

# An educational intervention to enhance clinical skills learning: Experiences of nursing students and teachers

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AN EDUCATIONAL INTERVENTION TO ENHANCE CLINICAL SKILLS LEARNING:  
EXPERIENCES OF NURSING STUDENTS AND TEACHERS

ABSTRACT

The simulation centre is a key setting for the acquisition of practical skills. However, pedagogical underpinnings of skills instruction in this setting are not always well founded. This study aimed to explore student and teacher experiences with an educational intervention to enhance clinical skills learning in the first semester of nursing education. The study had an exploratory design, where qualitative data were collected in focus group interviews involving 18 students and four teachers. The participants had generally positive experiences of the intervention. The findings showed that organisation, time usage, an observer role, re-training and structured reflection enhanced systematic feedback by students. We conclude that an educational intervention based on theoretically sound learning tools and pedagogical principles improved students' skills acquisition and gave the teachers a common educational platform.

Keywords

Peer learning, learning tools, observer role, practical skills acquisition

## BACKGROUND

Clinical skills learning is a central element in the education of nursing students. The simulation centre is a key setting for the introduction to and beginning development of clinical skills (Ross, 2012; Rush et al., 2012), and is fundamental to students' further learning in practice (McNamara, 2015; Wellard and Heggen, 2010). Clinical internships have been reduced and limited opportunities for clinical skills development within patient care settings is a concern (Ross 2012). As a consequence, simulation centres have increased in importance in nursing education (Berragan, 2011). According to Berragan (2011), learning in simulated settings cannot replace clinical internships, but is a good supplement. It is therefore of utmost importance to ensure high quality in simulation based clinical skills learning.

Rourke et al., (2010) questioned the soundness of the reasoning behind educational approaches in skills instruction, and studies have shown that educational approaches often are unclear or lacking in pedagogical underpinnings (Berragan, 2011; Wellard and Heggen, 2010). Simulation centres need a strong research foundation to generate important new knowledge about learning (Foronda et al., 2013). Berragan (2011) described this as a theoretical vacuum, and several authors call for more exploration of different learning theories as a foundation for skills development both in nursing and other health care professions (Berragan, 2011; Breckwoldt et a., 2014; Kaakinen and Arwood, 2009; Poikela and Teräs, 2015). This article contributes to this endeavour by evaluating an educational intervention in a clinical skills course in the first semester of nursing education. The intervention included: fixed time intervals for each element of the teaching, the use of observers, and the systematic use of a learning tool to enhance student reflection and feedback. The intervention is described in more detail below.

Learning of clinical skills engages students in cognitive, practical and affective processes and is considered complex (Bjørk and Kirkevold, 2000; Wellard and Heggen, 2010). Many aspects of both individual and collaborative learning processes can be addressed during simulation based learning (Berragan, 2011). Concrete experience and reflection can lead to abstract understanding and changed action, which may then provide new concrete experiences and new understandings (Kolb, 1984). Boud et al., (1985) underlined the importance of strengthening the link between experience and reflection on experience. During simulated learning there are ample opportunities for reflection on both the specific experience and associated emotional reactions (Lestander et al., 2016; Reiersen et al., 2017). Laursen (2015), who termed the simulation centre the third learning arena, underscores the excellent opportunity for and importance of teacher engagement in supporting students to integrate theory and practice in this learning arena.

A good learning process requires a feeling of security (Illeris, 2009). Simulation centres are safe settings with supportive learning environments, where students learn through trial and error (Berragan, 2011; Breckwoldt et al., 2014; Rush et al., 2012; Strand et al., 2009). Students' feelings of security arise partly because they can cooperate to find solutions and receive immediate feedback from the teacher and fellow students (Bjørk et al., 2015; Buykx et al., 2011). Providing feedback on a completed procedure is a complex skill requiring practice and an understanding of the complexity of the skill itself. Rush et al., (2012) found that learning increased in both the giver and receiver of feedback. Giving feedback allowed for critical reflection and integration of theory and practice. However, learning in a simulation centre may also lead to stress and anxiety, such as discomfort at being observed (Nielsen and Harder, 2013), giving and receiving negative peer feedback, and peers' inadequate knowledge when providing feedback (Ravik et al., 2017; Rush et al., 2012).

## Aim

This study aimed to explore student and teacher experiences of an educational intervention to enhance clinical skills learning in the first semester of nursing education. The following research questions were developed:

How did students and teachers experience:

- the organisation of clinical skills development and learning?
- the use of learning tools, observers and re-training?

## RESEARCH DESIGN

This was a sub-study of a larger project at a Norwegian college, which aimed to develop, implement, and evaluate an educational intervention (Reiersonet et al., 2013). The present study had an exploratory design, suitable for a little-researched topic (Polit and Beck, 2012). The study was at Level 1 of Kirkpatrick's (1996) four-level training evaluation model: 1) reaction, 2) learning, 3) behaviour, and 4) results. At the reaction level participants' evaluate the training based on their experiences of teaching and learning. This reveals participants' motivation and interest in learning, and may enhance decision-making about further development of the training (Kirkpatrick, 1996).

## Sampling

Convenience sampling was used to recruit participants (Polit and Beck, 2012). All 60 first-year students in the Bachelor of Nursing course and the six teachers who taught in the simulation centre were invited to participate in the study, and all volunteers were included. The sample consisted of 18 students and four teachers. The teachers had 10-15 years'

experience from the simulation centre, and were not involved in the action research project. The students knew each other, having worked together in the simulation centre for six weeks. We viewed this as a positive factor that could provide a broader range of shared experiences and a relaxed interview atmosphere (Kvale and Brinkmann, 2009).

### The educational intervention

The larger project was an action research study in 2009 - 2011. Action research is appropriate when the goal is to change existing practices (Kemmis, 2014). The aim was three-fold: to develop an educational intervention that incorporated the model of practical skill performance (Bjørk and Kirkevold, 2000; RiNS, 2016) as a learning tool and to engage the students more actively in peer learning processes, to implement the intervention in a cohort of nursing students, and to evaluate the merit and value of the intervention. The “action” was the development of the intervention which was documented through minutes from the action group meetings and log books. Key issues and challenges in the development process are reported elsewhere (Reierson et al., 2013). The clinical skills course encompassed the following range of clinical skills: 1) helping the patient to eat and drink in scenarios where the patient was blind, was diagnosed with dementia, or was paralytic in both arms, 2) using the bed as a therapeutic aid by positioning the patient in different ways, 3) personal hygiene including mouth and foot care, 4) vital signs, 5) use of bedpan, and 6) ambulation between bed, chair and floor.

The learning sessions followed a traditional structure, with a 45-minute demonstration of skills, an 80-minute training session in groups of 3-4 students at each bed, and 45-minute reflection for all students. Our approach to skills training had a theoretical basis in the learning tool ‘model of practical skill performance’ (Bjørk and Kirkevold, 2000), and its ‘instrumental supplement’ (RiNS, 2016). The model describes six elements to be included in

all execution of practical skills with patients: substance, sequence, accuracy, fluency, integration, and caring comportment. The instrumental supplement (RiNS, 2016) indicates quality criteria for skills execution for each element (Table 1). For details on the development and use of the model, see Bjørk et al. (2013). During training students had access to an online program of nursing procedures (VAR Healthcare, 2016).

Students alternated in roles as nurse, patient and observer. The observer provided feedback on the elements of the model and instrumental supplement during or immediately after skill execution. The observer role was intended to allow students to help assure the quality of the training (Buykx et al., 2011) and learn to give and receive feedback (Goldsmith et al., 2006; Rush et al., 2012). The initial teaching session emphasised the important role of the observer in providing feedback to the group because feedback can direct further action (Hattie and Timperley, 2007).

Re-training of the skill by a group was introduced as a basis for common reflection at the end of the day. Reflection is important in all simulation learning, where repeated training and reflection are seen as important learning principles (Boling and Hardin-Pierce, 2016; Jeffries, 2005). The model and instrumental supplement were also a basis for feedback and reflection. In the re-training, 2-3 observers provided feedback on the same element in the model. The students were introduced to the model and supplement as a learning tool before training, and were given a pocket-sized folder. The concepts involved were systematically used by teachers to make students aware of various aspects of the skill being demonstrated.

**Table 1**

Instrumental supplement

<b>Instrumental version of</b>	
<b>Model of practical skill performance</b>	
© RiNS 2009	
<b>Definition of categories in the model</b>	<b>Characteristics of quality performance</b>
SUBSTANCE and SEQUENCE are the core aspects of a practical skill. This implies that necessary steps in the skill are included and performed in a logical order.	Substance and sequence are determined on the basis of clinical guidelines, professional standards and principles. Substance and sequence are adjusted to the patient and the situation where the skill is being performed.
ACCURACY refers to exactness of each movement step, instruction and information. Accuracy is important in order to ensure security of patient, nurse and environment.	Accuracy implies to act <ul style="list-style-type: none"> <li>• correctly</li> <li>• precisely</li> </ul> Accuracy implies to inform and instruct <ul style="list-style-type: none"> <li>• what is necessary and sufficient</li> <li>• distinctly</li> <li>• understandably</li> </ul>
FLUENCY signifies that tempo and rhythm is adjusted to both the patient and the type of practical skill being performed, and that the practical skill is performed with smoothness.	Fluency implies to act, inform and instruct <ul style="list-style-type: none"> <li>• without hesitancy</li> <li>• without unnecessary breaks</li> <li>• with ease</li> </ul>
INTEGRATION signifies that all parallel aspects within the practical skill are harmonized.  Integration also means that the entire practical skill is adjusted to the patient's current condition and situation.	Integration implies to <ul style="list-style-type: none"> <li>• time and coordinate the elements of action</li> </ul> Integration related to adjustment implies to <ul style="list-style-type: none"> <li>• be attentive</li> <li>• have an overview</li> <li>• be flexible</li> </ul>
CARING COMPORIMENT signifies to create an atmosphere where the patient's dignity is upheld, self-determination is ensured according to the patient's current condition and situation, and well-being is sustained.	Caring comporiment implies to <ul style="list-style-type: none"> <li>• acknowledge</li> <li>• show respect</li> <li>• ensure patient participation</li> <li>• be empathic</li> <li>• use appropriate touch</li> <li>• be engaged</li> <li>• use appropriate communication</li> <li>• work aesthetically</li> </ul>



## Data collection

Focus group interviews were used to collect data. This method is systematic and based on predetermined foci while also allowing participants to ask questions and comment on each other's statements. This can enhance synergy and interaction flow between participants (Carey, 2016; Carey and Asbury, 2012). The intention with a focus group interview is not to reach agreement on a topic or to present solutions, but to construct new thoughts that would not have arisen in individual interviews (Kvale and Brinkmann, 2009).

The students were informed orally about the project by the first author before the study. Similar written information was available in the learning portal. The following week, an enrolment list was passed around in class. Teachers received oral information and an email containing information and an invitation to participate.

Participants were divided into two student groups of nine and a group of teachers. The interview guide was based on the research questions since our clear aim was to examine experiences of the new educational intervention. The student interviews also included questions about experiences of receiving feedback from fellow students and supervisor. The teacher interview contained questions on experiences with the supervisor role and perceptions of changes from previous teaching. The questions were open and follow-up questions were asked to ensure that the respondents' meaning was understood. There was one interview in each group in January-February 2011.

The hour-long interviews were conducted at the college and were audiotaped and transcribed. The second author was moderator, as she did not know the students or teachers. The moderator's tasks are to encourage participants to talk together and to manage the social interaction in the focus group (Carey and Asbury, 2012). The first author was an observer, since she taught the students in the simulation centre and was also a member of the action

research group. The observer took notes and asked clarifying questions at the end of each interview.

### Ethical considerations

The project, including all sub-studies, was approved by the Data Protection Official for Research at the Norwegian Centre for Research Data (No. 22801) and the dean of the faculty. The study conformed to research ethical principles and the participants signed informed consent forms.

### Analysis

The focus group interviews were transcribed verbatim. All interviews were listened to and the transcripts read several times to gain an overview of the data. Kvale and Brinkmann's (2009) method of using meaning condensation in the interpretation was adopted as an overall perspective in analysing the material. In the first part of the analysis students' and teachers' opinions on the experience of learning and teaching in the simulation centre were condensed. The resulting meaning units were abstracted into subcategories. Through several rounds of analysis, the subcategories were abstracted into four main themes. Table 1 shows an example from the transcribed text and analysis process in the theme: experiences of adopting the model as a learning tool. The other main themes were: experiences of organisation and time usage, experiences regarding the observer role, and experiences of re-training and structured reflection.

**Table 2**

Illustration of analysis from text to main theme

<b>Interview text</b>	<b>Condensed meaning units</b>	<b>Sub-categories</b>	<b>Main theme</b>
Yes, as I said, I thought the teachers had different approaches to the model. Some were great at explaining in detail, but others weren't. So, at first I didn't quite see the point of that model, but I must say that for giving feedback to all the students, I thought it was fine to use - when you'd learnt to use it. So maybe a bit more training in the language part. How to handle it in advance before you're sitting there to give feedback. That might have been a good idea.	Teachers approached the model differently.	How teachers used model in teaching	Experiences of using model as learning tool
	At first I didn't see the point of the model.	Initial experience of using model	
	The model was good for feedback in the whole group.	Later experience of using model	
	More initial instruction in using the model needed.	Initial experience of using model	

### FINDINGS

The findings revealed general aspects of student learning in the simulation centre, such as feeling secure in the setting, the importance of experiencing the role of both nurse and patient and the positive aspects of cooperating with other students. In the interviews, the students clarified what had promoted and constrained their learning. Teachers were more interested in comparing the new and old teaching methods, and the different role of teacher as facilitator in the intervention. In the findings, we primarily focus on experiences of the new elements in the intervention. Teacher quotes are referred to as L1, L2, etc., while F1 and F2 refers to student quotes from the focus groups.

### Experiences of organisation and time usage

Students said relatively little about the organisation of the training situation, probably because the course was their first experience of clinical skills learning. The teachers reported being pleased with both the new organisation and the fixed timeframes. The changes were useful in lesson preparation because they clearly set out the day's schedule. This meant better use of time in the simulation centre than previously. One teacher described this as follows:

(...) it's been a framework for the skills training throughout the course, and I feel it's given the exercises a much clearer and better structure too. I think the allocation of time to each element in the structure worked well. (L4)

The teachers were keen to emphasise how the new form of organisation had affected their role during teaching. They dominated less when the students were active, concentrated, and were more responsible for their own learning. They also stressed the increased need for cooperation among themselves, to ensure equal use of time and the implementation of the new organisational elements.

### Experiences regarding the observer role

Both students and teachers spent much time discussing their experiences of the students' observer role. The teachers felt that students provided more feedback because there was an observer in each training round. This also led to more joint reflection. Students felt it was instructive to observe each other, discuss, and give and receive feedback. They particularly commented that being an observer allowed them to learn from other students' approaches and mistakes. It was a consistent finding that the observer role had given them ideas about how to change their actions. Initially, the role was difficult, which students explained by their insufficient knowledge of how feedback should be given. A further

challenge was to do several things simultaneously when observing. They had to note what the students did and did not do, and use the concepts in the model systematically in their notes. They also found it difficult to provide feedback on a skill with which they had little or no experience themselves. The following student quote illustrates an experience of the observer role:

I was on the outside, observing without doing anything, and then I had to give feedback afterwards. I had to practice procedures in the beginning to get experience, so I could give feedback as an observer. As I became comfortable in the situation, it worked better. (F1)

Students wished for more detailed information about what the observer role should entail. Lack of knowledge about the role led to different approaches during training. In some groups observers gave continuous feedback during training, while in others the observer only provided feedback when the skill was completed. Many students found it helpful to receive continuous feedback even though this meant less flow, more discussion, and longer training time. In the early exercises, observer feedback was particularly helpful to correct misunderstandings and to provide a systematic overview of all the steps described in the online programme featuring the performance of nursing procedures (VAR Healthcare, 2016). Other students stressed the importance of silence during training to aid concentration and improve the flow.

Both students and teachers found that observers' feedback developed and improved with experience. Better flow in feedback and correct use of medical terminology demonstrated improved quality. Observers acquired more words to describe the exercises and skills. Students strongly emphasised the usefulness of being in an observer role during re-training. When several observers focused on the same element of the model, the feedback became broader and more detailed. The teachers had particularly noticed the emotional

support observers gave during re-training, and stressed its importance for further learning.

One teacher said:

The observers were serious in their feedback and gave detailed comments on fellow students' mastery... They provided objective feedback on accuracy, flow, and caring comportment. The students were also very alert, showing deep concentration and reflection (L2).

### Experiences of adopting the model as a learning tool

Teachers and students agreed that the model was a suitable tool to highlight the complexity of a practical skill. One teacher described this as follows:

What's new now is that I'm more deliberate and organised in using the model. I'm more aware of the elements of a procedure since the model was adopted actively. I had to practice the skill myself to think about how the different elements appeared when I demonstrated them. (L3)

Most students were positive about using the model after trying it out a few times. Use of the model led to reflections, extended their vocabulary and provided new perspectives on their previous knowledge of the procedures, as one student stated:

The model was very helpful, it made me see things differently. I could put what I learned into words. I learned different words to use in patient care, for example. Now I reflect more, before, during, and after procedures. (F2)

Students felt that their initial difficulties were due to poor understanding of the model, how to use it, and the content of the concepts. It could also be complicated to relate the concepts to concrete actions. Most students wanted a more detailed explanation of the use of the model.

They found it easiest to give feedback on 'substance' and 'sequence', particularly in the beginning. As their practical mastery improved, their feedback included the other elements, and was more related to variations in other students' actions, such as accuracy and fluency. This reflected the teachers' statements that using the model had changed the students' way of giving feedback. One teacher said:

Students are more constructive when describing their own training and giving feedback. Before, feedback was often about difficulties, but now they're much more focused on providing constructive feedback. It's not just about right or wrong in procedures, but also about different aspects of right and wrong. (L2)

The teachers felt that using the model had enhanced their understanding of the benefits of a learning tool. Some commented that although the model had long been part of the course description, it had not been used systematically as a learning tool. The model had adjusted their preparation methods for teaching in the simulation centre and made them cooperate more on student supervision during training, especially in talking together before the sessions to gain a common understanding of the students' observer role, the re-training and use of the model. All teachers attended the demonstration at the beginning of the day to be able to comment on the model. Students and teachers found that the comments disturbed the demonstration, so this practice was discontinued early in the nursing skills course. Despite the teachers' perception that they cooperated and agreed on the observer role and model, all students wanted more equal use of the model by teachers and were confused by differences in how detailed and systematic teachers were. One student said:

Some teachers were brilliant at going very systematically through the elements of the model and explaining in detail how to use it, what was expected, and the right words we should use. (F1)

Students described the combination of the model and the online program as useful complementary learning tools, since the model addressed elements such as accuracy, flow, integration, and caring comportment, while the online program focused more on substance and sequence. Both students and teachers found that the use of the learning tools led to continuous feedback that helped to assure learning quality, and students also found this helpful in planning and preparing for practical tests. However, students were dissatisfied with the insufficiently detailed instruction on how the model and the online program could be combined to support learning during skills training.

#### Experiences of re-training and structured reflection

Most students found re-training stressful, since they were being assessed when demonstrating a skill. This was reflected in teachers' statements about their role as a delicate balance between reassurance and assessment. Students reacted differently to feedback; some did not like to demonstrate skills for fear of receiving negative feedback from peers and teachers, while others found the feedback useful input in their learning. One student described his experience as follows:

I dared to do the re-training because there was some pressure of 'voluntary compulsion'. It went smoothly because the teacher reassured me, saying, 'Don't worry, all the others learn from what you do, including your mistakes.' After doing it once, I wasn't afraid to repeat it. (F2)

Several students expressed frustration that teachers did not implement the reflection session following re-training in a more similar way although most students found reflection after re-training useful. Both students and teachers found reflection more varied when each



element in the model was discussed by more than one observer. Students mostly did not use the term reflection about the re-training; they said it was important to ask questions, talk together, discuss and provide feedback. The teachers, who consistently used the word reflection to describe discussions after re-training, emphasised students' commitment during reflection, as the following quote illustrates:

Now it is easier to get students to participate more actively in the reflection session. I did most of the talking before, but now the students are forced to reflect. Earlier the final summarising used to be a bit dull, they mostly wanted to leave and were just waiting to get signatures for attendance. (L1)

## DISCUSSION

Teachers and students in this study were mostly satisfied with the newly developed educational intervention in the simulation centre. Teachers were particularly pleased with organisation and time usage; the time in the simulation centre was used better and students were perceived as more responsible for their own learning. Overall, the findings show that all the new elements of the intervention enhanced systematic feedback and reflection among students; these two aspects are discussed as follows.

### Improved feedback during training and re-training

Feedback was provided differently; in some groups, it was given during the training while in others it came afterwards, perhaps because there were no clear rules on how students should organise observer feedback in groups. Feedback aims to change people's thinking or behaviour to improve learning (Hattie and Timperley, 2007; Shute, 2008). Feedback may be seen as bridging the gap between current performance and a desired future goal (Hattie and

Timperley, 2007). According to Gamlem and Smith (2013), immediate response can be useful as it is conveyed as an integral part of a work process and can thus immediately improve current performance. The students who received continuous feedback found this immediate response helpful in improving their performance. Students who preferred feedback after training said this enhanced flow and concentration. This may be because feedback afterwards provides a more comprehensive perspective on what took place in the training situation. This resembles a debriefing, focusing more on a general perception of a situation or more on the outcome than the learning process (Dreifuerst, 2015; Jeffries, 2005; Reiersen et al., 2017). For feedback to support students' learning and development, it must be given close to practical actions, be both task- and process-oriented, related to learning outcomes, and indicate the direction of further learning (Hattie and Timperley, 2007; Sadler, 2010).

In this study, feedback was formalised and linked to an observer role during training in small groups and during re-training. This is a form of peer learning (Christiansen and Bell, 2010). There are many studies on the effects of peer learning for nurses in simulation centres and clinics (see e.g. Christiansen and Bell, 2010; Christiansen et al., 2011; Williams and West, 2012), but few have examined peer learning between students at the same level in a simulation centre (McKenna and French, 2011; Ravik et al., 2017; Strand et al., 2009), as in this study. Students are usually less stressed and more relaxed in learning situations where fellow students provide feedback (Owens and Walden, 2001; Rush et al., 2012). Teachers in this study commented that students more actively asked for feedback and were more responsible for their own learning. Similarly, Stone et al. (2013) found that peer learning made students more independent. When students take over much of the feedback function, they need to have some of the same knowledge as the teacher, although they are not expected to reach a teacher's level of knowledge (Hattie and Timperley, 2007). Without teacher guidance, errors may not be detected and corrected (Ravik et al., 2015, 2017). Teachers have

an important role in bridging the gap between current and desired performance, which is best achieved by correcting errors (Gamlem and Smith, 2013). We do not know how correct the feedback was during the training, but the joint reflection and feedback after re-training allowed teachers to correct misunderstandings, point out errors, and discuss students' experiences during the training.

### The use of learning tools and observers enhanced reflection

The study participants felt that the model and observer role generally encouraged reflection. The model is a physical tool used to arrange and systematise feedback, and to encourage learning through increased reflection and metacognition. In a sociocultural perspective, learning tools may be understood as artefacts or mediated tools that communicate thinking and make it easier to express practical actions (Lave and Wenger, 1991). Students stated that when they used the model of practical skill performance, they had common professional terminology and became more confident in its use. This concurs with student experiences in a previous study involving the model (Nielsen et al., 2013). Ewertsson et al. (2015) stated that it is challenging to build a culture that systematically trains nursing students' ability to reflect on performing practical skills. This study shows that the model helps to develop such a culture.

Some teachers controlled the content of the reflections more than others and students felt that an excessively structured reflection session prevented their spontaneous reflections on experiences during the training. According to Dreifuerst (2015), an understanding of what occurred in a training situation must be made explicit to provide insight into one's own and others' actions. Reflection should be based on students' own experiences to achieve accurate and comprehensible knowledge of the actions involved (Hattie and Timperley, 2007; Reiersen et al., 2017).

Some students found re-training stressful and somewhat uncomfortable; openness about such reactions and encouragement to reflect on them were thus important. The teachers stated that the students took emotional care of each other during training and re-training. In reflection processes, discussing and working on emotional reactions is vital, otherwise these may block further learning (Boud and Walker, 1998).

### METHODOLOGICAL CONSIDERATIONS

The study included 22 participants. The teacher focus group was somewhat smaller than recommended (Carey and Asbury, 2012). However, four of the six teachers participated, which was a reasonable proportion. Eighteen of 60 possible students participated. Since participation was voluntary, it may be cause for concern that the volunteers perhaps were those who were most positive towards the intervention, thus adding bias to the data.

The first author had taught in the simulation centre and was on the research team that developed the intervention. She was therefore not unbiased. It was therefore decided that the first author would be the observer and the second author the moderator, since the latter did not know the students and this could reduce the influence on the students' statements (Kvale and Brinkmann, 2009).

It was discussed whether the first author would affect colleagues' responses in evaluating an educational intervention she had helped to prepare. However, it was considered an advantage that her colleagues had extensive experience of supervision in the simulation centre and thus a good basis to compare the new and old teaching. The first author was also a supervisor in the simulation department, which may have influenced students to communicate experiences they thought a supervisor and moderator expected (Carey, 2016). The students

knew each other, which could have made them adapt their opinions to those of other students (Carey and Asbury, 2012).

## CONCLUSION

In this study we explored student and teacher experiences with an educational intervention based on theoretically sound learning tools and pedagogical principles. Experiences with the intervention were generally positive. Changes in teaching in the simulation centre have been called for, and the teachers found it both useful and challenging to cooperate in a more substantially grounded teaching programme in the centre. Students asked for better preparation for using the model and taking on the role of observer. The findings in this study may have implications for the role of faculty in clinical skills learning sessions. We have shown that learning tools and the systematic use of peer observers can enhance the peer learning process. Variation in the observer role is advantageous as students prefer different approaches. The elements of the educational intervention activated the students in their learning processes. This may allow the teachers to concentrate their guidance on error correction and bridging of theory and practice. The theoretically based tool that captured important concepts of clinical skills learning was an important heuristic for teachers in this endeavour. Despite the long tradition in nursing education of skills training in groups in preparation for clinical practice, more research is needed on the effects of feedback and reflection in the learning process, particularly regarding groups of students at the same level of education.

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