



A Simulation Structure Model in Nurse Education

An Abstract



GNurseSIM

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Abstract

Aim and purpose

The aim of this intellectual output (IO) 4 of the GNurseSIM project was to present similar schemes in other areas of nursing simulation. The purpose of the IO4 was to conduct a literature review and develop a model of simulation that is useful in other areas of nursing. Furthermore, give examples of blended learning simulation which were classroom simulation, hybrid model simulation (participants are in the classroom and online,) and online simulation.

Introduction

Mental health nursing was chosen to be the area of nurse education in IO4 since nurses require the skills and knowledge to provide mental health care in every area of health care. According to previous literature reviews, simulation-based learning such as high-fidelity mental health simulation had the outcomes of increased confidence, knowledge gains, and improved communication skills.

Task 1. During Task 1 GNurseSIM partners screened evidence about mental health and conducted a literature review during spring 2022. A literature review was conducted in cooperation with GNurseSIM-partners. A total of 19 articles were reviewed. The year's publications were between 2013 to 2021, five of which were published in 2021. All the articles focused on simulation in mental health in undergraduate nurse education, but the scenario topics and settings varied from children and adolescents to adults and from suicide attempts to interact with mental health patients with different diagnoses.

Task 2. SAMK as an output 4 leader put together the findings of the literature review and suggested the model for simulation in nurse education. The simulation structure followed the simulation structure which was developed in IO1. Some changes were made to the structure to meet the needs of other fields of health education. Details such as the stage of the student's studies (first, second, or third-year student) and how to prepare the simulation environment were added to the structure according to the literature review.

Task 3. The purpose was to set the model of simulation in the area of nursing during the transnational partner meeting in Pori, Finland. The GNurseSIM partners together discussed the simulation structure, and some changes were made such as English terms being clarified. The structure was evaluated by nurse lecturers (n=25) from eight universities in four

countries. All the nurse lecturers had experience teaching multicultural nursing students and were familiar with geriatric or mental health care. The simulation structure was tested by two nurse lecturers from Satakunta University of Applied Sciences in a mental health simulation held with English-speaking nurse students in December 2022.

According to the nurse, and the lecturer's feedback, some changes were made to the simulation structure. The overall structure was clarified. Nurse lecturers should tailor the debriefing session not only to the learning objectives but also to the participant and team characteristics. Finally, examples of blended learning simulation were given: classroom simulation, hybrid model simulation (participants are in the classroom and online,) and online simulation, and places at the end of the simulation structure.

Conclusion

Simulation is a wide concept and allows nurse lecturers to implement the pedagogy as they see it best. The Simulation structure helps especially beginners to follow the simulation as a process. The structure eases the planning phase as well as the debriefing part of the simulation. In the future, simulation games and virtual, online simulations will be more typical ways to conduct a simulation.



Photo: Johanna Kero 2022
The students have given their approval to use the photo in publications.

SIMULATION STRUCTURE

BACKGROUND		
Areas of Nursing		Examples of topics such as Mental Health, Surgical Nursing, etc.
Degree of study		Bachelor of Nursing Master of Nursing
Name of the course		
Topic		
Student group analyses: Previous/ current educational experience Size of group ¹		¹ Students' previous or current personal experience -First year (Beginner) -Second year (Middle stage student) -Third/ fourth year (Advanced)
Learning objectives ² -2-3 objectives		² -Non-technical skills: cognitive skills (decision-making and situational awareness) and interpersonal skills (communication, teamwork, and leadership) -Technical skills according to the learning objectives
PREPARATION		
Preparation of simulation ³		³ Evidence-based material: -For example books, journals, research, guidelines -Digital learning environment: eLearning platforms, simulation games, and/or Virtual Reality -Quizzes and/or pretests

SCENARIO				
DURATION OF THE SCENARIO	PREBRIEFING	SIMULATION	DEBRIEFING	
SIMULATION ENVIRONMENT⁴				⁴ Technical and organizational information such as type of training equipment/phantom/simulator, simulator parameters, reusable/disposable material, optional accessories, necessary documentation, moulage, Standardized patients
PREBRIEFING				
Description of the patient's clinical condition and context (information for the student)				

SIMULATION⁵	⁵ -SAFE ENVIRONMENT: all opinions are allowed, free to speak, mutual respect, physical safety, right to be who you are, confidentiality -Students get to know the scenario in advance (preparation phase)
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	<p>Best practices for example</p> <ul style="list-style-type: none"> -pretest/ quiz before the simulation session to measure the knowledge of students of the topic -recorded simulations if reasonable (students' rights, GDPR) -Students, teacher/s, and/or standardized patients in roles
<p>DEBRIEFING⁶</p> <p>Emotion phase</p> <p>Ask about the feelings of all participants during the exercise</p> <p>Analysis phase</p> <p>What happened?</p> <p>What went well?</p> <p>Why specific decisions were made?</p> <p>How it could be done (ideas are generated by students, and the tutor leads to the right conclusions) in a positive matter?</p> <p>Intercultural aspect:</p> <p>-Which cultural factors are the most important?</p> <p>Implementation in practice</p> <p>What do you remember from the exercise?</p> <p>How do you implement this in practice?</p> <p>Students' questions</p>	<p>⁶-Learning objectives:</p> <ul style="list-style-type: none"> -What should happen based on evidence (select 3-4 issues) that should always be discussed with students regardless of whether they happened or not -Cognitive skills (decision-making and situational awareness) and interpersonal skills (communication, teamwork, and leadership) -Students are motivated to think reflectively while deactivating strengths and correct paths -Evaluation and feedback from participants in roles, observers, and teachers (with standardized patients) -Every student tells one issue they have learned when they leave the simulation
<p>Summary and feedback of the scenario</p>	

How to implement simulation in different learning environments

- **First-year students:**
depending on the learning objectives, for example, when the topic is non-technical skills such as discussion with a patient/ client, one video is appropriate to screen
- **Second-year students:**
depending on the learning objectives, for example, when the topic is technical skills such as wound management or IV therapy, more than one video is appropriate to screen
- **Third-year students:**
depending on the learning objectives, for example, when the topic is technical and non-technical skills such as home care visits, more than one video is appropriate to screen

Classroom simulation

- Follow the simulation structure one step at a time
- Before the simulation check the corner of the video cameras in the simulation environment, supplies for the simulation environment are available for students and the classroom is suitable for debriefing

Hybrid-model simulation: in the classroom and online

- Follow the simulation structure one step at a time
- Before the simulation:
 - the learning environment should be taken into account classroom bookings, with the possibility of both classroom and online teaching
 - check the corner of the video cameras in the simulation environment, supplies for the simulation environment are available for students and the classroom is suitable for debriefing in the classroom and online
- During simulation
 - At first, the internet connection with online students: sound and video check
 - When discussing the pretasks with students it is good to use applications for mobile phones such as Kahoot.it® or Mentimeter® to include students participating online
 - Video corner: one video is easier to follow online
- After simulation, Debriefing
 - Students in the classroom are divided into groups, students online are divided into breakout rooms, and there is limited time for discussion. Each group at the time gives their feedback no matter whether are they in the classroom or online

Online simulation

- Follow the simulation structure one step at a time.
- Before the simulation:
 - check that the scenario is possible to run online, for example, the patient educational scenario
 - students need to have an understanding of how to participate in an online simulation
 - what are the rules for students:
 - students participate from their laptops, not cellphones
 - students log in on time
 - the internet connection with online students: sound and video check
 - microphones are muted and videos on

- the confidentiality of the scenario: students need to be alone in the room, only students are participating, and no family members or other people have the opportunity to watch/ listen
 - the meeting is locked so outsiders cannot log in while the simulation
- During simulation
 - When discussing the pretasks with students it is good to use applications for mobile phones such as Kahoot. it or Mentimeter to include students participating online
 - Video corner: one video is easier to follow online
- After simulation, Debriefing
 - Students online are divided into breakout rooms, and there is limited time for discussion. It is good to use applications such as Padlet
 - Each group at a time gives their feedback by speaking

About the GNurseSIM Project and this publication

Globally, the number of people over the age of 60 is expected to more than double by 2050. Diseases associated with aging are identified by the World Health Organization as being a major global health challenge that future healthcare providers must be prepared to meet. Simulation is a safe way to train healthcare providers to provide effective care for older people and their families. GNurseSIM supports higher education institutions to provide students in geriatric nursing with opportunities during their training, to practice skills of adopting a multidisciplinary holistic approach to the care of older patients.

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