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# **EXPERIENCES OF SIMULATION PEDAGOGY AMONG DIACONIA UNIVERSITY OF APPLIED SCIENCES' NURSING STUDENTS**



## ABSTRACT

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Experiences of simulation pedagogy among Diaconia University of Applied Sciences' nursing students

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Simulation training has become an integral aspect of nursing education, offering students hands-on experiences that bridge the gap between theory and practice. Performance of nursing students in handling clinical circumstances is developed through simulation training.

For this qualitative research study, data was collected by interviewing five nursing students from Diaconia University of Applied Sciences (Diak). The semi-structured interviews were conducted to answer the main research questions on how Diak nursing students experience simulation training as part of the learning process and how can Diak lecturers help nursing students achieve the best learning outcomes through simulation.

Thematic analysis of the interview data revealed that Diak nursing students have positive experiences with simulation training as an integral part of their learning, providing valuable insights for improving nursing education at Diak. Students felt that working in a simulated setting helps them learn how to coordinate care, assign tasks, and communicate effectively, mirroring the multifaceted nature of healthcare practice.

This study has provided Diak nursing lecturers insights on how to help students achieve the best learning outcome through simulation. Three major suggestions in terms of resource and material accessibility, language proficiency and enhancement and diverse simulation approaches were recommended to Diak.

**Keywords:** Simulation, Simulation pedagogy, Nursing students, Students experience, Simulation experiences, Learning, Qualitative research

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## 1 INTRODUCTION

As mandated by healthcare systems and global public health requirements, recently licensed nurses must possess the knowledge, skills, and attitudes necessary to be considered "fit for practice". Nursing students' clinical experience plays a significant role in supporting their learning throughout their undergraduate education. Evidence currently available suggests that an active learning approach would allow nursing students to apply clinical techniques they have learned in class while guaranteeing patients receive the highest-quality, safest care possible. Unfortunately, organizational constraints and limited clinical rotations pose challenges for nursing students in gaining experience in complex and rare clinical scenarios (La Cerra et al., 2019).

There are many answers available for simulation education for the issues students face. There are also many advantages that simulation can offer. A multitude of benefits can be obtained through simulation. As suggested by Wong et al., (2021), advanced simulation modalities will be used in future simulation plans to improve learning. Simulation training is proposed to be applicable in community settings as well. It is possible to educate teenagers on how to stop smoking and deal with their parents' behavioral problems, which will ultimately encourage community members to advocate for their health. Evidence shows that simulation used in clinical settings and society, encourages the ruling authority to enforce more funding and resources to support the ongoing development of simulation-based education (Wong et al., (2021). It is further elaborated in this research that future simulation plans include replacing clinical placement hours. This is not feasible in the European Union, according to the EU directives 2005/36/EC and 2013/55/EU. General care nurses are required to complete an education program that lasts at least three years and can be measured in ECTS credits (180 ECTS). It must also contain at least 4,600 hours of theoretical and clinical practice, with at least one third of the required training time coming from theoretical instruction and at least half from clinical practice. As a result, clinical practice needs to last at least 2,300 hours (90 ECTS) (Henriksen et al., 2020).

According to Finnish Nurses Association (n.d.), the nursing degree program in Finland for clinical nurses lasts about 3,5 years (210 ECTS), public health nursing and paramedics lasts for 4 years (240 ECTS), and midwifery degree lasts for 4.5 years (270 ECTS).

According to Akselbo et al. (2020), in contrast to traditional teaching methods, nursing students found simulation to be a realistic and effective educational method in 2020 for solving practical challenges and gaining knowledge. The challenges of learning in a digital environment, the impact of technology on nursing education, and the challenge of suspending disbelief to make simulations realistic must all be acknowledged, according to Cambell and Daley (2012), in order to properly integrate simulation into real-world practice. Dillström and Ruotsalainen (2014), state that the learning environment, debriefing, participants in the scenario, individual attitudes, scenario preparation, and the chance to engage in simulations are all elements that support students' simulation learning.

The purpose of this study is to provide insight into nursing students' experiences with simulation instruction at Diak. Understanding how students perceive simulations as a pedagogical approach might help lecturers provide optimal learning experiences.

## 2 KEY CONCEPTS

### 2.1 Simulation Background

The practice of using simulation as an instructional tool in nursing education dates back over 150 years. In order to train nurses at Hartford Hospital in the United States, Martha Chase introduced the full-body mannequin in 1910. Nursing schools began to use full-scale simulation labs in the middle of the 1930s. Simulators with advanced computer control were created in the latter part of the 1960s. Modern nursing education simulation uses a variety of modalities, including virtual reality, low-fidelity and high-fidelity simulators, role acting, games, computer-assisted training, standardized patients, and anatomical models (Sanko, 2017). Patient simulators are by far the most popular simulators in the healthcare industry. Furthermore, part-task trainers and virtual reality simulators are employed extensively as additional technologies. Part-task trainers, which are models of particular body parts, enable learners to practice particular skills, while virtual reality simulators combine various techniques to create an imaginary or realistic environment (Keskitalo, 2015).

Throughout the healthcare education continuum, simulation has tremendous opportunities for utilization in graduate and undergraduate programs. Additionally, it can be used to train a range of healthcare professionals, from beginners to experts, in many fields. Healthcare educators are increasingly using simulation to help groups and individuals develop their cognitive, psychomotor, and emotional skills (Motola et al., 2013). When clinical simulation is well incorporated into the curriculum, it can effectively be used to teach healthcare students about the real-world applications of simulation (Okuda et al., 2009). Simulated learning allows for instruction in a controlled environment and provides opportunities for meaningful practice and evaluation. Through the use of a technique called simulation-based mastery learning, participants not only significantly enhance their own skills but also maintain their newly acquired abilities (Motola et al., 2013). The term SBL or simulation-based learning, is used in Finland and Nordic contexts. “Nordic Network for Simulation-based Learning” has been established in

2016 by Finland, Sweden, Norway, Denmark and Iceland which aims to foster simulation research in healthcare and execute recommendations based on studies from the Nordic nations (Husebø et al., 2018). A wide range of technical and non-technical skills along with a variety of competencies, can be practiced and refined in simulation with the help of SBL. Different fields and working environments can benefit from the application of SBL in the development of negotiation, meeting, and line management skills (Niemi et al., 2019).

## 2.2 Simulation

Simulation is a useful teaching and learning tool particularly in health care. The efficacy of simulation depends on how it is applied. Simulation should be carefully considered and incorporated into the curriculum as a supplement to patient care experiences (Motola et al., 2013). In healthcare education, simulations are expected to be used to improve patient care and safety, so there are elevated expectations for them. Simulations improve instruction and provide students with practical healthcare experience. Moreover, simulations provide students repetitive practice so that learning takes place in a safe and realistic learning environment. It is thus feasible to put theory into practice through simulations (Keskitalo, 2012).

Nurses can enhance their abilities and skills through simulation. This helps to overcome possible human error and involves no risk of harm for patients. It is now widely held by educators, clinicians and healthcare authorities that simulation enhances patient safety. Furthermore, it is acknowledged that simulation improves patient care standards when used for basic nursing education and continuing education purposes (Durham et al., 2008).

Simulation could potentially benefit a new generation of nurses who have more complex healthcare needs. This provides an innovative approach that enhances and blends in with current nursing curricula. To truly integrate simulation into real-world practice, it is necessary to recognize the difficulties of learning in a digital

environment, the influence of technology on nursing education, and the difficulty of suspending disbelief to make simulations realistic (Campbell & Daley 2012). The progress of nursing education and training demands a high degree of attention to evaluation methods such as critical thinking and problem solving. Opportunities for education and training are provided by the simulation in a secure setting. Virtual reality has largely replaced real simulation in terms of teaching and instruction in nursing education, and strong technological advancements have made it possible to simulate patients in a more complex way (Awad et al., 2019).

### 2.3 Simulation pedagogy

Simulation pedagogy in health education has advanced over time, and technology makes it possible to replicate clinical scenarios with efficacy and safety (Reime et al., 2016, as cited in Silén-Lipponen et al., 2021). According to Akselbo (2020), student nurses viewed simulation as a successful and realistic teaching method for handling real-world issues and gaining knowledge, in contrast to traditional teaching. The simulation made participants more prepared, less stressed, and provided them with a chance to consider the extent of responsibility of nurses in an emergency situation. It is further suggested in this article that, as a didactic tool, simulation can aid in the development of students' competence to act quickly and appropriately in emergency nursing situations. Nursing students may benefit from an active teaching/learning approach with the integration of simulation with problem-based learning, offering them many opportunities to incorporate information in safe, controlled contexts. Students' understanding of critical analysis, creative thinking, and decision-making skills is fostered by the correlation between the theoretical and practical information provided. It is possible to coordinate simulation and problem-based learning to ensure a curriculum that is student-centered, adheres to healthcare requirements, and supports the underlying pedagogical concepts (Murphy et al., 2011).

The clinical competencies that are crucial to nursing practice are diligent communication and teamwork. The lack of connections between healthcare professions during training often leaves student graduates lacking in the communication skills

necessary for collaborative practice. One strategy is to encourage better cooperation and communication among students pursuing healthcare profession prelicensure interdisciplinary education. Students' cooperation and communication in the health professions can be improved by using simulation. Students can engage with their surroundings and one another during the simulation and debriefing to explore their ideas and opinions. The use of simulation can enhance student collaboration and communication in the health professions. Both the simulation exercise and the subsequent reflection in a debriefing session involve learning (McLeod, 2017).

Educators should make sure that activities are meticulously planned and carried out in order to give every student the chance to participate in the manner that best suits them. Furthermore, by identifying and utilizing the experiential learning cycle to improve their less preferred learning modes, people can learn more effectively (McLeod, 2017).

## 2.4 Theoretical Foundation of Kolb's Experiential Learning Cycle

In 1984, David Kolb presented the paradigm of learning styles from which he derived his learning style inventory. Kolb's Experiential Learning Theory offers a framework and an approach for knowledge acquisition that is tailored to the needs of individual learners, making it useful for directing simulation-based interprofessional education (Poore et al., 2014).

Kolb's Experiential Learning Model is a framework that describes how people learn through experience. A lot of emphasis is placed on the learner's internal cognitive processes in Kolb's theory. Kolb's theory of experiential learning style can be visualized as four learning cycles: (1) concrete experience, in which the learner participates in a simulation-like experience; (2) reflective observation, in which the learner contemplates the experience; (3) abstract conceptualization, in which the learner formulates an abstract notion or new idea; and (4) active experimentation, in which the learner tests out their ideas leading to the creation of new experiences. According to Kolb, a person demonstrating effective learning moves through a cycle of these four stages (McLeod, 2017).

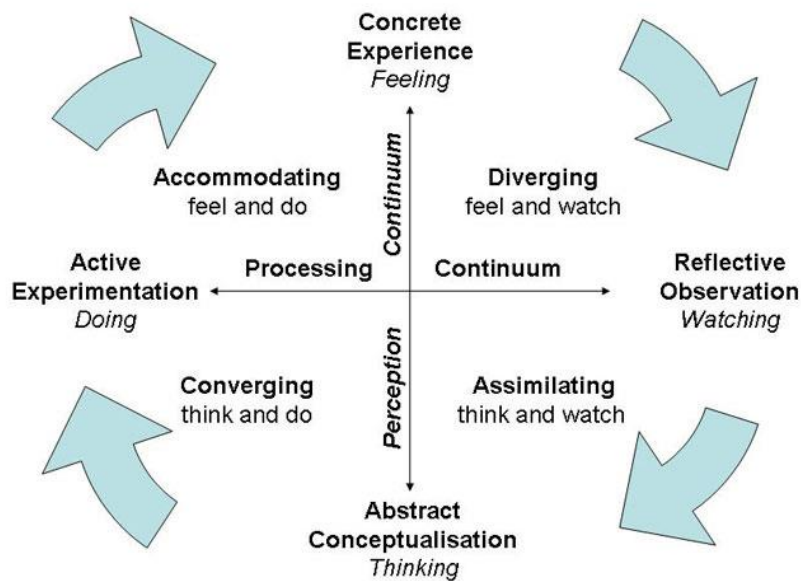


Figure 1: Kolb's Experiential Model

Kolb's Experiential Learning Model is closely related to simulation learning because it offers a structured setting in which people can participate in the various stages of the learning cycle. In simulation learning, learners are frequently submerged in authentic environments in which they can engage in active participation, reflect upon their experiences, formulate theories or concepts, and try out various approaches. This fits in nicely with Kolb's model since simulation learning promotes effective learning and skill development by allowing for practical experiences, reflection, conceptualization, and active experimentation.

In healthcare, simulation-based education and training are highly compatible with Kolb's Experiential Learning Model and its four-phase learning cycle. Here's how they relate according to the viewpoint of researcher:

- (1) **Concrete Experience**: In simulation-based learning, participants often engage in realistic scenarios such as patient assessments, surgical procedures, or medical emergencies through hands-on experiences. These

experiences allow learners to directly interact with simulated patients or medical equipment, offering a tangible basis for learning.

- (2) Reflective Observation: Students have the chance to reflect after taking part in simulation exercises. Participants talk about their choices, actions, and results during debriefing sessions during this phase. They consider the things that went well, the things that could be done better, and the lessons they've learned. Self-awareness and critical thinking are fostered by reflective observation.
- (3) Abstract Conceptualization: In this phase, students evaluate their simulation experiences and incorporate them into their prior knowledge and theoretical understanding. To grasp the fundamental ideas guiding their actions during the simulation, they might investigate medical guidelines, protocols, and theoretical frameworks. This phase helps learners develop a deeper understanding of healthcare concepts and how students apply them in practice.
- (4) Active Experimentation: Simulation-based training often encourages learners to apply their knowledge and skills in new situations or scenarios. This could involve practicing different techniques, strategies, or interventions learned from the simulation. Healthcare workers develop their abilities, boost their confidence, and pinpoint areas that still need work by actively experimenting.

From the above discussion we can state that simulation-based education and training in healthcare align closely with Kolb's learning model by providing experiential learning opportunities that engage learners in all four phases of the learning cycle. This approach enhances clinical competency, decision-making skills, and ultimately improves patient care outcomes.

### 3 PURPOSE OF THE THESIS

This study's overall focus is to produce insight on how nursing students experience simulation teaching at Diak. It would be beneficial for simulation lecturers to know how students experience simulation as a pedagogical method so that they can achieve the best learning experience from simulations.

This thesis analyzes Diak nursing students' perceptions of simulation training and assesses their satisfaction in simulation education. From this study, answers to the following research questions will be explored:

- How do Diak nursing students experience simulation training as part of the learning process?
- How can Diak lecturers help nursing students achieve the best learning outcomes through simulation?

#### 4 WORKING LIFE PARTNER

The working life partner of this research is Diak, Helsinki campus. Diak is a university of applied sciences in Finland with five campuses across Finland located in Helsinki, Pori, Oulu, Turku and DiakHub Itä-Suomi (Pieksämäki). According to Diak's website, it has approximately 3,700 students in total and 250 employees. Diak has been offering education in three different languages: Finnish, Swedish and English (Diak – Diaconia University of Applied Sciences, n.d.)

In Finland, Diak is the largest provider of UAS-level education in social work. Diak's programs encompass the following fields: social work, healthcare, diaconal work, and interpreting (Diak, 2022). With their Research and Development (R&D) initiatives, Diak contributes to the advancement of educational fields at the regional, national, and worldwide levels (Diak, 2022). Diak and Arcada have joint nursing degree programs, meaning students can access both campuses' facilities. Diak's Helsinki campus has been offering simulation education in their own classroom since March 2021 so that Diak students no longer rely solely on simulation facilities from Arcada. According to Diak's website on the new simulation class, Diak lecturer Kristiina Rosqvist strongly believes that simulation is a powerful tool for fostering multi-professional collaboration. She also anticipates that Diak will be incorporating more multidisciplinary simulations in the future. This is crucial to give students the opportunity to experience multi-professional partnerships during their studies (Diak, 2021).

## 5 PROCESS DESCRIPTION

### 5.1 Research Methodology

In order to obtain in-depth information about the simulation experiences of the research participants at Diak, qualitative research was conducted. Qualitative research in nursing studies aims to provide comprehensive understanding and expertise on real-life issues, in contrast to quantitative research that introduces treatments and adjusts predetermined variables. Qualitative research encompasses not only the collection of rich narrative materials and the use of a flexible research design, but also the in-depth and comprehensive study of phenomena (Moser & Korstjens, 2017). In other words, qualitative research involves conducting a thorough and methodical investigation of a problem or circumstance to gain new insights or validate preexisting knowledge. Participants' perceptions and their lived experiences are highlighted.

To collect data, semi-structured interviews were conducted, recorded and systematically transcribed. Thematic analysis was done afterwards. Four themes such as importance of simulation, satisfaction with Diak's simulation training, personal preferences/challenges of students and suggestion for improvement were developed through the codes generated from interview transcripts.

### 5.2 Research Participants

When gathering data, the best course of action is to choose those who can provide the most detailed information. In-depth knowledge of the subject, critical thinking skills, and a strong desire to have a thorough and in-depth discussion with the interviewer are all requirements for these participants (Moser & Korstjens, 2018). An information letter was sent to the participants and written consent for the interview was obtained before the interviews. Nursing students were from the English degree program for Nursing.

### 5.3 Inclusion Criteria

The initial criteria was that the research participants must be Diak final year nursing students willing to participate in the research as final year nursing students would have extensive simulation experience compared to first year or second year students. The initial plan was to individually interview seven participants, considering the possibility that some of them may withdraw from participation in the study. Instead, a nursing lecturer suggested interviewing second year nursing students at Diak Helsinki campus because of their availability. Five students were interviewed. All the five interviews were individual interviews. Purposive sampling was applied to find participants who fit with the inclusion criteria.

### 5.4 Data collection

In this qualitative study, student experiences were documented through theme interviews. This section is from a preliminary study examining different aspects of simulation to teach students about interprofessional collaboration in curriculum development that will take place in the future (Lunde et al., 2022).

Theme interview is thus considered a good way to extract experiences and opinions from the participants. Edwards and Holland (2013) acknowledge interviews as a means of examining people's perspectives of their lives as well as the ways in which they convey their stories and experiences. The main emphasis is on how individuals understand and communicate their experiences.

According to Edwards and Holland (2013), data generated is viewed as a report on a phenomenon's reality. First, participants in a semi-structured interview are asked a series of open-ended set of questions, and then additional questions are asked to go deeper into their responses and the topic of interest.

Before the start of data collection, permission was required to conduct interviews with Diak students. A research permit was applied for and was granted from October to November 2023. As the research could not be conducted during this period, the research permit was further extended till December 2023. An interview guide was created, and interview questions were piloted with some of my fellow

students during thesis seminars. Interview questions were revised, and the interview guide was updated.

Help was sought from simulator instructors from Diak to find suitable students to participate in the study. A Diak representative sent the details of my thesis and information about the interview to the final year nursing students of Diak in October 2023. As the whole group of students were on clinical practice until Christmas, no response was received. My email was then forwarded to the nursing second-year students by their responsible lecturer. My introduction, the aims of the thesis, and the confidentiality of thesis findings were presented again to the second-year nursing students. Students interested in participating in the interview contacted the researcher. Students having simulations in the morning from 9-12 were targeted and five students volunteered for the interview.

The researcher was responsible for the personal data and consent forms. The consent form was filled in by all five participants before each interview. The interview took place on December 4, 2023, in room 427 of the Diak campus. There were 7 interview questions, this can be referred to Appendix 3. The interviews lasted approximately 20-40 minutes and were conducted in a classroom to avoid any interruptions. The interview was recorded by a smart phone and an iPad, to have a backup in case something happens with one of the two devices.

## 5.5 Data analysis

Braun and Clarke (2006) claim that because thematic analysis offers basic skills relevant to many other forms of qualitative analysis, it is the first qualitative analytical approach academics have examined. Thematic analysis is a widely used method for evaluating qualitative data in many different fields and disciplines.

Finding patterns in the dataset that are related to the research topic can be done by using the sound, structured framework that thematic analysis provides for classifying qualitative data. Within the canon of qualitative analysis, research

on health and wellbeing has formalized the use of theme analysis as a method. Thematic analysis offers an array of tools to scholars seeking to conduct comprehensive and intricate analyses of qualitative data, all the while focusing on and presenting the findings in a way that is easily comprehensible to non-academic audiences (Braun et al., 2014).

Qualitative data analysis in psychology, medicine, social science, and other fields is commonly done through theme analysis. Thematic analysis covers a wide range of subjects, such as comprehending ideas, perceptions, behaviors, experiences, and the underlying causes of phenomena (Fugard & Potts, 2015). According to Gabriel (2013), the focus of deductive approaches is causality, while the inductive approach emphasizes either exploring new phenomena or approaching previously researched phenomena from a different angle. When using an inductive approach, it is ensured that no assumptions are made during the data collection process and that the thematic analysis is solely dependent on the collected data (Braun & Clarke, 2006).

Data were analyzed using an inductive approach in this qualitative research, which means that patterns or themes are based on the data collected specifically for the research and the area of study. Inductive approach was applied as I started from collecting data first to inferring conclusion. I wanted to get detailed illustration and broader perspectives of how students felt about simulation. Inductive research makes specific observations and then draws general conclusions whereas the deductive approach on the other hand starts with a theory or hypothesis that later leads to data collection and analysis.

The figure below shows the steps of a thematic analysis according to Braun and Clarke, 2006 and shows how those steps were applied in this thesis.

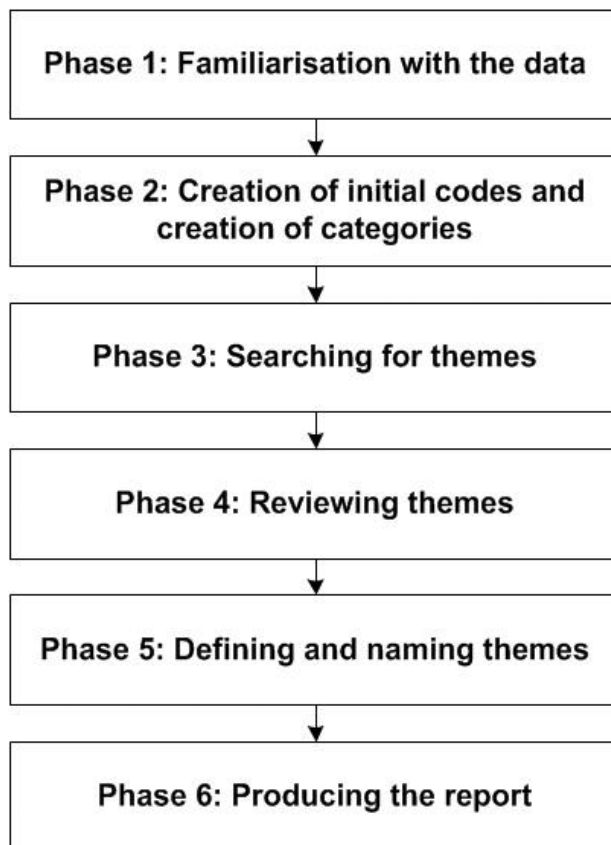


Figure 2: Thematic analysis phases (adapted from Braun and Clarke, 2006).

The interview data after collection were transcribed with the use of two smart devices. Written transcripts were produced manually by listening to the audio recordings. During this process, expressions such “ah”, “um”, pauses and other ambient noises were filtered. The collected data was analyzed in accordance with the thematic analysis approach developed by Braun and Clarke (2006). To begin the analysis, the interview transcripts were thoroughly reviewed to gain familiarity with the data. There were 16 pages of transcribed text in word document from 5 participants. The transcripts were repeatedly read several times to identify possible codes for analysis. These codes were then checked for duplicates, and any redundancies were eliminated. To construct cohesive themes, units were combined and related codes were categorized by the researchers.

Table 1: Themes and their codes are listed below:

THEMES	CODES
Importance of simulation	<ul style="list-style-type: none"> <li>• Learning of skills through simulation</li> <li>• Practical application of theory</li> <li>• Appreciation for simulations mirroring real-world scenarios</li> <li>• Emphasis on real-life experiences</li> <li>• Effective for understanding and retaining information before entering the field</li> </ul>
Satisfaction with Diak's simulation training	<ul style="list-style-type: none"> <li>• Overall satisfaction with simulation at Diak</li> <li>• Satisfaction with teaching methods</li> <li>• Task division for enhanced focus</li> <li>• Well-prepared teachers and pre-simulation reading materials</li> <li>• Contentment with well-equipped simulation facilities</li> <li>• Calm guidance during simulations</li> <li>• Focused on learning rather than testing or exams</li> <li>• Appreciation for emergency case simulations</li> </ul>
Personal preferences and challenges of students	<ul style="list-style-type: none"> <li>• Acknowledgment of language barrier</li> <li>• Emphasis on learning the Finnish language for future work</li> <li>• Importance of student's attitude and preparedness for simulation</li> <li>• Desire for more emergency case scenarios</li> <li>• Concerns about resource availability</li> <li>• Lack of choice in simulation groups</li> </ul>
	<ul style="list-style-type: none"> <li>• Feedback on the need for necessary material</li> <li>• Comparison of Diak and Arcada simulation programs</li> <li>• Suggestion for enhancing teachers' English language proficiency</li> <li>• Recommendation for better task allocation during simulation days</li> <li>• Suggestion for creating a more hospital-like environment in simulation lab for enhanced learning</li> </ul>

Students' suggestions for improvement	<ul style="list-style-type: none"> <li>• Suggestion for introducing more Finnish language elements into courses</li> <li>• Suggestion for extended simulation durations</li> <li>• Proposal for specialized courses and broader simulations</li> </ul>
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The major themes derived were importance of simulation, students' satisfaction with Diak simulation, personal preferences and challenges of students and students' suggestions for improvement. These themes derived from the codes form a basis for the findings of the research.

Table 2. Example of one theme, codes and excerpt from transcript

THEMES	CODES	Excerpt from Transcript
Importance of simulation	Bridging Theory with Practice	"...Doing simulation is a very good thing because it gives you a boost to when you are going to training. You get to know what the things are." (P4)
	Purposeful Learning	"...simulation is what we are learning, and we need to know what we are learning, how it is being done and simulation is just what happens in the hospital and that's why it's important to know something before you go to field." (P1)
	Learning focus	"... When I am doing simulation here in Diak I am learning skills, and it makes me more relaxed." (P1)
	Practical Benefits of Simulation	"...Simulation is important in nursing education, because if you can't do simulation, you cannot handle the real situation...So I think this is the most important part of our study" (P5)

	Real-life Preparation / Realism in Simulations	"...It gives an idea of what happens in real life. I think it's important because we tackle the basic problems, we can see in real life here before going there... So, it gives that little experience of how working life looks like. So that is the reason why I think is simulation education very important in nursing education." (P2)

Examples of the themes, codes and excerpt from transcript are exhibited above to show how codes were generated from transcripts and how themes were developed.

## 6 ETHICAL CONSIDERATIONS

The Finnish National Board on Research Integrity (TENK) which is appointed by the Ministry of Education and Culture, is an expert group that oversees research conduct, ethical standards, and quality in Finland. TENK leads efforts to develop and distribute guidelines in collaboration with research institutions. They also exclusively investigate allegations of research misconduct. All research and development in Finnish universities of applied sciences must adhere to the guidelines set forth by Finnish Advisory Board on Research Integrity (TENK, 2021). Ethics must be critically considered in every research. Research ethics involves applying fundamental ethical principles to various aspects of research, from the planning stage (data collection) to the sharing of results. It is essential to prioritize ethical considerations throughout the research process to ensure responsible and ethical practices. (Curtis & Drennan, 2013).

Validity and reliability help to reduce researcher bias. During the interview, I could have asked students about their background whether they are Arcada students or they study in Diak module. There was less chance of bias in this study as the students were Bachelor students and the researcher was Master level student. The interviewer has not attended simulation sessions in Finnish UAS as a student but has different educational background from Asia. I could have attended to simulation teaching session to observe.

It is essential to foresee any ethical challenges that may arise during the thesis. To address this, confidentiality, trust, and respect for participant rights and values were prioritized throughout the data collection process. This approach was key to obtaining reliable information for the research. Participants were fully informed about the thesis's objectives and purpose before being asked for their consent to participate in interviews. Their participation was voluntary, with no pressure to involve themselves. This ensured that informed consent was provided freely.

Answers collected were handled confidentially and anonymously. The interview questions were made in simple English language so that every participant understands the content and answer properly. Verbal and written consent was obtained

before each interview. Ethics was considered when applying for a research permit and presenting results. Full credit to other authors was given by proper referencing to prevent plagiarism. The standards and instructions of the University of Applied Sciences were followed strictly.

## 7 RESULTS

### 7.1 Importance of Simulation

Simulation plays a crucial role in nursing education, providing students with hands-on experience that reflects real-world scenarios. By participating in simulations, individuals can enhance the connection between theoretical principles and the practical environment. They can develop a practical grasp of classroom theories and appreciate how simulations serve as tangible illustrations of these concepts, solidifying their value. Students felt that simulation gives an idea of real-life scenarios encountered in nursing practice. They acknowledged that simulation gives an experience of what working life looks like. In the students' view, real-life situations cannot be handled in real life in the absence of simulation sessions.

According to the students, simulation is beneficial in witnessing processes within a hospital, how procedures are carried out. Simulation is a part of the learning process in the health care field, so students need to know what they are learning and how it is being done. Furthermore, all the participants expressed that doing the simulation was fun. The engaging and practical nature of simulation appears to contribute to a positive and fulfilling educational experience among students. Students found the simulation instructions to be very clear and helpful. This eventually contributes to a positive learning experience by ensuring students understand the simulated scenarios and procedures.

“Doing simulation is a very good thing. It gives you a boost to when you are going to training. You at least get to know what the things are. But when you do the theory and simulation, then you know that you know what you are using, what are the purpose of using, there is explanation. I think that’s very important.” (Participant 4)

Even though there are no real patients involved, most participants in nursing education stress the similarity between simulation and actual patient care, making simulation a valuable tool. They also emphasized the critical role of simulation in

nursing education, highlighting that the ability to manage simulated situations effectively translates to competence in real-life scenarios. Students acknowledged the significance of simulations in preparing them for working life in future. This recognition enhanced the value of the learning experience at Diak.

## 7.2 Students' Satisfaction with Diak's Simulation Training

Some of the students interviewed had experience from other UASs such as Arcada and XAMK in addition to Diak because students study in a joint degree program. It is convenient for students to access the facilities at both UASs as the Bachelor of Health Care-Nursing degree is provided in collaboration of Diak and Arcada and these campuses are only a short walk apart. This collaboration has resulted in unusually high-quality teaching, with each UAS presenting specialized modules tailored to their capabilities.

Students were satisfied with many aspects of simulation training at Diak. Students valued Diak's simulation-based approach because it emphasized developing practical abilities over formal assessments such as exams. The emphasis on skill acquisition rather than testing fostered a positive learning environment that reduced anxiety during simulations, enabling students to perform better. Students felt that they gained a lot of information and learned a lot of skills from doing simulations at Diak. One of the participants preferred Diak simulations over those of other universities.

“Because I am both in Arcada and Diak, sometimes in Arcada you do this to show the teacher that you have understood like in a test way/in an exam way, but in Diak it's just a learning skill. That's what I like about Diak.” (Participant1)

Students valued the flexibility of the simulation schedule, which allows for adjustments based on individual availability. This flexibility enhanced the experience and catered to students' needs. Additionally, the realistic nature of the simulations was praised, particularly when teachers assume the role of patients. This

approach deepened the learning experience. Participants felt that the teachers prepared well enough and had the materials to read before simulation. Students stated that simulation situations are very calm. Students expressed gratitude for the teachers' preparation, the thorough explanations, pre-simulation materials, and calming guidance provided throughout the simulations. Participants valued the experience of Diak simulation instructors and perceived that their experience is extremely beneficial to the students. Additionally, participants commended the teachers for fostering a language-rich environment by encouraging the use of Finnish during simulation sessions. This enabled them to develop both their clinical skills and their Finnish language proficiency.

One of the students even expressed that in Diak there is no need to feel afraid to make a mistake in simulation. They said that Diak offers calm and the best guidance so that they can prepare themselves for future work. Participants in Diak's simulation training highly valued the use of up-to-date hospital equipment and realistic training experiences on campus. They appreciated the alignment with actual clinical practices, which enhances their comprehension of clinical care procedures.

### 7.3 Personal Preferences and Challenges of Students

During simulations, participants did not face major personal difficulties. Effective simulation training requires participants to be well-prepared, have access to appropriate theoretical information, use suitable equipment, and maintain a blend of seriousness and enjoyment during simulations. Participants found simulations involving emergency scenarios particularly engaging, as they offer valuable opportunities to practice rarely encountered skills. Students also highlighted the significance of treating patient mannequins with respect, as it enhances their readiness for real-life patient interactions.

Students stated that Finnish language is important to learn. In addition to this, students firmly assumed that they need a basic knowledge of Finnish language to pursue career in Finnish environment. Participants stress the crucial role of mastering the local language (Finnish) for seamless communication in healthcare

settings. They observed that simulations provide an effective platform for language improvement. By running simulations in Finnish, participants can refine their language abilities, meeting the language proficiency needed for the program. This integration of language learning in simulations is widely regarded as advantageous.

Simulation training is valuable because it combines theory with practice. By actively practicing, nurses improve their understanding and skills. Participants had positive experiences including friendly and supportive teachers. However, language barriers and knowledge gaps can sometimes pose challenges.

Participants also acknowledged that certain colleagues do not approach simulations with the appropriate level of seriousness.

One participant with experience at different campuses on a joint degree program made distinct observations regarding simulation training at these institutions.

“I also feel that Diak students are too relaxed in their simulation and major students don’t take simulations seriously. If we have Arcada simulation, the students are more prepared, they are serious. You see us wearing our scrubs up and down. But if you count this simulation, we, one up to three are wearing scrubs up and down.”(Participant 2)

Expressing overall satisfaction, other participants did not pinpoint specific dislikes in the simulation process, indicating contentment with the teaching approach and the experience.

#### 7.4 Students’ Suggestions for Improvement

While satisfied with many aspects of Diak simulation training, some of the participants criticized the lack of necessary materials for simulations at Diak compared to other universities of applied sciences. Diak could provide students with

reference cards/pocket cards during simulation so that students could interpret the normal and abnormal patient values.

Participants suggested ensuring ample equipment and facilities for realistic lab sessions. One participant proposed setting up a simulated lab with different rooms for various scenarios to improve the authenticity of training. In contrast to the more serious approach adopted in some simulations (e.g., at Arcada), Diak simulations are perceived as somewhat relaxed. It was further argued that seriousness in learning makes students more hard-working.

“This is my first-time having simulation in Diak, it didn’t feel kind of worthy. It didn’t feel like simulation for me.... During simulation other schools have a separate room where maybe the group is working on patient case and the room has CCTV or something and then the teacher is somewhere and the students are elsewhere watching you. Not like everybody in the same room, it didn’t feel like a kind of real, serious situation. But now just look everyone is sitting down and making jokes, laughing, and it didn’t feel really good.” (Participant 2)

One of the students expressed that Diak’s simulation lab was not sophisticated compared to other campuses. The participant proposed establishing a specialized simulation lab that replicates a hospital environment, drawing inspiration from their prior experiences at Arcada.

“I studied in Arcada. I knew there was a separate room and it was like kind of real lab. And here it felt like it was classroom. Arcada’s lab is better. Yeah, so that you can better the lab” (Participant 5)

Some participants recommended assigning specific tasks during simulation sessions to enhance focus. Additionally, they emphasized the role of teachers in fostering a serious and conducive learning atmosphere throughout the simulations. While one participant acknowledged the sufficiency of Diak’s equipment, they stressed the significance of assigning tasks to sustain concentration during simulations. One participant suggested that for each simulation day the task needs

to be divided. If all students have certain tasks during simulation, they will be more focused on what they are learning, otherwise they will lose focus.

Students recognized the importance of Finnish language skills in the healthcare field. They proposed including more Finnish language content in simulation training to match the language demands of Finnish healthcare environment and to equip themselves with the necessary linguistic abilities for their future careers.

Some participants proposed having more simulation sessions so that all students can take part in simulation actively. Furthermore, they also recommended extending the length of simulation classes to increase accessibility and participation. They emphasized that frequent simulations are crucial for developing nursing skills. Additionally, they highlighted the importance of offering specialized nursing courses. These courses would enable students to delve deeper into specific areas of nursing, equipping them with the necessary knowledge and preparation for their future roles in the field.

Another participant noted that Arcada's faculty has more current knowledge than Diak's. They received quick responses to their questions and have voiced concerns about the language skills of Diak's teachers compared to other universities, highlighting a need for improvement.

“I also feel there’s a language barrier. Arcada teachers, they are fluent in English, Finnish and Swedish, very fluent in any language you want to use. But I think Diak teachers are more fluent in Finnish, their English is not so good. I know it’s not their first language, but I also feel as a teacher you are teaching a university course, as a second language you should know that. It makes me worried.” (Participant 2)

Despite positive feedback on Diak's simulation-based learning environment, which enhances skill development, language proficiency, and participation, concerns arise regarding the availability of resources, the seriousness of simulations, and the instructor's English proficiency. Participants appreciated the Diak

simulation training but acknowledged the above-mentioned areas as potential areas for improvement. These insights provided valuable feedback for potential improvements in the nursing education program at Diak.

## 8 DISCUSSIONS

As stated earlier in this thesis, simulation-based education and training are highly compatible with Kolb's Experiential Learning Model. Since both research questions are associated with learning in terms of learning process and learning outcomes, Kolb's learning cycle was used by the researcher as an example and as a tool to think about how learning could be understood as being structured. Concept mapping associated with the Kolb learning model was used to generate codes from the thesis transcript, thus formulating the final themes. One of the limitations of Kolb's model that emerged from the thesis is that this model focuses more on individual learning rather than learning outcomes of a group.

Simulation training is now essential in nursing education, giving students hands-on experience to connect classroom lessons with real-life patient care. Participants in this study stress how important simulation is in bridging the gap between theory and practice. They emphasize how simulation bridges the gap between theoretical concepts and real-world hospital practices. After studying theories, participants have the chance to observe those concepts' practical implication in a simulated hospital environment. According to Akselbo (2020), nursing students perceived simulation as a realistic and successful educational approach for resolving real-world problems and gaining knowledge, in contrast to traditional teaching. Diak students strongly agree with this. Students prefer Diak simulation as it emphasizes practical skill development instead of exam-based assessments. As simulation helps students to learn in a safe and realistic learning environment, it is thus feasible to put theory into practice through simulations (Keskitalo, 2012).

Students at Diak shared their experiences with simulation training, highlighting various perspectives that showcase its complexity. While common aspects like better language skills, team roles, and realistic scenarios were noted, participants also emphasized unique elements of their training. These insights can help Diak lecturers improve their simulation programs to address the diverse needs of

nursing students, creating a stronger connection between theoretical learning and practical application.

Dillström and Ruotsalainen (2014) state that factors that promote students' simulation learning are the learning environment, debriefing, persons acting in the situation, personal attitude, preparation for the situation and opportunity to participate in simulations. All these factors mentioned above are expressed in this thesis except debriefing. Though debriefing is an important aspect of simulation, none of the participants from my thesis mentioned it as factor affecting learning in simulations.

The students felt that the well-instructed and clear operating methods in simulation and the carefully organized simulation situation were important factors for their learning. This result is also supported by the study done by Sanja Ahola (2014) from Metropolia UAS. The students in her thesis felt that the teacher plays a significant role in relieving students' tension and helping develop confidentiality promoting a good atmosphere during simulation sessions. Students in this thesis perceive a similar feeling regarding the role of simulation instructor. Students value the instructor's explanations during simulations, as they clarify and support the learning process and ensure that students grasp the simulated procedures and contexts.

Okuda et al., (2009) suggested that simulation can effectively be used to teach healthcare students about real-world applications when clinical simulation can be incorporated into the curriculum. This statement is not directly stated by any participants in our thesis. Clinical simulations in relation to corporation with curriculum are not expressed by students during the interview.

According to Ahola (2014), learning experiences were from one's own and other's mistakes, learning from peers, and learning from patient cases. This statement is also supported by our interview participants as they also revealed that they learn from their own mistakes, from their peers and from the patient cases during simulation sessions.

According to Cambell and Daley (2012), in order to truly integrate simulation into real-world practice, it is necessary to recognize the difficulties of learning in a digital environment, the influence of technology on nursing education, and the difficulty of suspending disbelief to make simulations realistic. Students from this study have not expressed their views on how to make simulation more realistic.

McLeod (2017) also argues that educators should make sure that activities are meticulously planned and carried out to give every student the chance to participate in the manner that best suits them. Participants from this study believe that Diak has been successful in making simulations realistic and immersive. Furthermore, Diak students value flexibility in scheduling simulations.

### 8.1 Development of expertise

The preference for this research theme emerged from my personal experience. With gratitude for having experienced nursing education in two different countries, I have gained a broader perspective of teaching learning practices in healthcare field. In addition to this, the reason why I am fascinated by this topic is that I am resuscitation in-charge at my workplace, where we carry out simulations as part of our workplace strategy.

This thesis will deliver information on simulation education on the Diak campus, including its current practices, and contribute to developing it further. This research can be used by Diak instructors as a guide or material to assess simulation education. In this way, working-life partner Diak can evaluate its simulation teaching and know how it can be beneficial to nursing students. This will eventually help students learn positive outcomes. This study can also be utilized to develop good marketing materials to attract more students to pursue nursing degrees at Diak. This study can act as a base to develop further developmental ideas for the working-life partner.

Constructive feedback received from the thesis supervisors after each thesis session is considered valuable in developing expertise for professional growth. This thesis offered numerous learning opportunities during thesis writing process

related to learning models, simulation pedagogy, data methodology, experiences of nursing students and recommendation to nursing campus.

A more comprehensive search would have offered more detailed information, improving our comprehension of the Diak students' simulation experiences. The field of simulation and learning obviously requires additional study. This field of study has produced new insights into how to enhance learning in simulation education.

Even though the study was conducted in a small scale by just interviewing five individuals and 16 pages of transcribed data, the researcher was able to satisfactorily answer the research questions. More students were not enrolled for the study because of the time constraints of the students and the researcher.

## 9 RECOMMENDATIONS

It is obvious that Diak's simulation program has hands-on, skill-oriented approach. Based on this study, we can claim that Diak has successfully created a learning environment that fosters skill development, language improvement, and active participation through simulations. The insights received from Diak nursing students shed light on the positive aspects of simulation training while also highlighting areas that could be improved. These findings from the thesis obviously refine simulation training of Diak UAS to meet the diverse needs of nursing students, ultimately ensuring a robust bridge between theory and practice. Following are the suggestions that can assist Diak instructors help nursing students achieve the best learning outcomes through simulation in many ways.

**1. Resource and material accessibility** (lack of choice, insufficient materials, resource adequacy, equipment, and materials) A more realistic simulation lab environment can be created, possibly with separate rooms for different scenarios. This suggestion aims to enhance the authenticity of the learning experience.

**2. Language proficiency and enhancement** (language enhancement, Finnish language emphasis, teacher proficiency) Acknowledging the need for Finnish language proficiency, more Finnish language elements can be incorporated in Diak nursing education in order to prepare them for linguistic demands in professional area.

**3. Diverse simulation approaches** (real-world resemblance, realistic simulation environments, extended duration, separate specialized courses) Specialized courses on specific nursing specialties could be introduced to help students gain in-depth knowledge and prepare them for future careers. The integration of language learning within simulations is seen as beneficial.

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## APPENDIX 1. Information Form

I am Sharmila Pant, a master's degree student at Diak. I am conducting a thesis on the topic "Experiences of simulation pedagogy among Diakonia UAS nursing students."

This study's overall focus is to produce insight on how nursing students experience simulation teaching at Diak. This thesis is conducted to observe what kind of feelings simulation raises among the students. It would be beneficial for simulation instructors to know how students experience simulation as a pedagogical method so that they can achieve the best learning experience from simulations.

This thesis analyzes Diak nursing students' perceptions of simulation training and assesses their satisfaction in simulation education. From this study, answers to the following research questions will be explored:

- How do Diak nursing students experience simulation training as part of the learning process?
- How can Diak instructors help nursing students achieve the best learning outcomes through simulation?

If you participate in this study, a consent form must be filled in before the interviews. If you do not want to answer a certain question, answering is voluntary, you can skip it. The participants will be anonymized, no personal information will be attached to the answers.

Participants will be asked to confirm their willingness to participate and give permission to record the interview. Personal information and interview recordings will not be disclosed to third parties.

Sharmila Pant

Master's degree in Global Change and Community Development

Diakonia University of Applied Sciences, Helsinki

Date:

## APPENDIX 2. Consent Form

The purpose and method of the above-mentioned study have been explained to me. I am aware that participation in this research is voluntary. I am also aware that the research will not cost me to participate in, my identity will only be kept by the author of the thesis. The material about me will only be used for the study and will be destroyed after the study is completed.

I agree that I will be interviewed and that I am willing to provide the information needed for the study. I also know that I can withdraw my participation in the beginning without any justification. However, if the data is in the analysis phase, it is not possible to withdraw from the research.

Date

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Participant's name and signature

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### APPENDIX 3. Interview Questions

1. Why, in your experience, is simulation training important in nursing education?
2. What are you satisfied with concerning the nursing simulation training at Diak?
3. According to your experience, what makes simulation training effective?
4. Can you tell us about your simulation experience? What did you like and what not?
5. What personal difficulties have you faced during simulation in Diak? Have you faced any challenges?
6. How would you like to gain more knowledge and skills in simulation training at Diak so that this learning will even help you in working life?
7. In your opinion, what could be improved in simulation training at Diak? Suggestions?