM.
- Löfmark, A., Thorkildsen, K., Råholm, M.-B., Natvig, G.K., 2012. Nursing students' satisfaction with supervision from preceptors and teachers during clinical practice. *Nurse Educ. Pract.* 12, 164–169.
- Manninen, K., Henriksson, E.W., Scheja, M., Silén, C., 2014. Patients' approaches to students' learning at a clinical education ward—an ethnographic study. *BMC Med. Educ.* 14, 131. <https://doi.org/10.1186/1472-6920-14-131>.
- Miraglia, R., Asselin, M.E., 2015. Reflection as an educational strategy in nursing professional development. *J. Nurses Prof. Dev.* 31, 62–72. <https://doi.org/10.1097/NND.0000000000000151>.
- Newton, J.M., Cross, W.M., White, K., Ockerby, C., Billett, S., 2011. Outcomes of a clinical partnership model for undergraduate nursing students. *Contemp. Nurse A J. Aust. Nurs. Prof.* 39, 119–127. <https://doi.org/10.5172/conu.2011.39.1.119>.
- O'Connor, A., Cahill, M., McKay, E.A., 2012. Revisiting 1:1 and 2:1 clinical placement models: student and clinical educator perspectives. *Aust. Occup. Ther. J.* 59, 276–283. <https://doi.org/10.1111/j.1440-1630.2012.01025.x>.
- Pålsson, Ylva, Mårtensson, Gunilla, Swenne Leo, Christine, Ädel, Eva, Engström, Maria, 2017. A peer learning intervention for nursing students in clinical practice education: A quasi-experimental study. *Nurse Educ. Today* 51, 81–87. <https://doi.org/10.1016/j.nepr.2017.01.011>.
- Patton, M.Q., 2002. *Qualitative Research & Evaluation Methods*. SAGE, cop, London, p. 3, 2002.
- Quality and Safety Education for Nurses (QSEN), 2012. *Quality and Safety Education for Nurses*. Retrieved from http://www.qsen.org/search_strategies.php?id=148.
- Ruth-Sahd, L.A., 2011. Student nurse dyads create a community of learning: proposing a holistic clinical education theory. *J. Adv. Nurs.* 67, 2445–2454. <https://doi.org/10.1111/j.1365-2648.2011.05690.x>.
- SFS, 2003. *Swedish Act Concerning the Ethical Review of Research Involving Humans*. The Ministry of Education and Cultural Affairs., Stockholm, p. 460.
- Spitzer, A., Perrenoud, B., 2006. Reforms in nursing education across western europe: from agenda to practice. *J. Prof. Nurs.* 22, 150–161. <https://doi.org/10.1016/j.profnurs.2006.03.003>.
- Stenberg, M., Carlsson, E., 2015. Swedish student nurses' perception of peer learning as an educational model during clinical practice in a hospital setting : an evaluation study. *BMC Nurs.* 14, 1. <https://doi.org/10.1186/s12912-015-0098-2>.
- Strömwall, A., Ozolins, L.-L., Hörberg, U., 2018. "Seeing the patient as a human is their priority": patients' experiences of being cared for by pairs of student nurses. *J. Nurs. Educ. Pract.* 8 (7), 97–105. <https://doi.org/10.5430/jnep.v8n7p97>.
- The Swedish Society of Nursing, 2017. *Competence Requirements for Registered nurses*. Stockholm. (In Swedish) (Svensk sjuksköterskeförening Kompetensbeskrivning för legitimerad sjuksköterska, Stockholm).
- Theisen, J.L., Sandau, K.E., 2013. Competency of new graduate nurses: a review of their weaknesses and strategies for success. *J. Cont. Educ. Nurs.* 44, 406–414. <https://doi.org/10.3928/00220124-20130617-38>.
- Wenger, E., 1998. *Communities of Practice: Learning, Meaning, and identity., Learning in Doing*. Cambridge University Press, Cambridge, 1998.