

## ORIGINAL RESEARCH

# Nursing students' learning experiences in clinical placements or simulation—A qualitative study

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## ABSTRACT

This paper reports on a qualitative study whose aim was to investigate nursing students' learning experiences in two arenas. It is common practice all first-year nursing students to practise in a skills lab. In this study, students practised in either clinical settings or a skills lab. In the design, a phenomenological-hermeneutic approach was used. The setting was Course 2, a ten-week course including either two weeks on clinical placements or two weeks in a skills lab. The participants were six first-year students. Data were generated by participant observations and interviews and were interpreted according to Ricoeur's theory of interpretation. The findings indicated that students learned nursing skills in both arenas. However, on clinical placements, students and preceptors began nursing the patients after 20 minutes and students subsequently reflected on practice. In the skills lab, preceptors guided the students for up to an hour before they were ready to begin performing nursing. Students with previous nursing experience and activist learning style preferred to learn on clinical placements. Students with other learning styles – even one student with previous nursing experience – seemed to prefer learning in the lab, where they felt safe, as there was no risk of harm to patients. The conclusion was that, rather than all first-year students practising in the lab, it could be valuable to consider the students' prior experience and preferred learning style in discussions of where to begin the learning trajectory in the nursing programme.

**Key Words:** Learning experiences, Nurse education, Qualitative research, Clinical education, Simulation lab, Learning styles

## 1. INTRODUCTION

The article refers to a study that investigated learning experiences in a skills lab and on clinical placements, respectively. As in other countries, in Denmark great attention is paid to simulation learning, because of the shortage of clinical sites. Usually, students on the Danish Bachelor's Degree Programme in Nursing practise in a skills lab during the first semester. There has been some discourse on whether nursing skills learned in the lab are transferable into clinical practice,<sup>[1]</sup> and some authors call attention to the fact that clinical practice will always be much more complicated and complex than it is possible to reconstruct in a lab.<sup>[2]</sup> In research, learn-

ing in a skills lab is a part of simulation. Simulation is defined as “a near representation of an actual life event; may be represented by using computer software, role play, case studies or games that represent reality and actively involve learners in applying the content of the lesson”.<sup>[3]</sup> Lewis and Ciak concluded that learning by simulation focused on pediatric and obstetric nursing promoted improvement of knowledge in a safe clinical environment free from patient harm.<sup>[4]</sup> A review showed that simulation-based learning using standardized patients (SP) might have beneficial effects on knowledge acquisition, communication skills, self-efficacy, learning motivation, and clinical skill acquisition. Based on these find-

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ings, the authors suggest that an SP educational approach, if integrated appropriately, can be used in academic settings as an active learning methodology.<sup>[5]</sup> Furthermore, a systematic literature review indicates that teaching in a skills lab and simulation laboratories provides a positive learning environment and motivates student nurses to learn. It develops critical thinking and the student nurses' ability to take part in what Benner refers to as problem-based nursing.<sup>[6]</sup> However, there are discussions around the extent to which learning in clinical practice can be replaced by learning in a simulation laboratory.<sup>[7]</sup> Studies have shown that learners are satisfied with and enjoy learning with patient simulation, but also that there is no evidence to suggest replacing clinical sites with simulation.<sup>[7]</sup> Studies<sup>[8,9]</sup> found that simulation is recognized as an effective teaching-learning strategy in nursing education. However, research also emphasized that there are still gaps in the understanding of learning strategies in the two areas.<sup>[7-9]</sup> Therefore, the aim of this study was to investigate learning experiences for first-year nursing students in a skills lab and on clinical placements, respectively.

## 2. METHODS

### 2.1 Research design

To describe how learning occurs and to understand the different learning experiences in the two arenas – a skills lab and on clinical placements – the study was designed using a phenomenological-hermeneutic approach, inspired by the two ethnographers M. Hammarsley and P. Atkinson<sup>[10]</sup> and the philosopher P. Ricoeur.<sup>[11]</sup>

### 2.2 Setting and participants

The setting was the second of two 10-week courses in the first semester. There are seven 20-week semesters in the Danish Bachelor's Degree Programme in Nursing. During the first four weeks of the course, the whole class was prepared to practise nursing skills with the same theoretical content. In the fifth and sixth weeks of the course, the students were to practise nursing skills. The learning outcomes were to be able to establish a relationship with the patient, to state the reasons for selected nursing skills and to carry out nursing.<sup>[12]</sup> To achieve variation in our study,<sup>[13]</sup> the participants were selected from the skills lab and from three different clinical placements: a surgical ward, a patient hotel and a healthcare centre.

The participants were six first-year female students, who volunteered to participate. Three of the volunteers practised nursing skills in the lab, together with the majority of the class, in groups of four students. In each group, one student acted as a nurse and a second student acted as one of six case patients. When a manikin was used as a patient, the

second student spoke as the voice of the manikin. The third and fourth students acted either as an assistant nurse or as an observer. The groups in the skills lab were supervised by preceptors from clinical placements. Each preceptor supervised three groups of students. The preceptor is a registered nurse who has completed a six-week course in learning and supervising students.

Six students were placed in pairs, on each of the three placements, so they could act as sparring partners for each other. These students were supervised either by a preceptor, a registered nurse or a registered practical nurse, when they participated in daily care for patients, during day shifts.

### 2.3 Generation of data

Data were generated by participant observations and narrative interviews. During participant observation, data about the physical places, the people involved, the physical things present, time, emotions felt and expressed, goals, together with acts, activities and events were concurrently noted.<sup>[10]</sup> Three students in the lab and three students in three different clinical placements were followed by a researcher. Each student was followed on two occasions. On the first occasion, each student was followed for four hours during the 5th week of the course. The second occasion involved following each student for 45 minutes during a mandatory activity at the end of week 6. After the mandatory activity, each student was interviewed. The opening question was: "Please, tell me about your experiences during the last two weeks". The interviews were recorded and transcribed. Thus, all the data material was available as texts.

### 2.4 Ethical considerations

Before commencing the study, the Head of Nursing approved access to the clinical placements. The staff at the clinical placements and the colleagues and preceptors involved were informed. The students received oral and written information about the project on two occasions. It was made clear to the students that their learning experiences were the focus of the investigation, and that it was not the purpose to evaluate their performance. Ethical Guidelines for Nursing Research in the Nordic Countries,<sup>[14]</sup> which includes the Helsinki Declaration, were followed. Formal approval from the local Scientific Ethics Committee was not required, in accordance with national legislation in Denmark.

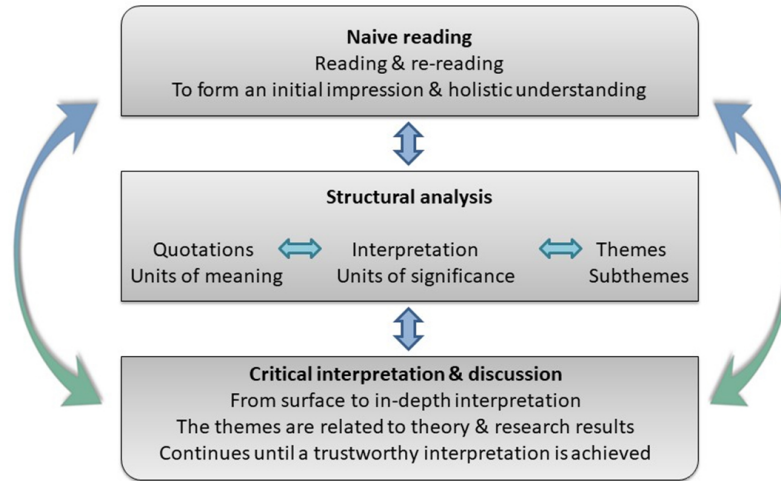
### 2.5 Interpretation

The texts were interpreted according to Ricoeur's theory of interpretation, on three levels.<sup>[11]</sup>

Figure 1 illustrates the interpretation inspired of Ricoeur.<sup>[11]</sup> The first level of interpretation is the naive reading, which is

the phenomenological part. The texts were read and re-read until a holistic understanding of the texts was formed. The holistic understanding delimited the number of possible interpretations of sentences in the texts. The second level is the structural analysis, which is the explanatory part of interpretation. The researchers investigated the units of meaning and reflected on the significance of the unit to see if there was justification for the interpretation of the meaning unit in the holistic understanding, and vice versa. Thus, in the

structural analysis, themes and subthemes were drawn out from the entire text material for the critical interpretation and discussion, where the themes were related to theory and other research results. The arrows illustrate how the interpretation moved forwards and backwards between the levels, in order to move between the specific and the general. The interpretation continued until strengthened arguments for a trustworthy interpretation were achieved.



**Figure 1.** Illustration of the interpretation inspired of Interpretation Theory<sup>[11]</sup>

### 3. FINDINGS

During the analysis, we gathered the subthemes in two major themes about learning experiences: learning in an unpredictable setting and learning in a safe setting. In the following paragraphs, the students in clinical placements were anonymized by using the names Anna, Betty, and Carol. The students in the skills lab were anonymized with the names Dora, Eve, and Frida. Quotations from participant observations are marked with an O, and those from interviews are marked with an I.

#### 3.1 Learning in an unpredictable setting

Table 1 illustrates how the major theme learning in an unpredictable setting and the subthemes revealed itself from the texts during the naive reading and structural analysis, and how learning to become a nurse took place in communication and interaction with patients, preceptors, nurse practitioners, and other health professionals on clinical placements.

##### 3.1.1 Adapting care to the needs of the patient

On the clinical placements, the students participated in nursing after a briefing of 15 to 20 minutes. The quotations from participant observations of Anna, Betty, and Carol illustrated how the communication and interactions seemed to be intuitive and fluent. For example: Anna said to the

patient, as she knew that he normally wore glasses: *Do you want your glasses on?* When Anna saw he had only socks on his feet, she said: *Here are your slippers.* Anna put his cardigan on correctly, as she could see that he needed help putting it on (O: Anna). The students seemed to be involved in the situation, grasping the feelings of the patients and the patients reacted authentically to the interactions initiated by the students. Students had the opportunity to learn to adapt their care to the needs of the patient, both reflectively and unreflectively. It seemed like a dialectical dance.

The students cooperated with a preceptor or a nurse practitioner in relation to patients with different anatomy, physiology and pathophysiology. Thus, the students could learn how different human bodies looked as a supplement to former courses in anatomy and physiology. However, the sensed differences seemed to be tacit knowledge, as the students did not talk about them. The preceptors need to encourage the students to reflect on their observations in order to learn from them. Often the patients had co-morbidity and a disability, so the students got an impression of the diversity and complexity of nursing. Students reflected on their observations of the patients using theoretical knowledge. When they could not manage to make the connection between theoretical knowl-

edge and the patient's situation by themselves, they could ask the preceptor or another skilled staff member to reflect with them. Common to the observations of Anna, Betty and Carol, as quoted above, was that the preceptor or staff member first demonstrated how the task was carried out. Then, the students carried out small tasks, such as cleaning the patient's glasses, either independently or upon being instructed to do

so (O: Anna, Betty, Carol). The actions seemed to be adapted to the situation and to the preceptor's impression of what the student was capable of. Together with staff, the students participated when, for instance, the patients were undergoing intravenous fluid therapy – involving a catheter a demeure or oxygen therapy (O & I: Carol) – so they could learn how nurses work as part of a treatment team.

**Table 1.** Illustration of the structural analysis that led to the theme learning in an unpredictable setting

What is said? Units of meaning	What is talked about? Units of significance	Themes Subthemes
The preceptor washes the patient's hair and body in accordance with the rules of infection control. Anna observes them. Anna cleans the patient's glasses ... hands him a brush. He combs his hair. Anna: Do you want a deodorant? Patient: Yes, please. Anna: Do you want your glasses on? Patient: Yes, please. Anna: Here are your slippers. He puts on his slippers. Anna puts his cardigan on correctly (O: Anna)	The talk concerns helping a patient with a shower and to get dressed	Learning in an unpredictable setting • Adapting care to the needs of the patient
I learned a lot because it was real patients we co-operated with. It is obvious what the patient can and cannot do, and what is left for us to do (I: Anna)	The talk is of learning from co-operation with patients as distinct from learning in a skills lab	Learning in an unpredictable setting • Reflection on learning
A nurse practitioner (NP) to Betty: you should begin with the teeth at the back of the mouth and with only a bit of toothpaste on the toothbrush. It mustn't be too wet as the patient cannot swallow any longer. The aim is to clean bacteria from the mouth. Betty tries ... the gums bleed and Betty stops. NP: Bleeding is a sign of bacteria – we will clean the mouth, so continue. Betty continues and uses swabs to remove mucus from the roof of the mouth. She touches the soft palate, which triggers a reflex vomiting by the patient. Pause. NP: You need to finish [your mouth care] (O: Betty)	The talk is about mouth care, including brushing the teeth of a woman with paralysis	Learning in an unpredictable setting • Adapting care to the needs of the patient
I cooperated with someone who didn't follow the procedure ... Even though we learned the correct procedure at school, I did it as she did. This is a disadvantage of learning by observing and doing (I: Betty)	The talk is about learning by imitating an instance of bad practice	Learning in an unpredictable setting • Reflection on learning
Preceptor: First, you need to pull the arm with the "drop" through the sleeve, then the arm without the "drop". Carol pulls the infusion bag through the sleeve and helps the patient to get the arm through, too (O: Carol)	The talk is about helping a patient undergoing intravenous fluid therapy to put on his shirt	Learning in an unpredictable setting • Adapting care to the needs of the patient
I've really gained a lot here... about the urinary tract ... relation to the patients instead of relation to a manikin ... how to manage in different situations ... how to handle oxygen therapy ... it is valuable to be hands on ... to be with the staff (I: Carol)	The talk is about an experienced learning outcome by participating in nursing	Learning in an unpredictable setting • Reflection on learning

### 3.1.2 Reflection on learning

The competencies of the staff guiding the student are very important, as Betty stated: I observed a staff member who washed the groin and scrotum before she washed around the urinary tract ... Suddenly, I had doubts about what was the

right procedure. Even though we learned the correct procedure at school, I did it like she did. This is a disadvantage of learning by observing and doing. Though, now I follow the correct procedure (I: Betty). Betty reflected on learning by observing and doing. The quotation emphasizes the im-

portance of the skill level of the supervisor and shows how easily theoretical learning can be overruled by learning in practice.

A progression could be seen between the first and second rounds of participant observations; the students developed from being guided and observing to making their own plans for care. They seemed to have gained an overview of the usual nursing situations and the skills necessary to meet patients' needs. Before taking action, they informed the patients and preceptors about what they planned to do: "I want to help you to get cleaned up". One patient was thirsty, so the student was able to adapt her plan and get some juice for the patient, before Anna guided him to cooperate further (O: Anna). The situation indicated that the student was able to both communicate and act spontaneously in the situation. Theoretical knowledge and experiences appeared to be integrated in the students' expectations about what would be an appropriate plan for an individual patient. This was interpreted as a sign of an incipient independence.

During the interviews, students talked about the way they valued learning: "I learned a lot because it was real patients we co-operated with" (I: Anna). "I did like she did. This is a disadvantage of learning by observing and doing" (I: Betty). "I've really gained a lot here ... relation to the patients instead of relation to a manikin ... it is valuable to be hands on ... to be with the staff" (I: Carol). These citations increased our interest in how the participating students preferred to learn and the influence of these preferences. All three responded that they preferred to learn by doing, and they all had some experience from practice before enrolling on the nursing programme. Thus, learning in clinical placements seemed to be attractive to students who preferred to learn by doing and already had some nursing experience.

Learning experiences in clinical placements can be characterized as diverse and, to some extent, unpredictable. The symptoms and reactions of the patients were often visible – and, if they were not, students could talk with and ask the patient. It was possible and necessary to be involved in relationships with patients and staff, to learn by doing and to focus on individual patients' needs. The students experienced authentic observations and interactions with patients and staff. They acquired experience of how to react appropriately to the various expressions and needs of the patients.

### 3.2 Learning within a safe setting

Table 2 illustrates that the major theme learning within a safe setting and the subthemes emerged from the texts during the naive reading and structural analysis, and how learning to be-

come a nurse took place in communication and co-operation with preceptors, peer students acting as case patients by turns, and by using manikins in the skills lab in a safe setting.

#### 3.2.1 Focus on procedure

In the skills lab, for supervision, the students were put into groups of nine to twelve students. The students and the preceptor had a dialogue lasting 35 to 55 minutes before rehearsals. The students asked questions about the case patients and reflected with the preceptors, to get a better picture of the symptoms and reactions of the case patients. These reflections seemed very important to the students in order to understand the procedure and what to do in the situation. The reflections seemed to allow them to get a more detailed impression of the case patients. Even Eve, who had experience from homecare before enrolling on the nursing programme, responded that the pre-reflection had opened her eyes to many more details about nursing the case patient (I: Eve).

Many students noted a lot of details about the patients on their computer; for instance, the answer to the question: What does a fungal infection look like (O: Dora)? They seemed to be afraid of forgetting these details, and it appeared well-founded, because, of course, many of the symptoms would be invisible on a manikin or a peer acting as the case patient. Furthermore, there were periods of time without supervision, as the students were rehearsing in smaller groups of three or four. As the preceptor walked from group to group supervising, not all learning opportunities were made use of. An example was when no-one noticed that the dropping chamber got stuck and filled with fluid when rehearsing how to help a patient undergoing intravenous therapy out of her shirt (O: Eve).

#### 3.2.2 Peer learning

In spaces of time without supervision, students asked each other questions and learned from their peers – but they did not always know the answer to the question. For instance, one group discussed a case patient with chronic obstructive lung disease without coming to an agreement about whether her sputum would be white and foaming or green (O: Eve). Another example of a student's attempt to help each other is Dora's comment to her peer: "You should talk with the patient". This was one of the quotations indicating that the students knew the importance of talking with the patients while carrying out nursing, as they asked the preceptor what to say to the patient and what reactions they could expect. However, especially Dora and Frida struggled to do so when they had to act as a nurse during the first participant observations. The co-student gave as a reason that if she talked with the patient, she wouldn't be able to concentrate on the task she was doing (O: Dora). The students did not yet seem

to have the capacity both to get involved in the relationship with the manikin and to carry out nursing, and they did not feel prompted to get involved with the manikin. The verbal communication of the students acting as a patient or speaking

for the manikin was also limited, even if the life situation of the patient was described in the case. The students acting as a patient seemed to focus more on gaining from the fellow student acting as a nurse.

**Table 2.** Illustration of the structural analysis leading to the theme learning within a safe setting

<b>What is said?</b> <b>Units of meaning</b>	<b>What is talked about?</b> <b>Units of significance</b>	<b>Themes</b> <b>Subthemes</b>
Preceptor: What do you want to observe? Dora: If the skin is red and warm or cold ... shall we take for granted, that he cannot move himself? Dora: What does a fungal infection look like? (O: Dora)	Supervision before rehearsal of skills to make observations and carry out other basic nursing skills for a case patient/peer without visible symptoms	Learning within a safe setting • Focus on procedure
Dora to a peer: You should talk with the patient. Fellow student: If I talk, I can't concentrate (O: Dora)	The talk is of a student's difficulties communicating with a patient and simultaneously carrying out care actions	Learning within a safe setting • Focus on procedure • Peer learning
Dora to a peer: Are you ready to have your teeth brushed? Brushes her teeth in the lower part of the mouth. Bends down to observe the mouth. Preceptor: can you see anything? Dora: No... Preceptor: use a lamp and a spatula... shows how it is done (O: Dora)	The talk is of rehearsing mouth care with a peer as a patient	Learning within a safe setting • Focus on procedure
I don't like jumping into it. I like knowing what to do before doing it... As it was a manikin, it didn't push my limits as much as I expected ... it is hard to imagine what the "patient" can do by himself (I: Dora)	Rehearsal of skills with a manikin to help a patient to get cleaned up	Learning within a safe setting • Reflection on learning
Preceptor: The patient is undergoing intravenous therapy. It is necessary to practise how to get the shirt on and off. Eve helps the patient's arm out of her shirt and pulls the infusion bag through the sleeve. The dropping chamber gets stuck and fills with fluid. No-one notices (O: Eve)	The talk is of rehearsing to help a peer/case patient, who is undergoing intravenous therapy, to have a wash	Learning within a safe setting • Focus on procedure
Pre-reflection about the case was valuable ... suddenly, I saw much more possibilities to intervene, than just to observe if she had athlete's foot (I: Eve)	Preceptor's ability to open the eyes of the students, so they understand more details of a case patient's care needs and to get a holistic impression of a case-patient's needs	Learning within a safe setting • Reflection on learning
Frida to a peer/patient: We need to clean you up today. Are you ready? Peer/patient: No. Frida: I'll get the things (O: Frida)	Difficulties in listening and responding to a peer/case patient's communication and simultaneously take action	Learning within a safe setting • Focus on procedure • Peer learning
I gained a lot – to remember to use gloves, to wash your hands and to disinfect them... we noted everything so we could read the notes when there was no preceptor to ask [or] we noted our questions to ask the preceptor later... Nice to observe how others perform nursing. However, I also learnt how should it not be done, by being the first one to try ... it is learning by heart, we risk getting blinkered so that we overlook everything else (I: Frida)	The talk is of realizing and remembering details about how to perform nursing for case patients by writing, asking questions and observing – and that there is a risk involved	Learning within a safe setting • Reflection on learning • Peer learning
I really experienced that it is good to take a firm grip when you help another person to clean up ... the touch is important ... you should really be able to feel the touch (I: Frida)	The talk is of the experience of being cleaned up by another person and learning how to perform nursing by acting as a patient and sensing how it is to receive nursing	Learning within a safe setting • Reflection on learning

### 3.2.3 Reflection on learning

One student responded that the rehearsals with manikins did not push her limits as much she expected, as she was still anxious about helping a patient to have a wash (I: Dora). She also responded that rehearsals were difficult, as “it seemed like a play” (I: Dora). Another student said: “We risk getting blinkered so that we overlook everything else” (I: Frida). She experienced that the cases were rehearsed in almost the exact same way every time and to a certain extent learned off by heart. The students were aware that rehearsals in the skills lab are not like nursing practice, but they still felt safe to begin the learning process there. The student who had former experience from nursing practice responded: “It is hard to take seriously, when it is not real” (I: Eve). She knew the difference between nursing practice and the lab, but she still preferred to learn in the lab, as she said: “Lots of things I used to do in practice need to be reconsidered and done more correctly” (I: Eve). Probably, knowledge gained in theoretical lessons made her aware of incorrect habits that she had to relearn in the lab. Another student responded that she learned both from observing others’ performance of nursing and by doing it herself (I: Frida). Besides, students realized what it was like to be on the receiving end of care. When students felt how it was to be touched by another person helping you to get cleaned up, they got a chance to gain partly tacit knowledge. Students also experienced the feeling caused by other students talking over their bed, when acting as a patient lying flat in bed (O: Dora, Eve, Frida).

During the second round of participant observations, both the conversation and cooperation with the patients had developed and went more smoothly, as illustrated in this quotation: “Accidentally, I pulled out my peripheral venous catheter”. “Never mind, I’ll clean it up quickly. I’ll just fetch the things I need to do so” (O: Frida). Thus, all the students both seemed to gain – and responded that they had gained – a lot from rehearsals in the skills lab.

When Dora, Eve, and Frida talked about their learning, they expressed: “I don’t like jumping into it. I like knowing what to do before doing it . . . As it was a manikin, it didn’t push my limits as much as I expected” (Dora). “Pre-reflection about the case was valuable” (Eve). “We noted everything so we could read the notes when there was no preceptor to ask . . . Nice to observe how others perform nursing” (Frida). Thus, Dora seemed to benefit from the possibility of learning by pre-reflection, while Frida seemed to benefit from theoretical knowledge. Neither Dora nor Frida had nursing experience before enrolling on the nursing programme. For Eve, the possibility of rehearsals in the lab was a way to relearn procedures more correctly. She was afraid that, if she told the staff that she had years of experience in nursing,

she would learn less, because the staff might think that she could easily manage the tasks by herself without supervision. Thus, the learning experiences in the skills lab seemed to be attractive to Dora, Eve and Frida.

Learning experiences in the lab can be characterized as learning within a safe setting, as no patient could be harmed. The progress in the nursing situations was to some degree predictable, as described in the cases. On the other hand, it seemed difficult for the students to imagine the symptoms and reactions of the patients. The students did not feel prompted to get involved in relationships with the manikins. Especially at the beginning of the first week, students acting as nurses did not react to the expressions of the patient, as they did not have the capacity both to communicate and simultaneously carry out nursing. Other experiences included learning from peers and to take a time-out. The focus was mostly on students’ learning to carry out the procedures correctly.

## 4. DISCUSSION

The students in both the unpredictable and the safe settings were satisfied with their learning environment, and the students learned in both arenas. However, in the following paragraphs, the strengths and weaknesses of the learning experiences on the unpredictable setting of the clinical placements and in the safe settings of the skills lab, respectively, will be discussed.

### 4.1 Learning in an unpredictable setting

This study showed that the students on clinical placements had a briefing and pre-reflection of 15 to 20 minutes before performing care. The introduction could be made briefly, because the students were followed by a preceptor or a practical nurse, and because Anna, Betty and Carol all had some experience of taking care of ill people and how differently they can react. There was a longer after-reflection, where the preceptors helped the students to connect their observations of the patients with their theoretical knowledge. This was similar to a study by Jonsén, Melender and Hillis (2013), which showed that students must have the opportunity to combine theoretical and practical knowledge to develop nursing competencies. For this to be possible, a permissive atmosphere and visible preceptors were found to be crucial for nurse students’ learning to be maximized.<sup>[15]</sup>

The strength of learning experiences in clinical practice seems to be due to the relations with the patients and staff and the focus on adapting care to patients’ needs in a real and complex setting. Ali and Manokore<sup>[16]</sup> also found that students responded that dealing with live patients differed from dealing with manikins, because two patients with the

same disease or illness can show slightly different signs and reactions. So, it is a lot more difficult to apply the knowledge learned in college to the clinical setting, as the knowledge learned from books is straightforward, unlike the variations in real life, which demands more critical thinking.<sup>[16]</sup> In accordance with Marañón and Pera,<sup>[17]</sup> clinical placements also facilitate students to know the professional reality and compare it with their former perceptions and what they learned in classrooms and in the skills lab. Thus, clinical experience is the basis for shaping one's identity as a nurse.<sup>[17]</sup>

Although the findings from the current study showed that there was a lot of competent supervision, they also revealed the importance of supervisors' training, as the students' theoretical knowledge of correct procedures could easily be overruled by learning incorrect procedures in practice. Other studies<sup>[18–21]</sup> also argued that preceptors need to be properly trained to facilitate nursing students' achievement of competencies to provide safe patient care. In a review focusing on preceptorship, Duteau<sup>[18]</sup> argued that the benefits of clinical experience in nursing education cannot be overemphasized. As a registered nurse, one of the essential preceptor qualities was the ability to stimulate critical thinking and to bridge the theory-practice gap by providing supervision and constructive feedback. Duteau supports the empowerment and development of the preceptor.<sup>[18]</sup> Our study also indicated that the preceptor is key to learning in clinical placements and that the experience of interacting with the staff facilitated the understanding of working as a team. This finding harmonizes with that in a study by Hilli, Melender, Salmu and Jonsén.<sup>[22]</sup> The authors found that preceptorship involves both education and an introduction into work life. In addition, a Nordic study found that supervision in the clinical part of the nursing programme is an essential way to influence students' understanding and learning. Therefore, clinical supervisors should be trained in didactics and nursing science. The authors found that students on clinical placements valued learning how to carry out practical tasks more than learning competences that required the ability to reflect. They interpreted that this was a sign of supervision focused on the tasks.<sup>[19]</sup> Our findings in the current study indicated that this task-oriented approach to learning seemed to arise especially when the supervision was about tasks unknown to the first-year students. Two studies suggested supervision based on topics with learning outcomes, as it could support both students and supervisors to focus on the substance and not only on how to carry out the tasks.<sup>[19,22]</sup> We agree that preceptors become aware of their influence on students' learning process through their training in didactics and nursing science. Thus, when a preceptor meets a student who needs to learn a new nursing skill, she can more easily combine a

rehearsal of the nursing skill with learning of critical thinking and arguments about how to adapt the skill to the current patient situation. Students need supervision to understand the dialectical relationship between theory and praxis, and preceptors can support the learning process by conducting critical reflections together with the students.

In our study, part of the explanation as to why preceptors delegated supervision to staff with less training than a registered nurse seemed to be, that preceptors often are short of time to follow individual students to find out how they are coping. This is underpinned by findings in a review of Helminen et al.<sup>[23]</sup> So, our findings and the above studies emphasize the importance of acknowledging that – even if it is supervision of first-year nursing students – delegation of supervision to staff members without knowledge of didactics and nursing science should be reconsidered in order to avoid supervision that focuses solely on the mechanical rehearsal of a skill, without any critical appraisal.

#### 4.2 Learning within a safe setting

The study revealed that students in the safe setting of a skills lab spent between 35 and 55 minutes on pre-reflection, to take in details about the case patients. Both students without former experience of nursing practice and a student with years of experience responded that the pre-reflection made them realize many more details about the case patient. This was in accordance with Ewertsson et al.<sup>[24]</sup> who emphasized the importance of a pedagogical approach where supervision can integrate reflection and probing questions about the students' rationale for certain skills and actions in different patient care instances. They also found that the possibility for pre-reflection and reflection in the skills lab seemed to be important for the student to understand the case patient and to support the student's responsibility to search for current knowledge and hence perform practical skills on the basis of current recommendations, research, and evidence.<sup>[24]</sup>

Especially in the beginning, students in the lab paid great attention to procedure. They pointed out that it was difficult to be serious when communicating with a manikin, and they felt it was less barrier-breaking to interact with a manikin than expected. They did not seem to be prompted to become involved in interacting with either manikins or students acting as patients. They struggled to manage both to converse and simultaneously carry out procedures. The research of Bjørk (2017) also showed that, in a skills lab, the focus was on procedure. It was challenging that there was no relation to a live patient, and it was easy to overlook the importance of enhancing students' professional identity without real patient situations.<sup>[25]</sup> Our study indicated that, in learning focused on working on procedures in the lab, the students



risked becoming blinkered. This was underpinned by Ali and Manokore,<sup>[16]</sup> who observed that students at times were not flexible in how they carried out a nursing task. Therefore, they argued that, even in controlled environments, it is important to involve critical thinking.<sup>[16]</sup> Berragan<sup>[26]</sup> drew attention to the risk that, when teachers only focused on the current procedure and technology, they deprived students of the possibility to rehearse realistic patient-nurse interactions. Together, these findings suggest that it is hard to simulate a realistic patient-nurse relationship in a skills lab and that the experience seem to push students' limits less than expected. The students must push these limits in interaction with real patients. On the other hand, both patients and inexperienced students could feel uncomfortable if the students did not have the capacity to observe, converse and carry out nursing during their first trainee period on clinical placement without rehearsals in a skills lab.

Another important finding of our current study was peer learning in a safe setting. The students observed, talked, gave feedback, and helped each other in the simulation. According to Sutton, Hornsey and Douglas,<sup>[27]</sup> the interaction between students is precisely the crucial factor in learning in such situations. Khosa and Volet<sup>[28]</sup> emphasized that it is important to understand and study what happens in the process between the students to understand what contributes to students' learning. Our study suggests a contribution to learning in students acting as patients, for instance when lying flat in a bed and experiencing the feeling caused by other students talking over the bed. Feelings strongly contribute to memory.<sup>[29]</sup> The feeling of being on the receiving end of care, for example, if someone talks over your head, could promote understanding and the memory of why the patient should be involved in the conversation. Similar to our current study, Lee, Kim, and Park<sup>[30]</sup> also pointed out that observation of other students in the performance of a skill gave rise to reflection in relation to what they would have done instead. They saw what was going well and what was going wrong, and they used the observations to plan what to do, in order to avoid the obvious mistakes when they were to carry out the task themselves. According to Sutton, Hornsey and Douglas,<sup>[27]</sup> peer learning is an important way of facilitating learning. Therefore, in a skills lab, second-year or third-year students (On the Danish Bachelor's Degree Programme in Nursing, students learn about pedagogy and didactics in the second and third years of the programme.) could be involved as co-supervisors in turn with the preceptor to make use of more learning opportunities. Our findings indicate that this could work better than one preceptor supervising three groups at the same time.

### 4.3 Learning styles

Our study furthermore inadvertently found that the students who volunteered to study nursing on clinical placements benefitted from learning by doing and thus, in accordance with Honey and Mumford,<sup>[31]</sup> seemed to have the activist style as their preferred learning style. Also, they had experiences of nursing practice before they enrolled on the nursing programme. These reasons could have had an impact on their preference to learn on clinical placements. Our findings also showed that none of the students we followed in the skills lab had activist style as their preferred learning style. They all benefitted from pre-reflection. One student preferred to observe and reflect on what to do and how to do it until she felt prepared to carry out the task, which reflects Honey and Mumford's reflector style.<sup>[31]</sup> A second student acquired all the theoretical facts and noted them carefully, which is one of the characteristics by the theorist style, according to Honey and Mumford.<sup>[31]</sup> These two students had no nursing experience. The third student wanted to be supervised by a competent preceptor in the skills lab to gain more theory to pass the examination and to relearn the correct procedures, as she had a feeling that she might have developed some incorrect habits in her time in nursing practice before enrolling on the nursing programme. Preferring to be supervised by a competent nurse indicates one of the characteristics of the pragmatist style, in accordance with Honey and Mumford.<sup>[31]</sup> The way the students' learning styles reflected the different types of learning experiences provided in each of the two arenas came a surprise, because we had not asked for the students' preferred learning style before their participation of the study. The students were already aware of their preferred learning style and that they had to challenge themselves to expand their learning repertoire, because – as part of the introduction to the nursing programme – they had been introduced to the theory of learning styles<sup>[31]</sup> and an indicator of learning styles, as described by Nielsen, Pedersen and Helms.<sup>[32]</sup>

In comparison with our findings, Anderson and Edberg<sup>[33]</sup> identified two distinct ways of learning in students' narratives: using either theory or practice as a starting point to their learning process. Some students used a deductive approach and wrote that it was very important to have the chance to study a subject or a skill in theory before applying it in practice. Other students used an inductive approach and used clinical practice as a framework for their learning; they needed to experience things in practice before they could understand the theory. Although there were students who could handle theory and practice simultaneously, Anderson and Edberg highlighted the importance of also providing courses that begin with practice and offering short periods in practice

during longer theoretical courses. They concluded that, in order to support nursing students' learning, it is crucial to meet the individual student where s/he is and to provide a nursing programme with clinical and theoretical courses that are strongly linked.<sup>[33]</sup> We agree with Marañón and Pera,<sup>[17]</sup> who found that both theory and practice were necessary for students to develop a professional identity, for the following reasons: theory and practice feed back into each other, although, for most respondents, practice endowed the theory with meaning, as clinical practice involves the ability to face real situations. Practical knowledge is obtained by being involved in real-life situations, which include a greater number of influential factors than indicated by theory. Practical knowledge cannot be taught, due to the difficulty of making it explicit and therefore, it can only be demonstrated in practice.<sup>[17]</sup> Consequently, in clinical placements, it is not only a matter of applying or implementing theoretical knowledge. It is also a matter of gaining new knowledge involved in the context. Given that there are always some students who prefer to learn theory before clinical skills – and vice versa – to meet the individual student where she or he is, it might be necessary to consider whether or not all students should follow the same rotation and rehearse in a skills lab before clinical placements. Our findings suggest that it could be fruitful for learning to let students have some degree of choice about where to begin their learning trajectory in the nursing programme.

#### 4.4 Limitations and directions for future research

In this study, the data were generated by what is also called focused ethnography,<sup>[34]</sup> with a focus on revealing and understanding the interrelationship between the students and their learning experiences in two different arenas. The researchers' subjectivity is often seen as a limitation in qualitative research. We made an effort to overcome this by analyzing the data separately and subsequently discussing the interpretation among the authors and with representatives from the hospital and the municipalities.

In the critical interpretation, the findings of this study were discussed using other international research and generally accepted theory, and our findings were partly or fully comparable to the findings of other studies. As it is a qualitative study with six participants it is not generalizable - as required in a quantitative study. However, our interpretation is strengthened by partly or fully comparable findings in other international studies. Therefore, these qualitative findings may have a certain degree of transferability to similar contexts.

As the study was limited to a focus on learning experiences for first-year students in the two arenas, more research is

needed to gain a deeper insight into the significance of learning on clinical placements when students reach the second and third years of the nursing programme.

## 5. CONCLUSION

The learning process seemed to be initiated by both an inner motivation to become a nurse and to achieve competencies to communicate and interact with patients and to carry out nursing. On clinical placements, students interacted with preceptors, other professionals, peers, and faculty members. The learning process was facilitated in a differentiated way, related to the unpredictable situation and requirements of nursing individual patients and the learning needs of the student. Preceptors needed to encourage the students to reflect on their observations and experiences of theory to initiate the understanding of the dialectic relationship between theory and practice. Otherwise, there was a risk that some students would forget to take a step back and actually learn from their experiences. The professional training of the supervisors was found to be crucial, as some students easily put aside what was learned in theoretical courses and adapted to what they experienced in practice, even though the learning outcome could be wrong. In the skills lab, students interacted with preceptors and peers. The learning process took place in groups of students, where one student carried out nursing, one acted as or spoke as the patient, while the other students observed. When acting as patients, students had the opportunity to learn using the body and emotions and experience the situation from a patient perspective. However, it seemed challenging to simulate a realistic patient-nurse relationship. Students learned from peers and partly from the preceptors who supervised the groups. Not all learning opportunities were made use of.

Thus, we conclude overall that learning experiences in both clinical placements and by rehearsal in a skills lab, in addition to theoretical courses, together provide the opportunity to achieve qualifications to perform nursing – as it was found that students in both arenas had improved their learning level. All the students emphasized that supervision by preceptors was crucial to learning. Lastly, instead of having all first-year students practising in a skills lab, our findings suggested the importance of considering students' prior experience and preferred learning styles in future discussions of where to begin the learning trajectory in the nursing programme.

#### Implications for nursing education

This study suggests that faculty take into consideration students' prior experience and learning, together with preferred learning style, when deciding where first-year students should begin the learning trajectory.

To ensure that first-year students have a supervisor and role model with high-level nursing competencies, our study suggests that pedagogical insight and didactic training are essential.

The study suggests that second-year or third-year students be involved as co-supervisors, to make use of a wider range of learning opportunities in the skills lab.

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## CONFLICTS OF INTEREST DISCLOSURE

The authors declare that they have no conflicts of interest.

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