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Learning Telenursing Online using Role-Playing Simulations- Advanced Practice Nursing Students' Experiences

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ABSTRACT: *High-technology simulations and standardized patients are costly and require training. Online role playing simulations represent a simple, hands-on learning approach. Data was collected from 28 advance practice nursing students. The results are based on students' responses to open questions on their experiences of online role-play simulations, analyzed using inductive content analysis. The participants considered online role-play simulations effective; they appreciated the hands-on experience of the technology, observing the performance of other students and shared reflection. Their development proposals involved adding elements of surprise into the simulations, random ready-made roles and a wider range of technology. Online role-play simulations provide a practical, cost-effective method to practice theoretical and practical competencies required in telenursing.*

Key words*: Advanced practice nursing student, experience, remote guidance, simulation, telenursing.*

1. Introduction

Today's nursing education is characterized by the increasing digitalization and the use of simulation-based pedagogy. The World Health Organization (2019) recommends digital means for the education of healthcare professionals, especially in continued and in-service training, to complement traditional educational methods and expand access to health education cost-effectively. Digital home healthcare or remote delivery of healthcare services can be used to replace hospital visits and to alleviate the shortage of healthcare professionals (Bekker et al., 2025). Technologies like video conferencing, mobile health applications, and remote patient monitoring devices make it possible for healthcare providers to reach patients across geographical distances. (Sunny et al., 2024).

Simulation-based pedagogy has always been a natural part of nurse education, from traditional classroom role plays to immersive high-fidelity virtual reality simulations (Deol & Parsons, 2024). Simulations use trained persons or standardized patients, role-playing, and realistic virtual environments (Mishra et al., 2023). This article brings together advanced practice nursing students' feedback for a course, where online role-playing simulations were used to learn remote counseling and to gain experience of the telecommunications technology. The term telenursing is used in the article refer to nursing services delivered using telecommunications technology.

2. Background

Digital competence or being able to use digital technologies and tools in academic and professional contexts has become an increasingly important component in nursing curricula (Amin et al., 2025; Mainz et al., 2024). A conceptual reference model (the DigComp) created for the European Union, defines digital competence as the 'confident, critical and responsible use of, and engagement with, digital technologies for

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learning, at work, and for participation in society. It is defined as a combination of knowledge, skills and attitudes'. (European Union, 2018). The framework involves five key components of digital competence: information and data literacy; communication and collaboration; digital content creation; safety, and problem solving (European Union, 2025).

Digital competence has been found to enhance nursing students' academic motivation and lifelong learning. It is essential for nursing students to learn to access educational resources and communicate effectively using digital technologies (Amin et al., 2025). In their future work as care providers nursing students will need to evaluate and apply information and use digital platforms while observing data security regulations (Tischendorf et al., 2024). They will utilize learning management systems, online databases, and simulation software (Stunden et al., 2024). The use of real-time data and remote delivery of healthcare services can help allocate the limited resources more efficiently (Bekker et al., 2025). Among other things, remote devices can be used for patient guidance and teaching, continuous monitoring of patients and for caregiver contacts (Bekker et al., 2025; Bruining, 2021; Sunny et al., 2024). Nurse-led telehealth interventions have been found to enhance patient engagement (Joo, 2022; Kappes et al., 2023). In Finland, where this study was conducted, digital tools are being integrated into education to deliver educational products for different needs at various levels of the European Qualifications Framework (Ahonen et al., 2024; Digivisio, 2024). In nursing, remote services like video conferencing, digital health platforms, chat, and telephone services have been promising in surpassing geographical barriers, fostering self-care, and reducing loneliness (Rajala et al., 2022; Virtanen et al., 2021;). The success of remote delivery of healthcare services, however, depends on the patient's and the care's attitudes and technology skills (Edwards et al., 2022; Heinonen et al., 2022). A systematic review of studies comparing telephone or video consultations versus face-to-face visits, showed high patient satisfaction with telephone and video consultations but also high discontinuation rates, which indicates that telehealth interventions are not a suitable modality for all patients (de Albornoz, 2021).

High-technology simulations and standardized patients can be costly and require training. Instead, having students engage in role plays is a simple, hands-on learning approach for learning clinical nursing skills (Maghsoodi et al., 2025; Sartain et al., 2021). Role-playing has also been found to be comparable to using standardized patients for learning therapeutic communication skills (Brown & Chidume, 2022; Powers et al., 2019). In the intervention described in this article, advanced practice nursing students planned and carried out role plays as online simulations to learn remote guidance and to gain experience of the telecommunications technology. A group of students practiced for 16 hours by means of video or phone calls or chat, mostly using laptops and the Teams application. The participants first designed written plans including aims, contents, guidance methods and the technology to be used, then received feedback from two teachers for their plans, with guidance on how to use the device chosen. The students of the group were in the same building, but always in three rooms; one room was for the person simulating a patient, one for the person taking the nurse's role, and one more for the other students, for whom the situation was projected on an audiovisual screen. The scenario was followed by a debriefing or reflection session based on the role-players' experiences and other students' observations concerning interaction, patient guidance and potential challenges. These online role play simulations were part of a course of 5 ECTS credits.

3. Methods

3.1. Study Design

This qualitative article brings together advanced practice nursing students' feedback for a course, where online role-playing simulations were used to learn remote guidance and to gain experience of telecommunications technology. The results are based on students' responses to open questions, analyzed using inductive content analysis. The research questions were:

(1)Can remote guidance be learnt online using role-play simulations?

(2)How could the remote guidance course using online role-play simulations be developed further?

3.2. Data Collection

The qualitative data was collected from 28 students, who were registered nurses and public health nurses originally from various parts of Finland, converting their Bachelor's degrees to a Master's in advance practice nursing (Advanced Clinical Practitioner). All participants had at least 2 years of work experience in nursing. Most of them, 24 out of 28, were women. The age range was 24-60 years. The nurses participated in an online

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course on remote guidance in spring 2025. They were asked to describe their experiences of online simulations during the course. The data consisted of freely written responses to two open questions: (1) Is simulation-based learning suitable for learning remote guidance online? and (2) How could the online remote guidance course using simulation-based learning be developed further? The participants replied anonymously in a classroom situation at their own university. Participation was voluntary and anonymous (Finnish National Board of Research Integrity TENK, 2023).

3.3. Data Analysis

The data was analyzed using inductive content analysis (Elo et al., 2022). First, the material was read through repeatedly to search for clauses, sentences and any expressions that represented an answer to the two research questions. This data was rewritten in a reduced form in Word files, while seeking to retain the original meaning of the material produced by the students. Categories were formed based on similar contents and then ordered into broader higher order categories and into a final main category. The original data was consulted several times during the analysis to ensure plausible analysis (Polit & Beck, 2024).

4. Findings

In this section, the term participant refers to the students, who were registered nurses and public health nurses converting their Bachelor's degrees to a Master's (Advanced Clinical Practitioner). The students' experiences of online simulation-based learning during an online remote guidance course are illustrated by direct participant quotes.

According to the participants, the simulation-based pedagogy used was very suitable for teaching remote guidance skills online. The findings show that most participants had gained a positive impression of telenursing in general. As shown in Table 1, simulation-based learning online was found to advance both theoretical and practical competencies required in remote guidance and to provide an authentic and realistic overall picture of telenursing as a phenomenon.

Table 1. Learning telenursing competencies in an authentic context.

Reduced expression	**Sub-category**	**Generic category**	**Main category**
Good way to learn telenursing in practice	Concrete and practical telenursing skills	Theoretical and practical competencies needed in telenursing	Learning telenursing competencies in an authentic context
Practical doing teaches a lot			
Practical learning is meaningful			
Learning by doing, seeing others do the exercises			
Learning by doing the best way to learn			
Experimentation the best way to learn			
Simulation suits learning hand skills			
Easier to memorize after doing and experimenting	Effective learning of things related to the telenursing situation		
Shared reflection			
Learning by watching peers do simulations			
Personal experience helps understand the phenomenon			
A good way to be introduced to various devices	Technology skills		
good way to practice telenursing through video			
Concrete possibility to learn about the methods and equipment			
Gives a picture of the situation for those who have not provided telenursing	Authentic picture of the telenursing situation	Authentic and realistic overall picture	
An illustrative and participatory teaching			

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method		of the telenursing phenomenon	
An authentic situation			
A realistic telenursing situation			
A good way to be introduced to various telenursing situations			
New ideas about how to use the video connection	Tailoring telenursing to meet patients' ethical and other needs		
New ideas aroused by simulations			
Ideas on how to secure the ethicality in telenursing			
Ideas and alternatives for how to support older adults living at home			
Courage to use telenursing with patients	Being encouraged to carry out telenursing in various contexts		
Courage to use telenursing in management			
Courage to develop one's work			
Immersion and adaptation to unprecedented situations			
The patient being somewhere else, testing how the connection affects the use of technology	Authentic experience of how the technology works and what factors should be taken into consideration in telenursing		
A concrete experience of how it feels to counsel someone per video and what one should take into consideration			

4.1. Theoretical and Practical Competencies

According to the participants, one of the strengths of simulation pedagogy was that it was concrete and practical. To quote the participants, "A practical way to learn is certainly meaningful to many" (P13); "You learn best by doing" (P19) or by "experimenting" (P20). Seeing others practice was also considered effective: "Simulation is a good way to learn remote guidance in practice and to learn by seeing others do their simulations" (P1), and "Suits me well, you can learn by doing and seeing others do the exercises" (P17).

In addition, the participants found that online simulation-based learning facilitated effective learning of the contents associated with telenursing. They pointed out that it was easier to memorize the learning material after doing and experimenting oneself and following others, combined with the teacher's help and advice, and shared reflection. The method allowed the participants to practice independent planning, reasoning and implementation. In the participants' own words, " Simulations help you learn new things in a memorable way" (P26)", and " I think simulation is an excellent way to learn/teach. There is always so much tension building up that you remember things better, when you can do and experiment yourself " (P22).

Third, the participants noted that they had been effectively introduced to the relevant technology with help of the online simulations. For example, they had learnt to assess patients using heartbeat-tracking smartwatches and otoscopes, and practiced telenursing through video sessions. To quote, "Simulation is a good way to get to know various equipment and telenursing situations" (P4), and "A good experience. I had only used ordinary phones for remote guidance, now I was 'forced' to use the video connection. Without practical experimentation I would not have learnt it" (P7).

4.2. Authentic and Realistic Overall Picture of the Telenursing Phenomenon

According to the participants, the simulated telenursing situations provided them a clear idea of telenursing situations. The participants thought that they would not have acquired a similar concrete understanding of the telenursing skills through theoretical studies only. This viewpoint was stressed especially by those students, who had had no previous experience of telenursing in their work. They said, for example, "You get a realistic picture of how the situation feels, if you have not tried telenursing earlier" (P3), and "Simulation demands immersion, jumping into the deep end and adapting to unprecedented situations" (P19).

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The participants further indicated that online simulation-based learning could help them tailor telenursing to meet patients' ethical and other needs. For example, they felt that they could identify in concrete terms what ethical and sensitive issues related to data security might emerge in telenursing. The participants gained new ideas of how telenursing could be provided for different groups of patients and of how audiovisual and video channels could be used for various aspects of the work. To quote, "Simulations give you a chance to practice different telenursing situations, which you might encounter in your work, especially in the future, data security things and ethical issues" (P6), " There are so many alternatives for how to support aged people in their home" I am sure there will be more all the time" (P11), and "You get used to the situations changing abruptly" (P16).

Online simulation-based learning had also made the participants aware of how telenursing could be used in different patient contexts, both in care, follow-up and rehabilitation. The participants felt encouraged to increase their use the method in clinical nursing situations. For example, "Many new ideas on how to use the video connection, for example (wound care consultation, lifestyle guidance)" (P10); and "I should find the courage to use the telenursing option more in nursing for patient contacts and for management" (P11).

Last, according to the participants, the online simulations had provided them an authentic experience of how the technology worked and what factors should be taken into consideration in telenursing. Working in pairs in a practical situation, they gained experience of both patient and nurse roles. The participants also noticed how the various devices and applications used could affect the telenursing situation. To quote two participants, " especially when the other person is somewhere else, you test in real life how the connection affects the use" (P17), and "Everybody gets concrete experience of how it feels to guide patients per video and what you should take into consideration" (P20).

4.3. Development Ideas

As a response to the second open question, the study participants presented development ideas concerning the roles allocated in the online simulations and the familiarization with the latest technology (Table 2). The participants wished that, instead of having to create patient roles themselves, they would receive randomly allocated roles designed by teachers. This would promote equality and prevent the fastest persons from pick the easiest cases. In the words of one participant, "Would it be possible to have cases created by teachers and to draw lots? There would be more variety" (P1). Another idea was for participants to plan the scenario in pairs, but to have a new, randomly chosen person enter the role of the nurse to create a "fresh, more authentic" experience. To quote, "If you plan the case yourself there are no surprises. It would be more challenging to have the nurse's role in a case planned by another pair, you would invest more in the choice of methods and devices" (P15). In addition, some participants pointed out that group situations should also be practiced. In real-life telenursing, the patients were sometimes families or, for example, groups of patients recovering from stroke or hip replacement, which would require paying attention to different details compared to individual nursing situations. One of the participants suggested, "Could we have a group in a telenursing situation, for example family members present?" (P5).

Secondly, the participants found that too little time was spent on learning technological skills. Most participants had chosen video or phone calls or chat, mostly using laptops and the Teams application. They suggested that teachers should decide about the technology to be used, so that the participants would gain experience of using a variety of devices. More time should be allocated for introducing and experimenting with the latest technology. For example, a video call service was available at the university, involving a standby home terminal with a video call application for the patient and a smartphone access for those in the care circle. The participants said, for example, "There should be more specific cases in which you get introduced to the telenursing devices" (P8); "There should be different simulations, not just Teams/video/phone connections used. You would get to know several methods" (P10), and "We would have got more familiar with the telenursing devices if each pair had used a different device. Now the emphasis was on video receivers" (P12).

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Table 2. Development ideas for simulation-based online learning of telenursing.

Reduced expression	Sub-category	Generic category	Main category
Ready-made patient roles	Developing the patient role	Developing the patient and nurse roles	Increasing the authenticity of the simulations and technology
Patients allocated randomly			
Practicing with families	Learning to work with groups		
Practicing with groups in rehabilitation			
Different students for planning and implementation	Developing the nurse role		
More demanding and authentic situations without prior information about the patient			
Nurse roles allocated randomly			
More specific cases with emphasis on learning about telehealth devices	Studying the variety of telehealth devices	More effective and authentic learning of technology	
Concrete experience with several telehealth devices			
Using telenursing devices in addition to video receivers			
Introducing the latest technology			
Teacher selecting the device			
A case learning to counsel aged patients	More realistic simulations imitating hospital conditions		
Integrating hospital patient record systems into the simulations			
Integrating the Libre system in to the simulations			

Highlights

- High-tech simulations and standardized patients are costly and require training
- Online role-play simulations are suitable for learning remote guidance
- Online role-play simulations are practical, cost-effective and near-authentic

To make the situations more authentic or closer to clinical reality, the participants proposed that patient record systems, the Libre glucose monitoring device or other current devices should be integrated to the simulations. To quote, ”More extensive study of telenursing technology, for example its use in the hospital environment and other than just guidance methods” (P27); “More extensive use of AI. Portals and the existing tools as part of telenursing? The patient record system integrated? These could be included” (P28), and

> “As a proposal for development, it would of course be nice to have a visit from an aged person who uses Video Visit services. Or somebody who represents home care services, to tell their experiences from the nurse’s perspective. E.g. about the artificial intelligence, how it reacts to documentation and is there an alarm if there is a significant change in the patient’s condition (P25).

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5. Discussion

This qualitative study with advanced practice nursing students revealed that online role-play simulations are well suited for practicing remote guidance skills. The participants, who were nurses with years of work experience, mostly expressed positive feeling about remote guidance and the usefulness of telenursing in general. Earlier research has confirmed that nurses consider telenursing appropriate for teaching and supporting patients, especially in chronic conditions.(Yuan et al., 2024). In the Finnish social and healthcare services, remote guidance through digital platforms has been seen as a transformative approach improving access and self-care, and in reducing loneliness among patients (Virtanen et al., 2021; Rajala et al., 2022). Healthcare professionals' positive attitudes and interest in training have been found to be essential for the success of such remote interventions. (De Leo et al., 2024; Fronczek et al., 2017). The perceived benefits and ease of use are also important factors, as confirmed by this study and earlier research (Koivisto et al., 2019).

The participants in this study appreciated online role-play simulations as effective and practical; the hands-on experience of the technology, as well as observing the performance of other students and reflecting together had encouraged the participants to take up remote work. Their proposals for the development of the course involved adding elements of surprise into the simulations. The students would appreciate random allocation of ready-made roles and a wider range of technology to be used. It would also be useful for students to be introduced to the technology used in healthcare organizations. However, it might be challenging for many educational institutions to reconcile these wishes with reality, i.e. with the rapid technological advancement and the constant need to purchase new devices and train the staff to use them. Not all institutions have the capacity and resources to offer technology-based nursing education (Gause et al., 2022). Instead, remote guidance courses could be developed by making use of voluntary experts by experience performing the role of the patient. As suggested by the participants in this study, practicing remote guidance of groups, for example a group of stroke patients, would be useful for advanced nursing students. Artificial intelligence could also be requested to assume the patient's role in a chat, but real persons are more likely to make the scenario more authentic or closer to clinical reality. Last, online role-play simulations could focus on learning a specific guidance or counseling method, for example motivational guidance, teach-back or digital future workshop.

The small size of the sample and the limited amount of latest technology available at the university are limitations to this study. However, the students represent various geographical areas across Finland, and their work history provided them with the skills and confidence required to evaluate the course contents.

6. Conclusions

Online role-play simulations provide a practical, cost-effective and near-authentic method to practice theoretical and practical competencies required in remote guidance and telenursing. The method introduces students to relevant technology and allows them to train interaction in a guidance situation, which is significantly more demanding than in-person situations.

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