Development of a Simulation Orientation Program for First Year Bachelor of Science in Nursing (Collaborative) Program Students at the Centre for Nursing Studies (CNS)

by © Megan Hiscott

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Abstract

Background: Providing orientation for simulation is crucial to help nursing students become familiar with expectations, and empower them to learn from the simulated scenario, fostering a conducive learning experience through the creation of a psychologically safe environment. **Purpose:** To develop a simulation orientation program using medium and/or high-fidelity simulators for first year BScN students at CNS. **Methods:** Three methods were used, including a literature review, an environmental scan and consultations to inform the development of a simulation orientation program for first-year BScN (Collaborative) students at the CNS. **Results**: The literature highlights simulation's positive impact on nursing students, particularly with high-fidelity simulation, enhancing learning outcomes and reducing anxiety. Orientation programs improve students' understanding of simulation, promoting a safer learning environment. Hybrid delivery methods, combining in-person participation with online access, are recommended for education. The vast majority of faculty members (86%) and students (97%) indicated that having an orientation before their initial simulation experience would have been beneficial. **Conclusion:** A simulation orientation program was developed for first year BScN nursing students at the CVNS.

Keywords: *Simulation orientation; nursing education simulation; orientation program, nursing students*

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Introduction

Simulation is formally defined by the Society for Simulation in Healthcare (SSH) as "a technique that creates a situation or environment to allow persons to experience a representation of a real event for the purpose of practice, learning, evaluation, testing, or to gain understanding of systems or human actions" (Lioce et al., 2020, p. 44). It is a learning tool that has been increasingly used in nursing education to create a safe environment for people to practice and learn from real-life situations without the risk of harm to others. Use of Simulation has been shown to help students meet clinical learning outcomes, develop clinical knowledge, decrease anxiety in clinical settings, and increase their confidence (Akselbo & Aune, 2023; BØ, et al., 2021; Kimzey et al., 2021; La Cerra, et al., 2019; Park & Kim, 2021). One important aspect of simulation use is Prebriefing, which is defined as information given before the simulation begins, including preparation details, instructions, and orientation to the simulation environment (Lioce, 2020). The goal of prebriefing is to prepare participants, ensuring awareness of simulation ground rules, reviewing learning objectives, and orienting students to the simulation scenario (McDermott et al., 2021). This prebriefing can be used as a part of an orientation of students to simulation.

Providing orientation for simulation is crucial to help nursing students to be familiar with expectations, and empower them to learn from the simulated scenario, foster a conducive learning experience through the creation of a psychologically safe environment (Anderson & Cox, 2020; Turner & Harder, 2018). While it is crucial for nursing students to be familiarized with simulation before starting their actual learning outcomes, there is currently a limited orientation to the simulation program in place. Therefore, the overall goal of this practicum project is to develop a simulation orientation program for first-year Bachelor of Science in

Nursing (BScN) (Collaborative) students at the Centre for Nursing Studies (CNS), utilizing medium and/or high-fidelity simulators. The program is designed to enhance the effective utilization of simulation time for nursing scenarios while mitigating student anxiety associated with their initial simulation experience.

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Objectives

The overall goal of the practicum was to develop a simulation orientation program for first year BScN students at the CNS.

The key practicum objectives were to:

1. Explore the requirements and benefits of a simulation orientation program for BScN students.

2. Conduct an environmental scan of other similar simulation orientation programs to assist with program development.

3. Consult with key informants to assess learning needs of BScN students and guide program development. 4. Gain insights into the unique local requirements regarding the simulation orientation for first-year nursing students at the Centre for Nursing Studies

5. Develop an orientation to simulation program; and

6. Demonstrate advanced nursing practice competencies.

Theoretical Framework: Knowles' Theory of Andragogy

Knowles' (1980, 1990) theory emphasizes that adults view themselves as self-directed and responsible for their own decisions. The orientation program was designed in a way that allows nursing students to take ownership of their learning and provide them with options and choices within the program. Adult learners have a wealth of experience that should be acknowledged, so students will be encouraged to draw upon their prior experiences, even if limited, and relate them to the simulation scenarios. This could help in making the learning relevant and meaningful. Adults are motivated to learn when they perceive that it will help them solve real-life problems. In this program, I clearly communicate the practical applications and benefits of the simulation orientation program in their nursing practice. Adult learners are more problem-centered than subject-centered.

The simulation scenarios presented in the orientation program will address real-world challenges and nursing situations that students are likely to encounter during their clinical practice (Kaakinen & Arwood, 2009; Knowles, 1990). Recognizing that adults are internally motivated, and that motivation can be influenced by external factors, the orientation program will be engaging and appealing by incorporating elements that help motivate them such as opportunities for self-assessment and skill development (Clapper, 2010). Adult learners need to

know why they need to learn something. In the orientation program, I articulate the learning objectives and the relevance of the simulation program to their future nursing roles. In addition, I will facilitate a learning environment where students are actively involved in the learning process (Clapper, 2010; Knowles, 1990). I will do this by encouraging group discussions, peer teaching, and problem-solving activities within the simulations. Incorporating these principles from Knowles' (1990) Adult Learning Theory into my simulation orientation program enhances its effectiveness and makes it more engaging and relevant for first-year nursing students. It emphasizes their role as active participants in their own learning and encourages a focus on practical application in their future nursing careers.

Figure 1
Diagram of Knowles' Adult Learning Theory

Overview of Methods

Three methods were used to inform the development of a simulation orientation program for first-year Bachelor of Science in Nursing (BScN) (Collaborative) students at the Centre for Nursing Studies (CNS). These methods included conducting a literature review, performing an

environmental scan, and engaging in consultations with stakeholders. I completed three drafts of each submission, each of which received feedback and were revised as needed.

A literature review was conducted to gather information on simulation and its impact on student learning, as well as to explore information on orientation, teaching, and learning strategies for adult learners. An environmental scan was conducted to explore existing simulation orientation programs by contacting accredited nursing schools across Canada and conducting an internet search to identify potential programs. Consultations were also conducted with key stakeholders of the simulation orientation at the CNS, to understand the development needs for the simulation orientation and further focus my project.

Summary of the Literature Review

When completing the literature review, both scholarly and grey literature sources were searched to locate any information on simulation orientation. The following databases were used to search for relevant literature; PubMed, Cumulative Index to Nursing and Allied Health Literature (CINAHL), and MUN library database. Grey literature was also obtained using Google Scholar and the International Nursing Association of Clinical and Simulation Learning (INACSL). The following search words and MeSh terms were used: *nursing education, simulation, orientation, undergraduate nursing, introduction, simulation training, simulation education*, *prebrief, prebriefing*, and *high-fidelity simulation training*. The qualitative research studies, quantitative research studies, and mixed-method studies, written in the English language and published between 2009 and 2023 were included in this review. The articles used are the most current and up-to-date research on simulation in education, specifically nursing education. The studies that were identified underwent a thorough critical appraisal process using the Public Health Agency of Canada (PHAC) appraisal toolkit (2014), the Joanna Briggs Institute (JBI)

checklist for qualitative research (2017), as well as the Mixed Methods Appraisal Tool (MMAT) (Hong et al., 2018). The literature review, encompassing an assessment of the quality and results of 19 studies, and the synthesis of their findings, has been completed, revealing support for the utilization of simulation in undergraduate BScN programs. Literature summary review tables were used to summarize the key findings from the discussed studies (see Appendix B).

Literature Review Key Findings

Overall, the literature review discusses the impact of simulation on nursing students' learning outcomes, identifies the lack of specific orientation programs for simulation learning, emphasizes the necessity for further investigation into simulation orientation programs, and recommends for a hybrid delivery method in simulation education. For example, the key findings from the literature review highlighted the impact of simulation on nursing students' self-efficacy, self-confidence, clinical decision-making and critical thinking skills, as well as on their satisfaction and psychological safety. For instance, high-fidelity simulation has been identified as more effective than alternative teaching methods in achieving learning outcomes, enhancing clinical knowledge, reducing student anxiety, and increasing confidence (BØ et al., 2021; Kimzey et al., 2021; La Cerra et al., 2019; Park & Kim, 2021).

There is a lack of specific orientation programs for simulation learning; however, discussions around orientation to simulation focused on the advantages of orientation, emphasizing its role in protecting student psychological well-being and recognizing the general benefits associated with orientations. In addition, the literature also highlighted the need for further investigation to be done on the topic of simulation orientation programs. Moreover, the importance of preparation, prebriefing, and foundational activities was discussed frequently throughout the literature on simulation. For instance, Turner and Harder (2018) highlighted the

importance of an orientation for learners to the physical environment of simulation, as well as having preparation information. Implementing an orientation program for first-year nursing students facilitates their understanding of simulation learning, ensuring that they enter simulation classes with the basic knowledge about utilizing high-fidelity simulators. Enhancing students' familiarity with simulation before their initial shift may increase the psychological safety of the learning environment (Kolbe et al., 2015; McDermott et al., 2021).

A hybrid method of delivery is recommended in simulation education. This method involves providing the material and allowing them to participate in person, while also providing online access to review the content by viewing the video in their own time (Ross & Dunker, 2019; Vanek et al., 2022; Yopp et al., 2022). Ensuring the method of delivery uses a hybrid format will optimize the adult learner experience.

Summary of the Consultations

Consultations for my practicum project involved engaging with three groups at the CNS: year 3 nursing students, faculty members associated with the simulation team, and the simulation coordinator and Associate Director (AD) of academic and quality initiatives. These consultations were conducted using both Qualrtics survey questionnaire and semi-structured interviews. The first group included third year BScN (Collaborative) students who completed a questionnaire distributed to them via email. This questionnaire was developed in Qualtrics and distributed to both students and faculty members via email. The student questionnaire consisted of five open-ended questions and one question where students ranked 11 statements on a 5-point Likert scale, while the faculty questionnaire, included three open-ended questions, one question where faculty ranked 10 statements on a 5-point Likert scale, and two closed-ended questions.

The semi-structured interviews were conducted with the simulation coordinator and Associate Director (AD) of academic and quality initiatives. The interviews took approximately 30 minutes to complete. The questions for these interviews were created in Microsoft Word, based on the objectives of my consultations (See appendix C.

Consultation Key Findings (Quantitative)

The consultations gathered insights on the need for a simulation orientation program at the CNS. Questionnaire results from both students and faculty provided qualitative and quantitative data, while in-person interviews yielded qualitative data only. Thirty-nine students completed the questionnaire, with 97% agreeing that a simulation orientation before their first simulation would be beneficial. All respondents expressed agreement that such an orientation would reduce anxiety and enhance preparedness. Eight faculty members participated, with 71.4% noting students' lack of simulation experience on their first shift. Additionally, 86% of faculty believe a simulation orientation before the first scheduled simulation would be advantageous.

Table 1

Participants' opinions about simulation orientation

Questions	**Yes** **% (n)**	**No** **% (n)**
As a faculty member Do you believe students would have benefited from an orientation before their first simulation experiences? (n= 7)	86% (6)	14% (1)
As student would have found it beneficial to have had an orientation before your first simulation experiences? (n=35)	97% (34)	2% (1)

Consultation Key Findings (Qualitative)

After conducting in-person interviews with the AD of Academic and Quality Initiatives and the Simulation Coordinator, their responses were carefully reviewed, and notes were analyzed using content analysis (Bengtsson, 2016). As a result, five main themes were identified. These themes are 1) ***an introduction to the ground rules for simulation learning experiences****, 2)* ***striving to decrease student anxiety during simulation****,* and *3)* ***allowing students to become familiar with the simulation lab*****, 4)** ***navigating scheduling challenges for large numbers of students***, and 5) ***consistency in information students are receiving related to simulation.***

Both the AD of academic and quality initiatives and the simulation coordinator made comments related to ensuring that the ground rules for simulation are included in a simulation orientation program. The literature review supported the idea of ensuring that students are well informed about the ground rules. McDermott et al. (2021) emphasize the importance of ensuring participants are aware of simulation ground rules during prebriefing, a principle that can be extended and applied to an orientation context.Both participants throughout the interview discussed striving to decrease student anxiety during simulation many times. In the literature review, it was also argued that for simulation learning experiences to be a psychologically safe learning environment, it is important that students are comfortable and familiar with what to expect (Anderson & Cox, 2020; Turner & Harder, 2018).

Allowing students to become familiar with the simulation lab was the third theme that was uncovered following content analysis of the responses. Both participants in the in-person interviews brought up points that led to the development of these themes. They discussed the importance of students being able to become familiar with simulators and see how a simulation lab looks during the orientation. The literature supports that by exposing students to the actual

simulator prior to their first scheduled simulation shift that students should be able to complete the scenario with increased confidence and focus on their critical thinking, decision-making, and skills (Anderson & Cox, 2020; Ross et al., 2022; Murphy & Janisse, 2017; Turner & Harder, 2018).

Next, navigating scheduling challenges for large numbers of students was uncovered as a major theme. Both the simulation coordinator and the AD of academic and quality initiatives reported difficulties that may be encountered trying to implement a simulation program. The most discussed concerns were related to the scheduling challenges that may be encountered due to the large number of BScN (collaborative) students at the CNS. The authors of two qualitative studies examined nursing faculty perceptions regarding the implementation of simulation in nursing schools. Both studies revealed that faculty expressed support for simulation orientation (Akhtar-Danesh et al., 2009; Jansen et al., 2009). Despite this, faculty highlighted the need for greater human resources as one of the areas needed to offer a quality simulation program. Because finding the time, available faculty and space to have a simulation orientation program have been highlighted in the interviews and literature review, it will be important to consider this during the implementation of the simulation orientation.

Both the AD of academic and quality initiatives and the simulation coordinator also discussed that faculty need to be consistent and have a full understanding of the rules of simulation and understanding on how to facilitate student learning during the orientation. It is important to ensure that the simulation orientation has a guide for faculty to ensure that students all receive the same information, regardless of who is facilitating the orientation.

Summary of the Environmental Scan

The environmental scan was completed through an internet search and direct email communication with two nursing schools, seeking information regarding their simulation orientations. The environmental scan involved a review of three primary resources: Healthysimulation.com, Google Search, and one Canadian nursing school. Healthysimulation.com led to the discovery of two websites: St. Mary Medical Center in Pennsylvania, USA, and British Columbia Institute of Technology: School of Health Sciences in British Columbia, Canada. A Google Search identified three additional websites: LA Harbor College and Grossmont College in California, USA, and Rhode Island College School of Nursing in Rhode Island, USA. The one Canadian schools, Cape Breton University in Cape Breton was also included in the scan. In evaluating these sources for orientation to simulation programs, key criteria such as type of resource, focus of content, length of content, evaluation, and any limitations were considered. Content analysis was utilized to examine the information gathered from the mentioned sources (Bengtsson, 2016).

Environmental Scan Key Findings

The results from the environmental scan came from locating six simulation resources through two different search methods. The analysis of these six resources either located on an internet search or through emailing Canadian accredited nursing schools resulted in uncovering five main themes. These themes were what was covered in the simulation orientations that were analyzed and can be considered when designing this simulation orientation project. The main themes that were came from the content analysis were: 1) ***an explanation of simulation in relation to student learning, 2) an introduction to the simulation lab environment, 3) introducing the idea of the basic assumptions of simulated learning***, 4) ***enhancing student***

simulation experiences by following best practice guidelines and 5) ***presenting the basic assumptions of simulated learning.***

An explanation of simulation in relation to student learning related to the discussing in the orientation the benefits of simulation and the benefits students can gain through using this method of learning. Next, the introduction to the simulation lab environment was when orientation programs used either video or still pictures to show the students the simulation lab. This could include the layout of the room, including where to find supplies and medications during a simulation learning experience. When referring to introducing the idea of the basic assumptions of simulated learning, the students were introduced to the ground rules of simulation. No orientations went into the basic assumptions of simulation in detail; however, introducing this concept was done regularly. Finally, enhancing student simulation experiences by following best practice guidelines was a common theme in some of the orientation resources. This is when orientations included information on following best practice guidelines and introducing students to the proper procedures or format for simulated learning.

Summary of the Resource

The simulation orientation program will be conducted in-person, including a ten-minute lecture-style that outlines the ground rules of simulation and sets expectations for students participating in a simulation shift. Following the introduction, students will engage in a hands-on interaction with a medium or high-fidelity mannequin for ten minutes, during which they can pose questions about simulation, the mannequin, or the simulation lab for an additional five to ten minutes. The orientation will be supplemented with a handout detailing the rules of simulation and key points, accompanied by a QR code link to the simulation video. To provide flexibility, a video orientation containing the same information will be available online, allowing

students to access it throughout the program and refresh their understanding of simulation before scheduled simulation shifts.

A facilitator resource manual was developed that reviews the purpose of the orientation program, learning objectives, as well as an overview of the format and content of the orientation. A PowerPoint presentation was developed and is included to be used during the classroom portion of the orientation. The manual also includes a pre-test, post-test and an evaluation of the program. The pre-test will be administered at the beginning of the classroom portion of the orientation. Following the classroom portion, the participants will make their way to the simulation room for the hands-on orientation with the simulation equipment. Following this portion, students will be administered the post-test, and evaluation. They will also receive a copy of the handout included in the facilitator manual.

Simulation Orientation Program Overview

Pre-training assessment

- **A 10-minute in-person lecture-style presentation establishing simulation ground rules and expectations for students.**
- **A 10-minute hands-on session with a medium or high-fidelity mannequin for practicing interactions and experiencing simulated scenarios.**
- **A 5 to 10-minute session for students to ask questions about simulation, the mannequin, or the simulation lab.**

Post-training evaluation

Discussion of Advanced Nursing Practice (ANP) Competencies

The Canadian Nurses Association (CNA) (2019) discuss six advanced nursing practice (ANP) competencies. The CNA (2019) competencies include six areas are 1) direct comprehensive care, 2) optimizing health systems, 3) education, 4) research, 5) leadership, and 6) consultation and collaboration. The completion of my practicum project has assisted in the development of a number of these competencies including education, research and leadership.

Educational Competencies

According to the CNA (2019) advanced practice nurses (APN's) fulfill educational competencies by being committed to professional growth, as well as learning. Under educational competencies, the CNA (2019) define educational competencies as the advanced practice nurse being focused on professional growth and learning, specifically recognizing the learning needs of others, and either finding or developing programs that can meet those needs. Completing this practicum project allowed me to identify the need for an educational program at the CNS to meet the needs of BScN students. It gives me the skills to conduct a literature review, as well as to conduct consultations and environmental scans, which they assisted me in learning about the needs of nursing students, requirements of simulation orientation programs and the needs of the CNS.

Research Competencies

APN's, as explained by the CNA (2019) ANP competencies appraise and apply research evidence. Under research competencies, advanced practice nurses are "committed to generating, synthesizing, critiquing and applying research evidence" (CNA, 2019, p. 32). In completing this practicum project I completed a literature review, where studies were analyzed and summarized in literature summary tables. These studies were appraised using the PHAC Critical Appraisal Toolkit (PHAC, 2014), JBI critical appraisal checklist (JBI, 2020), and the MMAT (Hong et al., 2018). During completion of this project I also developed this competency when I completed the consultations and environmental scans. I completed semi-structured interviews, website scans, as well as collected and analyzed data from questionnaires. The data I obtained from these strategies were analyzed using content analysis (Bengtsson, 2016).

Leadership Competencies

The final ANP competency that I developed the most during the completion of this practicum project was the leadership competency (CNA, 2019). The CNA (2019) defines leadership as advanced practice nurses being able to identify problems in their area of practice, and work towards change in order to address them. Throughout the development of this project, I demonstrated the ability to identify problems and initiate change to reach a solution. This involved meeting with administration of the CNS, distributing questionnaires to students and faculty, reaching out to nursing schools across the country, as well as consulting the literature. Finally, in developing this orientation program I am advocating for change, to ensure students in the BScN program at the CNS are better prepared for orientation and benefit fully from the educational tool.

Next Steps

The next steps for this project will be implementation of the simulation orientation in the first year of the BScN program at the CNS. The goal is to have the orientation implemented in fall 2024. I will also use both the pre-test and post-test responses, as well as the evaluation of the resource to analyze the effectiveness of the orientation. I will also make any necessary changes to the program after reviewing the evaluations.

Conclusion

Through literature review, consultations with nursing students and key stakeholders, and environmental scanning, it became evident that simulation orientation is necessary for first-year nursing students at the Centre for Nursing Studies. The literature highlighted the positive impact of simulation on nursing students' learning outcomes, identified the lack of specific orientation programs for simulation learning, emphasized the necessity for further investigation into

simulation orientation programs, and recommended a hybrid delivery method in simulation education. The environmental scan demonstrated that an explanation of simulation in relation to student learning benefits could be included in the orientation, emphasizing the advantages students can gain through this learning method. Consultations revealed that the vast majority of faculty members and students indicated the benefits of having an orientation before their initial simulation experience. As a response, a simulation orientation educational resource tailored to Year 1 nursing students at the Centre for Nursing Studies was developed for my practicum project.

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Appendix A: Literature Review

Background

Simulation has been utilized in many education programs throughout history. There are multiple definitions used when discussing simulation. Simulation is formally defined by the Society for Simulation in Healthcare (SSH) as "a technique that creates a situation or environment to allow persons to experience a representation of a real event for the purpose of practice, learning, evaluation, testing, or to gain understanding of systems or human actions" (Lioce et al., 2020, p. 44). Simulation is discussed consistently as a learning process that involves the ability to practice problem solving and skills in situations that are created to replicate real-life situations to allow the participants to apply what they have learned without the risk of harm to others (Manain, Leflore & Cipher, 2019; Park & Kim, 2021).

The use of simulation in nursing education is growing rapidly due to its demonstrated effectiveness in enhancing the learning outcomes of nursing students (Akselbo & Aune, 2023; World Health Organization (WHO), 2018). For instance, La Cerra et al. (2019) conducted a systematic review to explore the effectiveness of high-fidelity simulation on nursing students' achievement of learning outcomes. The authors of this review found high fidelity simulation demonstrated higher achievement of knowledge, performance, and achievement of learning outcomes compared to other teaching methods. Simulation is also vital in developing clinical knowledge, decreasing student anxiety in clinical settings, and increasing confidence (BØ, et al., 2021; Kimzey et al., 2021; La Cerra, et al., 2019; Park & Kim, 2021).

To ensure the effectiveness of simulations, it's crucial to adhere to their multiple components. These components include prebriefing, facilitation, and debriefing. Prebriefing is an important component of simulation and part of healthcare simulation standards of best practice (INACSL Standards Committee, et al., 2021). Prebriefing is defined by Lioce (2020) as

information given before the simulation begins, including preparation details, instructions, and orientation to the simulation environment. Its purpose is to prepare participants and to review learning objectives for the simulation scenario. In following best practice guidelines, those professionals facilitating simulations for nursing students must use prebriefing to make sure participants are aware of simulation ground rules, review of learning objectives for the simulation, as well as setting the stage of learners through simulation orientation (McDermott et al., 2021). The aim of the literature review is to thoroughly examine the existing evidence surrounding simulation orientation among nursing students. In addition, in this literature review, I will investigate best practices and strategies for orienting students to simulation as a crucial component of prebrief. The goal is to extract insights and knowledge that can be directly applied to the development of an effective simulation orientation program.

Simulation orientation is important, and can hold beneficial impacts on nursing students. For simulation learning experiences to be a psychologically safe learning environment, it is important that students are comfortable, familiar with what to expect, and feel empowered to learn from the simulated scenario (Anderson & Cox, 2020; Turner & Harder, 2018). In the literature, discussions around simulation and orientation was on the use of simulation in orientation programs for newly recruited healthcare professionals (Murphy & Janisse, 2017; Ross et al., 2022). This literature review will explore orientation and address the benefits of applying to simulation. The overall goal of this practicum project is to develop a simulation orientation program using medium and/or high fidelity simulators for first year BScN students at the Centre for Nursing Studies to optimize the utilization of simulation time for nursing scenarios, while most importantly minimizing student anxiety associated with their initial simulation experience.

Methods of the Literature Review

The following databases were used to search for relevant literature; PubMed, Cumulative Index to Nursing and Allied Health Literature (CINAHL), and MUN library database. Grey literature was also obtained using Google Scholar and the International Nursing Association of Clinical and Simulation Learning (INACSL). The following search words and MeSh terms were used: *nursing education, simulation, orientation, undergraduate nursing, introduction, simulation training, simulation education*, *prebrief, prebriefing*, and *high-fidelity simulation training*. The qualitative research studies, quantitative research studies, and mixed-method studies, written in the English language and published between 2009 to 2023 were included in this review. The articles used are the most current and up-to-date research on simulation in education, specifically nursing education

The results of my literature search resulted in seven quantitative, seven qualitative, four mixed methods studies, and one quality improvement project. The studies were critically appraised using the Public Health Agency of Canada (PHAC) appraisal toolkit (2014) as well as the Mixed Methods Appraisal Tool (MMAT) (2018) and varied from weak to strong design, and low to medium quality (Abdulmodhi & Mcvicar, 2022; Adamson, 2010; Akhtar-Danesh et al., 2009; Alamrani et al., 2018; Arthur et al., 2011; BØ et al., 2021; Bray et al., 2009; Choi & Um, 2022; Davis et al., 2014; Jansen et al., 2009; Kimzey et al., 2021; Kocyigit et al., 2022; Mancini et al., 2019; Miller & Bull, 2013; Park et al., 2021; Porembski et al., 2021; San et al., 2021; Sole et al., 2013; Waxman et al., 2019). Appendix B contains literature summary tables of the search results.

Literature Review

In this section, I will provide an overview of simulation in nursing education, including the proper components to make it successful for student learning. I will delve into the types of simulation learning that are the focus of this review and discuss what the benefits simulation holds for student learning. While simulation learning will be supported as beneficial, it is also important to explore some of the barriers that may be met with implementing it into a nursing program. I will then discuss orientation to simulation, including the inclusion of the theoretical framework that will guide the development of an orientation program.

Simulation in Nursing Education

The use of simulation in education is not a new concept; however, it has changed dramatically since its incorporation into nursing in the late 1800s (Aebersold, 2016; Nehring & Lashley, 2009). There are many types of simulation used in nursing education, including anatomical models, task trainers, role-playing, standardized patients, virtual reality, low-fidelity mannequins, medium-fidelity mannequins, and high-fidelity mannequins (Nehring, & Lashley, 2009). The type of simulation used depends on learning objectives, resources available, type of scenario, and available equipment (WHO, 2018).

The use of basic anatomical models and task trainers was first referenced in 1874 by Lees in using skeleton models, as well as representations of legs and arms for teaching various nursing skills such as anatomy identification and bandaging. A model of one of the first documented task trainers is Mrs. Chase who was a mannequin used to teach nursing students, created in 1910 by Martha Jenkins Chase who was a doll maker (Aebersold, 2016). This mannequin would develop into what is now classified as low-fidelity mannequins and are still used today. Task trainers are still used heavily today for teaching skills such as pelvises for catheter insertion, injection pads

for subcutaneous and intradermal injections, arms with palpable veins for IV insertion, and many other models (Nehring & Lashley, 2009).

The introduction of developing computerized components into mannequins, making them high fidelity developed in the 1960's, first seen in healthcare education in anesthesia called Sim One. Today multiple companies produce high-fidelity simulators of all ages, from newborns to older adults. They also come focusing on various specialties such as a mannequin able to perform a vaginal delivery and simulate labor and postpartum complications. High-fidelity simulators allow students to practice on life-like, authentic simulators who can respond to care choices, communicate, and have a wide range of skills practiced (Aebersold, 2016; Li et al., 2022).

There are many types of simulation included in nursing education programs, to enhance the knowledge, skills, and judgment of nursing students. I will first start by defining simulation and its various types. Afterward, we can delve into its applications in nursing education. Each type of simulation has benefits and disadvantages, and a combination of simulation types is often used in undergraduate nursing programs (Nehring & Lashley, 2009; World Health Organization Regional Office for Europe (WHOROE, 2018). As a result of many nursing skills being invasive procedures, these skills must be practiced before completing them on patients in the healthcare setting. Some skills do not require interaction and complexity of high-fidelity simulation, which is where low-fidelity or task trainers come into play. Oftentimes the skills practiced in high-fidelity simulation scenarios were first taught and learned on lower-fidelity trainers (WHOROE, 2018). To assist in the comprehension of the terminology used throughout this literature review, it is important to provide definitions of common types of simulation, particularly those that were just discussed as being discussed in this review (low fidelity, task trainers, and high fetidity).

Low-fidelity Simulation is defined as a simulator that does not require any programming or operation to be used (Lioce, et al., 2020). This would be a mannequin that could be used for a variety of skill instruction and practice. Many of these low-fidelity mannequins could allow for catheter insertion, nasogastric tube insertion, bandaging, stoma care, or many other nursing skills (ref). These mannequins would not have interactive features or any response or reaction to care. Low-fidelity simulators are more cost-effective and are simple to use with low preparation or expertise needed in simulation (Lioce, et al., 2020; WHOROE, 2018).

Task Trainers' Simulation is also a type of simulation that is used frequently in nursing undergraduate education. This type of simulator are models of specific parts of the body designed to train a specific skill or procedure (Lioce, et al., 2020). Task trainers may be a pelvis that is used to demonstrate and practice catheter insertion or pap smears, an arm with palpable veins for IV insertion, injection pads to practice subcutaneous injections, or a chest for CPR compression practice (Arabpur, et al., 2022). This type of simulation does not provide feedback or have electronic control but may have artificial fluid to represent urine or blood for example. This sometimes requires a small amount of preparation such as filling holding bags with fluid, but no expertise to control. They are also lower cost and often used for initial teaching and practice of these types of skills (Arabpur, et al., 2022; Lioce, et al., 2020; Nehring & Lashley, 2009).

High-Fidelity Simulation is the focus of this practicum project because it focuses on experiences that can be very interactive, and realistic. Scenarios used in high fidelity simulation can provide students with the ability to practice communication skills, clinical decision-making, and group many skills in one simulation (Lioce, et al., 2020). Simulators are operated by an internal computer, and externally controlled by a simulation operator. High-fidelity simulators

are extremely costly and require a great deal of expertise to prepare and operate (WHOROE, 2018). This type of simulation can give students experiences they may not be exposed to in the clinical setting, or allow them to practice critical thinking, decision-making, and skills in a safe, risk-free environment. (Akselbo & Aune, 2023 ; Alamrani et al., 2018 ; Lioce, et al., 2020; Mancini, et al., 2019; WHOROE, 2018). Therefore, nursing students need to receive orientation before they begin using it in their lab practice.

The use of simulation in nursing education has been expanding in use and can be used to expose students to clinical experiences they may not frequently see, allow them to practice and make mistakes safely, and develop critical thinking skills (Akselbo & Aune, 2023; World Health Organization (WHO), 2018). The use of simulation in nursing education is supported by many studies. For instance, Ayed et al. (2022) and Kocyigit et al. (2022) using a pretest-post-test design and a randomized control trial, investigated the benefit of high-fidelity simulation on clinical judgment, and the impact of repeated use of simulation on medical errors, self-efficacy, and anxiety levels of nursing students. The results showed that students exposed to simulation had higher levels of self-efficacy, lower anxiety levels, and lower numbers of medical errors in comparison to those who did not. Self-efficacy in both non-repeated ($t=-3.187$ $p=.003$) and repeated simulation groups ($t=-4.806$, $p=.000$) demonstrated statistically significant increases. A systematic review was conducted by La Cerra et al. (2019), to explore the effectiveness of high-fidelity simulation on nursing students' achievement of learning outcomes. The authors of this review found high fidelity simulation demonstrated higher achievement of knowledge, performance, and achievement of learning outcomes compared to other teaching methods. In order for simulation to be successful in achieving these outcomes in learning, it is important they follow best practice guidelines.

The International Nursing Association for Clinical Simulation and Learning (INACSL) has developed healthcare simulation best practices that ensure a simulation is conducted in a manner that capitalizes on the learning benefits of simulation in nursing. The three components of simulation best practice guidelines that this overview will focus on are *prebriefing, facilitating, and debriefing*. (McDermott et al., 2021; Persico et al., 2021; Decker et al., 2021).

Prebriefing

Prebriefing is the component of simulation involving both preparation and briefing, which is the foundational concept for the development of an orientation program. This component of simulation is vital to ensure students are prepared to actively participate in the simulation experience. Preparation is provided to a student by the facilitator or course leader (if different) and will cover information that is important to be aware of for the simulation experience. The goal of early preparation and prebriefing for students is to decrease cognitive load, and anxiety, and to provide preparation material based on and including the learning objectives (McDermott et al., 2021; Molloy et al., 2021). This will help the students in focusing their learning and preparation for future simulation experiences. Psychological safety is important to ensure positive learning experiences for students, and establishing expectations will help with the facilitation of simulation. What information is given to students is based on the learning outcomes, student experience with simulation, and the plan developed in the creation of the simulation scenario (McDermott et al., 2021; Kolbe, et al., 2015; WHOROE, 2018).

The briefing for a simulation experience can be unique from the orientation program and is completed the day of the simulation, before starting. During briefing it is important for the facilitator to highlight expectations, create a safe space for the experience, clarify roles for students, and discuss the logistics of how the simulation scenario will proceed (McDermott et al.,

2021). The students are provided specific information on the patient, as well as an orientation to their simulation environment, including any information they need on operation or requirements for use of the simulator. (WHOROE, 2018).

The prebriefing phase can be quite lengthy, specifically for first-year undergraduate nursing students who have not been exposed to high-fidelity simulation before. They not only have to navigate expectations and rules for simulation such as it being a judgement-free environment and risk-free space, but also the basics on how to use a simulator (Anderson & Cox, 2020; Porembski, Fletcher & King, 2021). Given the time constraints of a large nursing school with simulation space, and a desire to decrease student anxiety surrounding simulation, an early orientation to the environment is hypothesized to provide benefit to students (Porembski, Fletcher & King, 2021).

Facilitating

Facilitating means to guide and support the progression of a simulation. The focus during facilitation must be on students completing skills, providing care, and following the flow of the simulation scenario based on a prepared guide the facilitator and an operator of the simulator have developed (WHOROE, 2018). To facilitate a simulation that meets learning outcomes, supports students, and guides the scenario, a skilled facilitator is essential. To meet best practice guidelines, the facilitator needs to be skilled and knowledgeable in simulation, and able to provide cues that assist students in meeting required outcomes. The approach used by the facilitator will vary based on the level of experience with simulation, and their skill level as nursing students (Persico et al., 2021).

Without an understanding of simulators, a facilitator may have to operate early simulations by guiding and regularly assisting with how to use the equipment instead of the goal of students focusing on skills, decision-making, and knowledge application (Anderson & Cox, 2020).

Debriefing

Debriefing is a crucial phase of simulation and is required for any simulation-based activity according to best practice guidelines by the INACSL (Decker et al., 2021). The goal of debriefing is to help students reflect on the simulation scenario, gain insights into their actions, improve the quality of future actions, and assist with the transfer of their active learning into their clinical practice (Decker et al., 2021; Kolbe et al., 2015). This debriefing time must be a mandatory, included as a part of the simulation experience, and is facilitated by the expert overseeing the simulation scenario. It is important students feel supported, and guided in their reflection, and an environment of safety, teamwork, learning, and a trauma-informed approach when necessary is fostered (Harder et al., 2021). It should be completed in a private setting, where students can speak and reflect with their team members in a safe space. The students should be prompted with prepared questions, but their learning and reflection should be allowed to flow from these points (Decker et al., 2021). There are varieties of debriefing tools that can be used to guide the process, however; it is important that the facilitator also be flexible in responding to the unique needs of each learner group (Kolbe et al., 2015l; Decker et al., 2021). When conducted properly, simulation has been demonstrated to be extremely beneficial for nursing students, not only being a learning method, they feel is useful and supports their psychological safety, but positively impacts their clinical decision making and self-efficacy.

Importance and Impact of Simulation for Nursing Students

Numerous studies have been conducted on simulation and its impact on nursing students' self-efficacy, self-confidence, clinical decision making, and critical thinking skills, as well as students' satisfaction and psychological safety (Abdulmodhi & Mcvicar, 2022; Alamarani et al., 2018; BØ et al., 2021; Choi & Um, 2022; Kimzey et al., 2021; Mancini et al., 2019; San et al., 2021)

Clinical Decision-Making

Three studies that used different study designs were reviewed that investigated the impact simulation had on critical thinking/decision-making skills (Abdulmodhi & Mcvicar, 2022; Alamrani et al., 2018; Choi & Um, 2022). Two of these studies (Abdulmodhi & Mevicar, 2022; Choi & Um., 2022) showed statistically significant improvements in nursing students' clinical thinking ($t=-2.06$, $p=.043$) and decision-making ($t=2.97$, $p=0.01$). However, the third study by Alamrani et al. (2018) did not show any statistically significant differences between traditional and simulation education, however, there was a significant improvement in students' critical thinking scores following simulation (pretest: 5.33, post-test: 9.47, $p=<.05$).

Self-Efficacy

Five other studies examined the influence of simulation on nursing students' self-efficacy or self-confidence by utilizing various study designs. These designs include two RCTs (Alamrani et al., 2018; Kocyigit et al., 2022), an uncontrolled before and after (UCBA) (Choi & Um., 2022), cross-sectional descriptive (San et al., 2021), and a quality improvement study (Porembski et al., 2021). These studies all reported an increase in self-efficacy or self-confidence following simulation. Choi & Um's (2022) quasi-experimental pretest/post-test study determined

self-efficacy significantly increased by 0.21 points (t-value=-2.78, p=.007. A cross-sectional study was conducted in Turkey and the United States to investigate nursing students' satisfaction and self-confidence in caring for patients with mental illnesses (San et al., 2021). The authors of this study found that students in both countries reported higher perceived self-confidence following the simulation (US: 4.42 (p=.024) Turkey: 4.23 (p=.009)) (San et al., 2021). However, two RCTs (Alamrani et al., 2018; Kocyigit et al., 2022) did not demonstrate statistically significant increases between control and intervention groups, however, it compared the difference in self-efficacy between traditional teaching methods and simulation (Alamrani et al., 2018) and in repeated or non-repeated simulation (Kocyigit et al., 2022). Both studies did, however, see an increase in self-efficacy before and after simulation. Alamrani et al. (2018) found an increase in self-confidence (1.69 (p=.001) in the experimental group who received simulation. Likewise, Kocyigit et al (2022) saw an increase in self-efficacy of 4.42 (p=.003) in the non-repeated simulation group as well as in the repeated simulation of 6.50 (p=.000).

Student Satisfaction and Psychological Safety

Simulation is not only beneficial to student learning outcomes such as clinical decision-making and self-efficacy, but students also report feeling satisfied with their learning when using simulation as a learning tool (BØ et al., 2021). Four studies investigated student experiences about the use of high-fidelity simulation. The authors of three of these studies found that students were satisfied with simulation as a learning tool (BØ et al., 2021; Kimzey et al., 2021; Mancini et al., 2019). However, authors of the fourth study found that students felt uncertainty, anxiety and a lack of support from faculty during simulation (Park & Kim, 2021). The two mixed methods convergent designs (BØ et al., 2021; Kimzey et al., 2021) demonstrated statistically significant increases in competence and empathetic care. Mancini et al. (2019) completed an

analytic cohort study that revealed no statistically significant differences between students' clinical competence following simulation or traditional clinical hours. A weak design study of moderate quality completed by Park & Kim (2021) uncovered themes related to feelings of psychological safety during simulation. The study only used a single site study with 20 participants, which may have contributed to the outcome. This study is also extremely beneficial as it speaks to the importance of educated facilitators of simulation learning to increase satisfaction and feelings of safety (Park & Kim, 2021). While simulation has been demonstrated to be extremely beneficial to students, there are barriers that can interfere with the ability of simulation to be incorporated into nursing schools.

Barriers to implementing simulation

Several barriers can prevent nursing students from having access to simulation in their nursing program. When barriers prevent student access to simulation, the benefits of simulation to students previously discussed cannot be attained. The barriers that will be focused on in this project can be categorized into two groups: institutional barriers and faculty factor barriers. The institutional barriers include lack of knowledge, unavailability of space, and lack of support. The faculty factor barriers include lack of familiarity, interest, ability, understanding, or openness to this method of learning (Ferguson et al., 2020; Waxman et al., 2019).

Institutional Barriers

Organizational leadership's knowledge and understanding of the time, space, and faculty requirements are some institutional barriers to simulation implementation (Ferguson et al., 2020). Faculty trying to implement simulation need support from administration and faculty course leaders to create space and time for simulations. While there are many barriers at the institutional

level the two discussed will be human resource needs and a lack of financial support for the program (Al-Ghareeb & Cooper, 2016; Ferguson et al., 2020). These barriers will be discussed as they are two that impact implementation of simulation into nursing schools, as well as the continued offering of simulation learning to students when the simulators have been purchased (Adamson, 2010; Akhtar-Danesh et al., 2009; Ferguson et al., 2020; Jansen et al., 2009; Sole et al., 2013).

The initial institutional barrier to address is the financial support behind implementation of simulation learning. Simulators, especially medium and high-fidelity ones, are quite costly. The additional cost of proper room renovations and audio-visual equipment increases the price. Without financial support from the nursing school itself, simulation learning cannot even begin to be implemented for the benefit of the student learning (Adamson, 2010; Sole et al., 2013).Without financial support to purchase proper equipment for simulations, and follow through with the need for continuing funding for updates to equipment, possible purchasing of scenarios, as well as possible renovations for simulation rooms, to follow best standards of practice guidelines, students will not have access to these resources to benefit from simulation learning (Adamson, 2010; Al-Ghareeb & Cooper, 2016; Sole et al., 2013).

The second institutional barrier is that the institutions is not meeting human resource needs for simulation learning experiences. Two qualitative studies conducted by Akhtar-Danesh et al. (2009) and Jansen et al., (2009) investigated nursing faculty perceptions on the implementation of simulation in nursing schools. Factor analysis uncovered major viewpoints of faculty, and that faculty were overall very supportive of simulation. Despite this, faculty highlighted the need for greater human resources as one of the areas needed in order to offer a quality simulation program (Akhtar-Danesh et al., 2009; Jansen et al., (2009). Having sufficient staffing, as well as the

institution's support to providing the adequate staffing for effective student simulation experiences, is essential. Faculty available to create simulation scenarios, set up, facilitate and operate are required in able to allow simulations to take place. Without any of these components the advantages of learning in simulation is not possible (Akhtar-Danesh, 2009; Al-Ghareed & Cooper, 2016; Ferguson et al., 2019). The institutional factors that can be a barrier to simulation implementation are not the only area of focus for barriers. Faculty factors are also a serious challenge that has been uncovered in the literature when implementing simulation (Al-Ghareeb & Cooper, 2016; Ferguson et al., 2019).

Faculty Barriers

Faculty barriers can be faculty members' lack of familiarity, interest, ability, understanding, or openness to this method of learning (Ferguson et al., 2020; Waxman et al., 2019). There are two barriers that prevent faculty members from implementing a simulation orientation program in their settings include an increase in workload and a lack of training regarding best practice guidelines for simulation application. There are other factors that my exist, but this paper will focus on these two as they impair simulation operating to standards that interfere the most with student learning.

The nursing faculty shortage, discussed by Boamah et al. (2021) is impacted by a number of factors. Stressful workplaces with increasing workload are one of those factors discovered in their scoping review. Not only did this review uncover the need for improving the work environment but supporting faculty to have proper mentorship or training for their positions (Boamah et al., 2021). A cross-sectional survey was conducted by Arthur et al. (2011), and found that high workload and appropriately trained personnel to operate and facilitate simulation were the two largest staff-related factors that were constraining simulation implementation. A

survey distributed to a multidisciplinary sample of health care educators by Bray et al. (2009) agreed with these findings as 43% of the participants reported moderate or extreme concern about the increased workload simulation brings (Bray et al., 2009). The faculty are not only concerned with the addition to their workload for conducting the simulations, but for also the time spent receiving the proper training to carry out these simulations.

In order for students to benefit from simulation professionals who are designing, prebriefing, facilitating, operating and debriefing need to be experienced and knowledgeable on simulation best practice guidelines (Jeffries, 2005; Hallmark et al., 2021; McDermott et al., 2021). In order to meet the healthcare simulation standards of best practice on professional judgement, those involved with simulation must participate in professional development in the area of simulation, continuously assess their educational needs and identify gaps in their knowledge (Hallmark et al., 2021; McDermott et al., 2021). For students to benefit from simulation, it must be offered in a consistent and best practice manner, which requires faculty to be willing and supported in furthering their training surrounding simulation best practices. The need for faculty to feel comfortable and confident creating, and facilitating simulations, they must also be supported by their institutions to be properly trained.

A qualitative exploratory study by Miller & Bull (2013) investigated factors that influenced the adopting of simulation by nursing faculty. Three themes emerged from the analysis of the data, and each demonstrated a linkage back to lack of proper training surrounding simulation for faculty. Some participants felt they were thrown into simulation without the proper ability, others found just having the simulators were not enough, they needed to acquire knowledge on how to best use them, and the third group felt it was engaging but they did not have the resources or knowledge on how to even begin to use it for their classes (Miller & Bull, 2013). If faculty do

not feel they have the proper training or get overwhelmed by simulation, they will not offer it to students. Similarly, a mixed-methods study conducted by Davis et al (2013) faculty verbalized viewing simulation as a safe environment for students to practice but increased the anxiety of faculty due to being unsure of how to properly operate or facilitate a simulation. Two barriers to implementation of simulation into nursing schools that are faculty factors would be hesitation to increase workload and feeling inadequately trained for high quality simulation (Hallmark et al., 2021; Miller & Bull; 2013).

While there are barriers to implementing simulation into nursing education programs, both institutional and faculty, it has been demonstrated to be important to navigate these barriers in order to implement simulation. Simulation learning increases self-efficacy, confidence, clinical decision-making skills and are seen as positive learning experiences by students (Abdulmodhi & Mcvicar, 2022; Alamarani et al., 2018; BØ et al., 2021; Choi & Um, 2022; Kimzey et al., 2021; Mancini et al., 2019; San et al., 2021). In order to see these benefits, simulation must be offered following best practice guidelines, to ensure the best outcomes in learning. Prebriefing has been discussed as important to decrease cognitive load, anxiety, and to provide preparation for students (McDermott et al., 2021; Molloy et al., 2021). An important component of this that has not been discussed in the literature is orientation to simulation. Despite the lack of literature on simulation orientation, it is argued that this is important and can provide benefit to students the same way other prebriefing activities demonstrate.

Simulation Orientation for Nursing Students

Orientation is the process of being introduced, familiarized, and giving information to familiarize individuals with an activity or new environment. This process may include presentations, discussions of rules, explaining expectations, and allowing participants to gain an

understanding of how something works (Lioce, 2020; Merriam-Webster, n.d.). In the field of nursing, the most commonly found literature related to simulation and orientation primarily focuses on the utilization of simulation in orientation programs for newly recruited healthcare professionals (Murphy & Janisse, 2017; Ross et al., 2022). In this context, it is not an orientation to simulation; rather, it involves using simulation as the orientation itself. Porembski, et al. (2021) discuss a quality improvement project completed at an undergraduate nursing program for a new simulation orientation program. The goals for their project were to decrease anxiety around the use of simulation and using a simulator to increase the involvement and engagement with students (Porembski, Fletcher & King, 2021). For simulation learning experiences to be a psychologically safe learning environment, it is important that students are comfortable, familiar with what to expect, and feel empowered to learn from the simulated scenario (Anderson & Cox, 2020; Turner & Harder, 2018).

Anderson & Cox (2020) discuss the benefits of an orientation that allows students to become familiarized with simulation mannequin features before their arrival. Reflecting on the discussion by Turner & Harder (2018), this would increase the psychological safety of simulation for the students, which is a key criterion of simulated learning. The ability for students to prepare for and arrive for their simulation already familiar with the actual high-fidelity simulator functioning and environment is hypothesized to allow their focus to be on the objectives and material for their actual scenario. By decreasing the anxiety surrounding the actual simulator, the goal is they will be more able to complete the scenario with increased confidence in the process and focus on their critical thinking, decision-making, and skills (Anderson & Cox, 2020; Ross et al., 2022; Murphy & Janisse, 2017; Turner & Harder, 2018).

Healthcare simulation standards of best practice already discussed include the importance of prebriefing, including preparation (McDermott et al., 2021). Because of the challenge of limited time available in the simulation lab, immediately before a simulation is not always effective for orientation. The purpose of preparation in the form of orientation is to establish a sense of psychological safety for students during simulation. Furthermore, being exposed to and gaining familiarity with what simulation entails enhances these feelings of safety (Kolbe et al., 2015; McDermott et al., 2021; Turner & Harder, 2018). The importance of preparation, prebriefing, and foundational activities was discussed frequently throughout the literature on simulation. Turner and Harder (2018) highlight the importance of an orientation for learners to the physical environment of simulation, as well as having preparation information. An orientation program can ensure students, whenever their first simulation experience will be, can confidently understand what simulation learning is, and what it means to have a scheduled simulation shift and already possess basic interaction abilities of high-fidelity simulators. Any preparation and prebrief would be conducted typically immediately before their simulation experience, but they will have already been orientated to simulators and understand basic rules and expectations, which will increase the psychological safety of the learning environment (Kolbe et al., 2015; McDermott et al., 2021). However, while simulation has been used as orientation to new procedures, or new places of employment, in healthcare, there is a lack of literature regarding an orientation program to simulation learning (Murphy & Janisse, 2017; Ross et al., 2022). While there may be a lack of literature surrounding a specific simulation orientation, a guiding theoretical framework is important to help develop the orientation.

Theoretical Framework

Knowles' (1980, 1990) theory emphasizes that adults view themselves as self-directed and responsible for their own decisions. The orientation program will be designed in a way that allows nursing students to take ownership of their learning and provide them with options and choices within the program. Adult learners have a wealth of experience that should be acknowledged, so students will be encouraged to draw upon their prior experiences, even if limited, and relate them to the simulation scenarios. This could help in making the learning relevant and meaningful. Adults are motivated to learn when they perceive that it will help them solve real-life problems. In this program, I will clearly communicate the practical applications and benefits of the simulation orientation program in their nursing practice. Adult learners are more problem-centered than subject-centered. The simulation scenarios presented in the orientation program will address real-world challenges and nursing situations that students are likely to encounter during their clinical practice (Kaakinen & Arwood, 2009; Knowles, 1990). Recognizing that adults are internally motivated, and that motivation can be influenced by external factors, the orientation program will be engaging and appealing by incorporating elements that help motivate them such as opportunities for self-assessment and skill development (Clapper, 2010). Adult learners need to know why they need to learn something. In the orientation program, I will articulate the learning objectives and the relevance of the simulation program to their future nursing roles. In addition, I will facilitate a learning environment where students are actively involved in the learning process (Clapper, 2010; Knowles, 1990). I will do this by encouraginig group discussions, peer teaching, and problem-solving activities within the simulations. Incorporating these principles from Knowles' (1990) Adult Learning Theory into my simulation orientation program can enhance its effectiveness and make it more engaging and

relevant for first-year nursing students. It emphasizes their role as active participants in their own learning and encourages a focus on practical application in their future nursing careers.

Conclusion

The use of simulation in undergraduate nursing programs is expanding and developing as a result of numerous factors discussed throughout this literature review. Nineteen studies were reviewed and assessed for quality and results were compared and synthesised. A literature review was completed to support the use of simulation in an undergraduate nursing Bachelor of Science in nursing programs. Definitions for keywords used for simulation were discussed, and the history of simulation in general, as well as in nursing education was then reviewed. Orientation programs to simulation learning were not uncovered in the literature, however the benefits of orientation to protect student psychological safety, and benefits of orientations in general were discussed. The literature uncovered the need for further investigation to be done on the topic of simulation orientation programs and the aim of developing an orientation program will incorporate other forms of information gathering such as consultations and environmental scans. Any orientation program developed will use the guiding theoretical framework off Knowles' (1980;1990) adult learning theory, and best practice guidelines.

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Appendix B: Literature Summary Tables

Study/Design/ Purpose	Sample/Methods	Key Results	Comments
Authors: Abdulmohdi & Mcvicar., (2022). **Design:** Mixed Methods Convergent design **Purpose:** To investigate the impact of high-fidelity simulation on nursing students' clinical decision-making	N: 23 third year pre-registration nursing students in a BSc program **Country/setting**: England -Pretest/postest conducted before/after simulation on: Clinical reasoning and decision making processes **Data collection and outcomes:** Quant: Health science reasoning test (HSRT), 33 questions, Cronbach's α = 0.79 Qual: Concurrent think aloud and observation during simulation. Analysis: Pearson product-moment correlation analysis (r): to assess bivariate correlations between HSRT scores and clinical decision making processes identified in content analysis of data	**HSRT:** • Increase in mean of overall score • Pre-test: 18.49 • Post-test: 20.52 • p= 0.01 • Statistically significant improvement in scores for deduction and analysis. • Significant positive relationship between backward reasoning and post-simulation HSRT deduction score (p=0.04) and analysis score (p=0.02)	**Strength of Design**: Weak **Quality**: Medium Issues: • Participants from single cohort of nursing students in only one university • Small sample size • Lack of a control group • Limited generalizability of results • Risk familiarity bias due to short period of time between pre and post test

Study/Design/ Purpose	Sample/Methods	Key Results	Comments
Authors: Alamrani et al., (2018) Design: RCT Purpose: To compare the effects of simulation-based and traditional teaching methods on the critical thinking and self-confidence of students.	N: 30 eighth-level undergraduate nursing students from the College of Nursing **Country/setting**: Saudi Arabia -Pretest/post-test design used before and after ECG interpretation course taught using simulation or traditional teaching methods. Data collection and outcomes: **Critical Thinking:** 15 items, multiple choice questionnaire. Approved for face validity, and item-level content validity (scale-level content validity index was 0.95). **Self-Confidence:** five-item C-Scale, responses used a 5-point Likert scale, concurrent validity supported by administration of two additional instruments of confidence, Good reliability, Cronbach's α = .85 Analysis: paired t-test and Wilcoxon signed-rank test, as well as independent t-test and Mann-Whitney U tests	**Critical Thinking** Control Group: • Pretest: 5.47 • Post-Test: 11.00 • P=0.001 Experimental Group • Pretest: 5.33 • Post-test: 9.47 • P=<.05 **Self-Confidence** Control Group: • Pretest: 1.99 • Post-test: 3.80 • P=0.001 Experimental Group: • Pretest: 2.20 • Post-test: 3.89 • P=0.001 There were no significant differences between control and experimental groups in either self-confidence or critical thinking between control and experimental groups for either.	**Strength of Design:** Strong **Quality**: Medium Issues: • Small sample size limited statistical power. • Lacks generalizability: all participants from single college, gender and one nationality.

Study/Design/ Purpose	Sample/Methods	Key Results	Comments
Authors: Kocyigit, et al., (2022). Design: RCT Purpose: To define effects of scenario-based high fidelity and repeated simulation methods on the medical error tendency, self-efficacy, and state anxiety levels of nursing students.	N: 80 second grade nursing students Country/setting: Sivas Cumhuriyet University, Turkey - Pretest/post-test design with control group Data collection and outcomes: **Self-Efficacy Scale:** 23 five point Likert-type scale, developed by Sherer and Maddux in 1982 and adapted to Turkish by Gozum and Aksayan in 1999. **State Anxiety Inventory:** 20 items, developed by Spielberger et al **Chronic Lymphocytic Leukemia Patient Scenario Skill Assessment and The Medical Error Situation Evaluation Checklist:** 50 item checklist developed by the researchers based on items of the Medical Error Tendency Scale in Nursing. Analysis: Student t-Test, Mann Whitney U test, Wilcoxon Marked Rank test, Paired Sample t-test, Chi-Square test, Kruskal Wallis H Tests and Chronbach Alfa analysis	**Self-Efficacy:** Non-Repeated Simulation Group: Pretest 86.78 Post-test 91.20 (p=.003) Repeated Simulation Group: Pretest 90.33 Post-test 96.83 (p=.000) No statistically significant difference between non-repeated and repeated simulation groups. Both groups significantly increased levels of self-efficacy between pre and posttests. **State Anxiety:** Non-Repeated Simulation Group: Pretest 39.00 Post-test 41.60 Repeated Simulation Group: Pretest 38.13 Post-Test 42.93 (p=.000) No statistical differences found between groups, or between pretest/post-test for non-repeated. Significant difference between pre and posttest for repeated simulation group ($p<0.05$) **Medical Error Tenancy:** No statistically significant differences between groups. Statistically significant difference between pre and post-test scores for repeated simulation group (z=3.924, p=.000)	**Strength of Design**: Strong **Quality**: Weak Issues: • Does not discuss if students were assigned randomly or not to control/experimental group • Does not discuss validity or reliability of tools used • Lacks generalizability (one group, in one school) • Does not discuss limitations, or possible conflict of interests.

Study/Design/ Purpose	Sample/Methods	Key Results	Comments
Authors: BØ, et al., (2021). Design: Mixed Methods Convergent Design Purpose: To explore nursing students' experience with simulation as a mode of learning.	N: 99 nursing students (53 third-year students from Tanzania, 46 first-year students from Madagascar) Country/setting: Tanzania and Madagascar -Simulation sessions, followed by data collection took place, Quantitative and qualitative methods used. Data collection and outcomes: **Simulation Design:** Simulation Design scale, 20 items, measures students' views of design elements of simulation and their importance. **Educational Practices:** Educational Practices Questionnaire, 16 items, assesses students' views of educational practices in simulation and their importance. **Student Satisfaction and Self-Confidence:** Student Satisfaction and Self-Confidence in Learning Scale, 12 items, 5 point-Likert-type rating, measures satisfaction with the current learning and self confidence in learning. **Qualitative:** Semi-structured focus Group Interviews (FGIs), Analysis: Quantitative: non-parametric tests carried out. Qualitative: analysis using Graneheim and Lundman's content analysis.	**Quantitative:** Simulation Design: • Students rated simulation design elements were presented well during simulation. Satisfaction and Self-Confidence: • Students were very satisfied and achieved self-confidence in learning during simulation **Qualitative:** Reported: • Increased competence • Strengthened confidence • Recognizing importance of being prepared • Understanding importance of being active participants • Desire to learn • Wanting to know what they could improve	**Strength of Design**: Moderate **Quality**: Low Issues: • Questionnaire's first time used in low-resource setting • No reported reliability for tests • Researcher's did not speak local language, used local participants to translate • Western researchers could alter responses from students. • Lack of generalizability of findings

Study/Design/ Purpose	Sample/Methods	Key Results	Comments
Authors: Kimzey, et al., (2021) Design: Mixed Methods Convergent Design Purpose: To test the effectiveness of a simulation teaching strategy to improve dementia knowledge and empathy of baccalaureate nursing students	N: 55 undergraduate nursing students enrolled in the Behavioral Health course Country/setting: School of nursing (country not reported) -Pretest/posttest conducted before/after simulation on: Dementia knowledge and empathy Data collection and outcomes: **Dementia Knowledge:** Dementia Knowledge Assessment Tool Version 2 (DKAT2), 21 items, Cronbach's α=0.79 **Empathy:** Comprehensive State Empathy Scale (CSES), 30 item Likert scale, Cronbach's α=0.96 **Quantitative:** Collected via pen/paper, immediately prior to and after simulation, focus groups of 6-8 students, semi-structured interview, and audio recorded, transcribed and verified for accuracy. Analysis: **Qualitative:** Multiple paired t-tests **Qualitative:** Thematic analysis, data coded independently by one co-investigator and an additional researcher with extensive qualitative research experience.	**Dementia Knowledge:** No sig differences (t(54)=0.91, p=0.369) **Empathy:** Sig differences (t(54)=-8.26, p<0.001) **Qualitative:** **Four themes** 1.Cognitive Empathy 2.Distress 3.Empathic imagination 4.Helping motivation	**Strength of Design:** Moderate **Quality**: Medium Issues: • Quasi-experimental design, unable to control for confounding variables such as other impacts on students' knowledge. • Lack of generalizability of results due to one site in one country with one group of students.

Study/Design/ Purpose	Sample/Methods	Key Results	Comments
Authors: Choi, & Um., (2022) Design: UCBA Purpose: To examine the effect of simulation-based learning on students' communication skills, self-efficacy, and critical thinking propensity.	N: 69 fourth-year students of Department of Nursing Country/setting: South Korea -Pretest/posttest conducted before/after simulation on: communication skills, self-efficacy, and critical thinking Data collection and outcomes: **Communication**: Health Communication Assessment Tool (HCAT), 15 questions, Cronbach's α = 0.64. **Self-Efficacy**: Tool developed by Larson & Daniels (1998), 37 items, Cronbach's α=0.93 **Critical Thinking Propensity**: Tool developed by Yoon (2008), 27 items, Cronbach's α=0.93 Analysis: Paired t-test, and Pearson's correlation coefficient	**Communication Skills:** • Pretest: 3.64 • Posttest: 4.44 • Difference: 0.79 • p<0.001 **Self-Efficacy:** • Pretest: 3.09 • Post-test: 3.31 • Difference: 0.22 • p=.007 **Critical Thinking Propensity:** • Pretest: 3.62 • Post-test: 3.79 • Difference: -0.16 • p=.043	**Strength of Design:** Weak **Quality**: Medium Issues: • Quasi-experimental design, unable to control for confounding variables such as other influences on student's nursing competencies. • Lack of generalizability of results due to only using one group of students in one region.

Study/Design/ Purpose	Sample/Methods	Key Results	Comments
Authors: Mancini, et al., (2019). Design: Analytic Cohort study Purpose: To investigate the impact of simulation on clinical competence compared to traditional clinical instruction	N: 586 nursing students at two community college programs (AND degrees) and two university programs (BSN degrees) Control=271 Intervention=315 Country/setting: Texas, USA -Prospective cohort study across four prelicensure nursing programs. Control Group: Traditional clinical Intervention cohort A: Simulation, followed by assessment Intervention cohort B: Simulations, traditional clinical, followed by assessment. Data collection and outcomes: **Clinical Competence:** Creighton Competency Evaluation Instrument (CCEI), reported high levels of content validity, internal consistency, and interrater reliability. (internal consistency coefficients: Med-Surg 0.79, OBS 0.68, Peds 0.76, Psych 0.66 & Capstone 0.88 Analysis: Mann-Whitney U tests, Pearson chi-square tests	**Clinical Competence:** **Med Surg** (p<.001) • Group A higher than control • No differences between A and B or B and control **OBS** (p<.001) • Group B higher than control or Group A • No differences between A and control **Capstone** (p<.001) • Control group higher than A or B • No differences between A and B **Psychiatric** (p=.11) • No differences between groups	**Strength of Design**: Moderate **Quality**: Medium Issues: • Lack of fully randomized clinical trial • Only one State, therefore may lack generalizability • Missing CCEI data due to technical problems

Study/Design/ Purpose	Sample/ Methods	Key Results	Comments
Authors: San, et al., (2021) **Design:** Cross sectional Descriptive Purpose: To evaluate the use of two diverse mental health simulation scenarios on nursing students' satisfaction and self-confidence in learning to care for patients with mental health disorders in the US and Turkey	N: United States=70 Turkey = 90 Country/setting: US and Turkey Data collection and outcomes: **National League for Nursing SSSL scale**, Likert-style scale, Cronbach's α = 0.84-0.97, high reliability (0.85) **Adapted Simulation Effectiveness Tool-Modified (SET-M)** 19 item, 3-point evaluation scale, high internal reliability score (α=.936) Analysis: Analyzed statistically using descriptive statistics and independent t-tests (p<.05 used for analysis)	**SSSL** • Satisfaction with current learning: US 4.55 (p=.008) Turkey: 4.32 (p=.008) • Self confidence in learning: US 4.42 (p=.024) Turkey 4.23 (p=.024) • Overall student satisfaction: US 4.27 (p=.009) Turkey: 4.49 (p=.009) • Both student groups were highly satisfied with intervention • Students in US reported higher perceived self-confidence and satisfaction in learning	**Strength of Design:** Moderate **Quality**: Medium Issues: • Convenience sampling used • Lack of control group • Did not report all results

Study/Design/ Purpose	Sample/ Methods	Key Results	Comments
Authors: Arthur, et al., 2011 **Design:** Cross sectional Descriptive Purpose: To examine the current use of human patient simulation manikins (HPSMs) and information communication technology (ICT) in clinical laboratories and the pedagogical principles underpinning their use.	N: 24 nursing schools Country/setting: Australia Nursing schools Data collection and outcomes: Cross-sectional survey, web-based, lit review and expert panel developed. 98 questions: -school size/infrastructure, staffing of clinical laboratories and staff roles -types and levels of simulation used -pedagogical principles and practices -use of simulation for assessment -use of ICT in clinical laboratories -evaluation and research Analysis: - Data transferred to Excel, for analysis. - Text responses analyzed thematically	**Clinical Laboratory Facilities:** Students: 170-5100 enrolled at each school mean=1137 Campuses: 1-5. Median 3.5 Clinical Laboratories available per school 2-16 Laboratory size: 4-30 beds. Mediam=6 Class size: 12-30. Median=20 **Types of HPSM used:** **Of 22 schools:** Part task trainers: 91% Low-fidelity: 95% Medium-fidelity: 86% High-fidelelity: 45% **Clinical Lab staffing:** Some full-time staff in clinical lab: 83% Some casual staff in clinical lab: 75% All causal staff in clinical lab: 17%	**Strength of Design:** Weak **Quality**: Low Issues: • No information give on survey, or attempt made to discuss validity • No evidence of appropriate analysis • No discussion of limitations

Study/Design/ Purpose	Sample/ Methods	Key Results	Comments
Authors: Park & Kim, 2021 Design: Cross Sectional Qualitative Purpose: To investigate how nursing students experience psychological safety and psychological risks while in the process of adapting to simulation education.	N: 20 nursing students (13 third grade at University A, 7 in fourth grade at University B) Country/setting: Gyeonggi-do, South Korea Data collection and outcomes: • Focus group interviews (four groups, with 3-7 people) • Recorded interview transcribed Analysis: Thematic analysis uncovered four themes and eight subthemes	Themes: 1. Dealing with uncertainty a. State of being thrown into an unfamiliar academic environment b. Anxiety resulting learning results 2. Feeling disrespected a. Being unsupported b. Being intimidated 3. Dangers of team dynamics a. Prudence in relations within a group b. Concerns regarding contribution within a group 4. Being exposed a. Being bothered by exposure of incompleteness b. Being conscious of being graded	**Strength of Design:** Weak **Quality**: Medium Issues: • Used convenience sampling • Lack of generalizability due to two sites in one city

Study/Design/ Purpose	Sample/ Methods	Key Results	Comments
Authors: Arthur, et al., 2011 **Design:** Cross sectional Descriptive Purpose: To examine the current use of human patient simulation manikins (HPSMs) and information communication technology (ICT) in clinical laboratories and the pedagogical principles underpinning their use.	N: 24 nursing schools Country/setting: Australia Nursing schools Data collection and outcomes: Cross-sectional survey, web-based, lit review and expert panel developed. 98 questions: -school size/infrastructure, staffing of clinical laboratories and staff roles -types and levels of simulation used -pedagogical principles and practices -use of simulation for assessment -use of ICT in clinical laboratories -evaluation and research Analysis: - Data transferred to Excel, for analysis. - Text responses analyzed thematically	**Clinical Laboratory Facilities:** Students: 170-5100 enrolled at each school mean=1137 Campuses: 1-5. Median 3.5 Clinical Laboratories available per school 2-16 Laboratory size: 4-30 beds. Mediam=6 Class size: 12-30. Median=20 **Types of HPSM used:** **Of 22 schools:** Part task trainers: 91% Low-fidelity: 95% Medium-fidelity: 86% High-fidelelity: 45% **Clinical Lab staffing:** Some full-time staff in clinical lab: 83% Some casual staff in clinical lab: 75% All causal staff in clinical lab: 17%	**Strength of Design:** Weak **Quality**: Low Issues: • No information give on survey, or attempt made to discuss validity • No evidence of appropriate analysis • No discussion of limitations • Convenience sample

Study/Design/ Purpose	Sample/ Methods	Key Results	Comments
Authors: Bray et al., 2009 Design: Cross Sectional Quantitative Purpose: To survey university health sciences faculty and nonuniversity health care providers and educators across a variety of disciplines to understand their attitudes towards integration of human patient simulation (HPS) technology into curricula.	N: 45 Country/setting: United States, faculty from urban campuses of two state universities, one private university and two local community colleges and health care educators/providers from local medical centers and ambulatory care clinics. Data collection and outcomes: Survey items developed on basis of content validity protocols. 3 point response rate scale used (enhancement) 4-point response scaled (concern). Several open-ended questions Analysis: Quantitative data analyzed and reported as proportions. Bivariate relationships among respondent demongraphics and responses analyzed with chi-square. All bivariate analyses used a type I error rate of $p<.05$. Analysis were conducted with SPSS 15.0	**Univariate Analysis:** - Role for HPS technology: 73% Strongly agree, 22% agreed, 4% strongly disagreed. - Major concern about high cost (89%) and inadequacy of training (56) for faculty to learn to use - 43% moderate-extreme concerns re: workload **Bivariate Analysis:** - HPS too unrealistic to transfer to actual clinical practice? 67% university faculty completely unconcerned at 63% nonuniversitiy community mild concern ($p=.009$) - Age range 30-59 greatest concern (40-42% of respondents) that inadequate faculty training would be barrier ($p=.037$). Younger than 30 or older than 59 had no or mild concern (67-75%)	**Strength of Design:** Weak **Quality**: Medium Issues: • No discussion of limitations • Study population majority (60%) university and college faculty) • Did not share content validity

Study/Design/ Purpose	Sample/ Methods	Key Results	Comments
Authors: Porembski, et al., (2021). Design: Quality Improvement Project Purpose: To reduce simulation-related anxiety and stress, and building confidence in nursing students.	N: 145 nursing students (traditional orientation=67, active orientation (treatment)=78) Country/setting: Ohio, USA Data collection and outcomes: Survey, 18 questions, language used from the Speilberg State-Trait Anxiety Inventory and the General Self-Efficacy Scale, 15 four point Likert-style scale questions, and 3 open ended questions (both survey's they adapted from have acceptable validity and reliability). Analysis: Qualitative (open ended) questions analyzed by sorting like data, and exposing themes. Fisher's exact test, nondirectional was used for quantitative survey data.	**Quantitative**: • One positive association with the traditional group: "I am usually able to handle it no matter what comes my way during simulation" (p=.016) • No significant differences in anxiety or stress levels between two groups. • Several items where averages were higher in the treatments vs. control group, but not statistically significant **Qualitative**: • Three themes: o Wanting an active role without being an observer o Changing roles to maximize learning o More role preparation and skill practice	**Strength of Design:** Unknown **Quality**: Medium Issues: • Validity and reliability of survey not reported • Small sample size • Lack of generalizability due to only one site and small sample

Study/Design/ Purpose	Sample/ Methods	Key Results	Comments
Authors: Adamson, 2010 Design: Cross Sectional Descriptive Qualitative & Quant (MM) Purpose: To explore the current human patient simulation (HPS) resources purchased by select associate degree nursing programs in a Western states as well as the use of these resources by nursing faculty.	N: 11 Nursing schools in selected Western state. 4 Deans. 24 faculty members. Country/setting: United States Data collection and outcomes: Two surveys. One for Dean/director. One for faculty at the institutions that agreed to participate. Analysis: Descriptive statistics used to assess baseline data. Investigator reviewed data for common threads/patterns. Qualitative data organized according to notable themes and concepts. Content analysis.	**Deans/Directors:** • Hours of simulation used 0-4hrs/week • No relationship between amount of money spent on simulation equipment and training vs. number of hours equipment used. • Money spent on simulation equipment $51,000-300,000. **Nursing Faculty:** • Time as educator <1yr-27yrs. • Have used simulation in their courses: 71% • Have no used simulation: 29% • Barriers: learning to use technology, designing scenarious, time-consuming, lack of support • Facilitators: more training, faculty support, support of administration, time to implement.	**Strength of Design:** Weak **Quality**: Medium Issues: • Limited generalizability due to one state • No test of validity • Doesn't report researcher/interpretation done by same or different person • Low response rate (40.7% deads, 31.6% faculty) • Non-random, self-selected

Study/Design/ Purpose	Sample/ Methods	Key Results	Comments
Authors: Sole et al., 2013 **Design:** Cross sectional Descriptive Purpose: To identify the simulation resources at schools of nursing and hospitals.	N: 185 Country/setting: United States Data collection and outcomes: - Online survey, developed by research team, consisting of an experienced researcher, and a doctoral candidate. All items reviewed for validity. Analysis: - 33 items, tailored to individual outcomes. - No specification for how data was analyzed.	**Substitution of Clinical Time:** • 56.8% of schools • Average substitution was 5.1% of clinical hours **Types of Simulation Equipment Available:** • Low fidelity: 80% • Medium/High: 55% • Virtual Reality: 13.5% • Haptic Systems: 25.9% • Less populated regions reported lowest availability of equipment **Coordination, Staffing, and training:** • Simulation coordinators employed: 26.3% **Technical/Support Personnel:** • Support personnel: 13.5% **Simulation Space:** • Space designated for simulation (41.8%) • Space for debriefing (44.4%)	**Strength of Design:** Weak **Quality**: Medium Issues: • No information for how content analysis occurred • Response rate 54.5% • Lack of generalizability of findings • Doesn't discuss limitations clearly

Appendix C: Environmental Scan Report

Background

Simulation is discussed consistently as a learning process that involves the ability to practice problem solving and skills in situations that are created to replicate real-life situations to allow the participants to apply what they have learned without the risk of harm to others (Manain, Leflore & Cipher, 2019; Park & Kim, 2021). The use of simulation in nursing education is growing rapidly due to its demonstrated effectiveness in enhancing the learning outcomes of nursing students (Akselbo & Aune, 2023; World Health Organization (WHO), 2018). Numerous studies have shown that the use of simulation has a positive impact on nursing students' self-efficacy, self-confidence, clinical decision making, critical thinking skills, satisfaction and psychological safety (Abdulmodhi & Mcvicar, 2022; Alamarani et al., 2018; BØ et al., 2021; Choi & Um, 2022; Kimzey et al., 2021; Mancini et al., 2019; San et al., 2021) To ensure the effectiveness of simulations, it's crucial to adhere to their multiple components. These components include prebriefing, facilitation, and debriefing. Prebriefing is an important component of simulation and part of healthcare simulation standards of best practice (INACSL Standards Committee, et al., 2021).

Participating in simulation orientation is essential and can have positive effects on nursing students' learning experiences. For simulation learning experiences to be a psychologically safe learning environment, it is important that students are comfortable, familiar with what to expect, and feel empowered to learn from the simulated scenario (Anderson & Cox, 2020; Turner & Harder, 2018).

In the literature, the discussion on simulation and orientation primarily centered on utilizing simulation as an orientation method for newly recruited healthcare professionals (Murphy & Janisse, 2017; Ross et al., 2022). However, a gap was identified in the literature

regarding the utilization of simulation orientations for nursing students before their first simulation class. To address this gap, an environmental scan was conducted to explore existing simulation orientations at institutions across Canada and the United States. The insights gained from this scan have been instrumental in identifying key details for the development of my simulation orientation project.

Specific Objectives for the Environmental Scan

There were five objectives developed for the environmental scan:

1. Explore all BScN or BN programs across Atlantic Canada, and one program in each of Ontario, Manitoba, and Alberta for simulation orientation programs.
2. Identify if there are any simulation orientation resources at any of the sites contacted.
3. Examine any problems sites have experienced with simulation orientation programs.
4. Determine any strengths other simulation orientations, if any, have experienced.
5. Analyze collected information on simulation programs to aid in the development of my project.

Sample & Methods

For my environmental scan, I used two methods of data collection. I searched the internet, specifically using the Google search engine and scanning the HealthySimulation.com website, and I contacted eight simulation coordinators in various nursing schools across Canada by sending emails to inquire about the presence of simulation orientation programs (email can be found in Appendix A).

Data Collection

Data collection involved an internet search and contacting nursing school simulation coordinators. The internet search utilized the Google search engine and HealthySimulation.com website. Simulation coordinators in different nursing schools across Canada were emailed to retrieve information on any simulation orientation programs. During data collection I gathered information on the content and method of delivery of any simulation orientation programs.

Internet Search

Google search engine was used to explore simulation orientation resources in North America. Healthysimulation.com website was also used to search for any simulation orientation resources. Key search terms used on both websites were *"orientation," "nursing simulation orientation" and "simulation orientation."* Google search engine was used because of its speed and large index of sites. Healthysimulation.com was chosen as it is one of the world's largest healthcare simulation resource websites.

Nursing School Consultations

Emails were sent to simulation coordinators at eight accredited nursing schools located in eastern, central and western Canada. The purpose of connecting with these schools was to determine if other sites use a simulation orientation, and if so, what resources they have available that could be beneficial to the development of a simulation orientation. These simulation coordinators were selected because they are directly involved in coordinating simulation programs at the undergraduate level across Canada.

The scan began with reviewing a list of accredited nursing schools across Canada. The national accrediting body in Canada is the Canadian Association of Schools of Nursing (CASN),

and they have a list of accredited programs throughout the country arranged by province or territory. Eight nursing programs in total were chosen, and I then completed a search of each nursing program website to locate an appropriate contact.

Nursing schools who were willing to participate and had an orientation program were asked a number of questions, which can be found in Appendix B. The responses obtained, along with any identified information from the orientation program, were organized into a table using Microsoft Word. Findings and shared resources were saved on my computer in a password-protected document.

Data Management and Analysis

The identified six resources underwent analysis, comparison, and summarization using basic content analysis (Bengtsson, 2016) within Microsoft Word tables. Data collected from Google and healthysimulation.com searches were organized in table format, including details on content, duration, brief evaluation, and identified limitations (Appendix C). Common themes in orientation resources were identified through content analysis, crucial for simulation orientation program development.

Additionally, data collected from Nursing School Consultations included only one orientation resource—the PowerPoint presentation. Information from the slides was input into a Microsoft Word table (Appendix D), detailing school name, location, provision of simulation information, type and length of orientation, content overview, resource evaluation, and additional comments. The simulation orientation resources that were identified were examined and organized by compiling information about each resource into a table in Microsoft Word.

Results

Combining the internet search and nursing school consultations there were a total of six-simulation orientation resources located and analyzed using content analysis (Bengtsson, 2016). Five of these orientations were found using the internet and one was located by emailing nursing schools across Canada.

Internet Search

There were five simulation orientation results retrieved from the search on the internet. Two of these orientation resources were found by searching the healthysimulation.com website, and the remaining three were found using the Google search engine.

Healthysimulation.com Website

A website search on healthysimulation.com uncovered two resources related to simulation orientation. These resources were from two different organizations, and both were YouTube videos. The first video was from St. Mary Medical Center in Pennsylvania in the United States of America (USA) (SMMC Unofficial Medical Staff, 2016). This video is shown prior to every simulation as a part of the prebriefing phase as opposed to a separately scheduled orientation. The video included the basic assumptions of simulation, a brief introduction to what simulation is, a short visual tour around the simulation lab environment, a discussion on what information they may receive about the scenarios, and finally that a debriefing session will follow. This video is available free on YouTube (SMMC Unofficial Medical Staff, 2016).

The second resource located in the website scan on healthysimulation.com was from the British Columbia Institute of Technology: School of Health Sciences in British Columbia, Canada (BCITMediaProduction, 2015). This video discusses how students need to prepare and

arrive for their simulation shift and provides a brief overview of simulator capabilities and equipment in the simulation lab. While labelled as an orientation tool, it seems more like a selling tool for the use of simulation, referring to the benefit of simulation for students and their ability to practice skills and critical thinking. It is very short, and while it makes some good points that could be applied to a simulation orientation, it is not detailed enough or focused on an actual orientation to simulation. This resource is available free on YouTube (BCITMediaProduction, 2015).

After analyzing this video from St. Mary Medical Center and British Columbia Institute of Technology, the content was summarized and broken down into the main themes the content covered; this was put into a table format in Microsoft word (Appendix E). The analysis of both YouTube videos from St. Mary Medical Center and British Columbia Institute of Technology revealed nearly identical themes. Specifically, both videos emphasize the ***introduction to the simulation lab environment*** and the ***presentation of the basic assumptions of simulated learning.***

Google Search

Three orientation resources were located by using the Google search engine. One of these resources was a YouTube video, the second was a video embedded on the nursing school website, and the third was a PowerPoint presentation. These three results were from three separate organizations. The first YouTube video located using Google was from LA Harbor College in California, USA (LAHCNursing, 2009). This video was the longest orientation resource located, at 8 minutes 45 seconds. It was a thorough orientation to the simulation lab itself. It did not contain any introduction to rules of simulation learning, or expectations. The video was thorough in showing the simulation lab, where supplies are located, what the

simulation nursing station can be used for, and brief explanation on the abilities of mannequins (LAHCNursing, 2009).

The second video is embedded on the nursing school's website as an orientation to the simulation lab for Grossmont College in California, USA (Grossmont College, n.d.). This video is a 3-minute video that begins by providing a brief orientation to what simulation is and shows a participant completing a brief simulation. This video allows students to see what it looks like to interact with and care for a simulator. It does not discuss rules of simulation, expectations, or provide an orientation to the simulation lab itself. It is unclear if the video orientation was meant to be longer, the video states it should be 6 minutes 8 seconds, but cuts out just after 3 minutes (Grossmont College, n.d.).

I performed content analysis on the two orientation videos that were located during the google search (Bengtsson, 2016). I watched the videos and took notes on the content which I put in a table in Microsoft Word. The meaning units were then condensed, and then the main theme from the videos were determined. The main theme in the video from LA Harbor College and Grossmont College was ***introduction to the simulation lab environment***.

The final resource located using a Google search was a PowerPoint by Rhode Island College School of Nursing in Rhode Island, USA. This PowerPoint presentation consisted of 11 slides. It provided definitions of key terms that participants can be aware of, a basic explanation of simulation, simulation lab set up, how participants will receive report and that simulation is a safe learning environment. It also concludes with an embedded video of their simulation lab. This method is efficient, and allows students to receive the same message, no matter who is presenting it. It is very brief, and while this may ensure to keep students' attention, it only briefly mentions some important key points. Because it is, only the slides from the PowerPoint, the

presenter may be going into more details of the important aspects of simulation orientation. It is possible this PowerPoint is a part of every prebriefing, given the brief nature of the slides. Greater detail would be needed on simulation overall if the intended audience had never been exposed to simulation learning (Sadlon, 2020).

After performing content analysis on this PowerPoint orientation there were four main themes found in the material covered. These themes were identified as ***an explanation of simulation in relation to student learning***, ***introducing the idea of the basic assumptions of simulated learning***, as well as ***enhancing student simulation experiences by following best practice guidelines.*** The theme of an ***introduction to the simulation lab environment*** was uncovered in this PowerPoint presentation from Rhode Island College School of Nursing which was also found in the videos by Grossmont College and LA Harbor College.

Nursing School Consultations

Emails were sent to eight nursing programs, and only two nursing schools responded that they did have a simulation orientation program. These two positive responses received regarding having an orientation program were from Cape Breton University and Dalhousie University. Unfortunately, there was no response to the follow up email sent to Dalhousie University so specific orientation information was only received from Cape Breton University in New Brunswick.

The positive response from Cape Breton University was uncovered, after they initially did not believe they had an orientation. They first reported that they do not have a formal orientation program but that they do use a PowerPoint presentation prior to the beginning of the early simulation shifts (Cape Breton University School of Nursing, n.d.). This is a form of

orientation to the simulation environment and therefore was included as a positive response. This participant was able to provide the PowerPoint that they use, which I was able to review. The content covers introduction to simulation, including what it is, standards of best practice, as well as pros and cons to simulation learning. It explains the main components of simulation, as well as an overview of how a simulation shift will unfold. The PowerPoint concludes with important skills they need to know such as calculation of IV rates and IV fluids (Cape Breton University School of Nursing, n.d.). While there are aspects of this that may not need to be included in the development of a simulation orientation at the Centre for Nursing Studies (CNS), it is an invaluable resource to have accessed.

Following content analysis of the PowerPoint slides, it was uncovered that the material covered the same four main themes as the PowerPoint by Rhode Island College School of Nursing. The themes that emerged were ***an explanation of simulation in relation to student learning,*** an ***introduction to the simulation lab environment, introducing the idea of the basic assumptions of simulated learning,*** and ***enhancing student simulation experiences by following best practice guidelines.***

The second positive response regarding having a simulation orientation was from Dalhousie University in Halifax, Nova Scotia. They reported that they have an orientation program that they provide to students. They stated in their email response that they are not an accredited simulation program, however, and therefore were not able to help any further. I responded to this email to clarify that accreditation as a simulation center was not required, and that I would love to speak further about their orientation. No further response was received, therefore I coded this as a yes response, but no orientation program information was obtained.

Method of Delivery

There were only two main methods of delivery for the orientations to simulation uncovered in my environmental scan. Out of six resources that were analyzed, four were videos and two were PowerPoint presentations. It is important to take into consideration that orientations uncovered online through website scans and Google searches would be more likely to be videos or PowerPoint in format.

Video format was the most common method of delivery for the simulation orientations that were located in the environmental scan. There was no statement that specified if the videos were posted for students to watch on their own time, shown to them in-person or both. The literature suggests that a hybrid method of delivery is recommended. A hybrid method means having the video shown in person, as well as allowing students online access, and it gives students the ability to view the video and participate in person but also be able to review the video in their own time as well (Ross, & Dunker, 2019; Vanek et al., 2022; Yopp, et al., 2022). Three of these videos were accessible on YouTube, and one was embedded in Grossmont College's website. Two of the videos presented explanations of simulation rules, and showed areas of the simulation lab, mannequins, and supplies. One video only gave a very thorough video of a simulation lab, showing supplies, mannequins, nursing station and supply rooms. The final video provided a small verbal introduction and then a video of a brief sample simulation scenario unfolding.

Two organizations utilized PowerPoint slides for their simulation learning orientation. The first, from Rhode Island College School of Nursing, did not feature a voice-over, making it unclear whether it was intended for in-person or virtual presentation to students. This presentation did, however, contain an embedded video at the end with an unstable link for a tour

of the simulation lab video. The other slides were received through email correspondence and were confirmed to be presented in person prior to their simulation prior to students' first few simulations during the briefing phase of simulation.

Video orientation combined with in-person simulation lab orientation would be considered a hybrid model (Ross, & Dunker, 2019; Vanek et al., 2022; Yopp, et al., 2022). As Knowles (1980; 1990) theory of andragogy supports, adults do not prefer traditional lecture style learning. By showing a video, and then providing them with hands-on experience in a simulation lab, they would have control over their own learning. They would also be able to access the video orientation on their own time to review prior to future simulations if they desired. Given that video was the predominant delivery method observed; it will be taken into consideration in the development of this orientation program based on being supported by andragogy and the use of the simulation orientation program at the CNS working with adult learners. The consultations completed will be the additional factor that is considered when developing this simulation orientation program.

Limitations of Methods of Delivery

Through reviewing resources obtained in the environmental scan, some limitations were identified. As a result of being unable to obtain full information for how most resources were presented, it is difficult to know for sure what limitations applied to each resource. Despite this, identifying limitations of each method is important in the development of the simulation orientation program.

Face to face orientation being offered has the limitation of requiring students to be in person at the facility, when this may be difficult for both student and facilitator availability. In

following the theory of andragogy, adults prefer being active participants in their learning (Knowles, 1980; 1990). Face to face orientation, while traditional may not engage adult learners, which would be a limitation to a PowerPoint presentation. (Ross & Dunker, 2019).

Using video only methods of orientation have limitations based on student access to technology, engagement, participation and lack of group involvement (Vanek et al., 2022). If posting a video online and encouraging students to view the video, how much attention they pay to the video cannot be verified. Similarly, by having access to videos online to view independently students do not get the benefits of group involvement and learning together about the topic (Vanek et al., 2022).

The above-discussed limitations related to the method of delivery chosen will be considered in the development of a simulation orientation program. Limitations have the potential to be barriers to the successful development and implementation of the project.

Ethical Consideration

According to the Health Research Ethics Authority (HREA) screening tool, ethical approval was not required for the completion of the environmental scan. This screening tool was completed and can be found in Appendix F of this environmental report. All professionals contacted during this scan were assured of their privacy, and that all results will be deleted upon completion of the project. The email to them informed them of the purpose of the scan, the intended purpose of any information received, informed them that no identifying personal information would be used and that any feedback provided may be used in the development of my project. No personal names were included in this report, only the names of the nursing

schools are referenced. All data collected by the internet search is open to the public and did not require receiving any content to review.

Implications

The implications of this environmental scan will be to use the information gathered as a resource for developing a simulation orientation program at the CNS. The method of delivery and content of similar programs that were uncovered during the scan is vital in the development of a new orientation program. This information was analyzed for frequency of use in the preexisting resources and will be considered for incorporation based on the literature review, and consultations. What simulation is and why it is used, best practice guidelines for simulations, the components of a simulation learning experience, the basic assumptions of simulation, and a review of the simulation lab are all concepts behind the major themes identified through content analysis (Bengtsson, 2016). Therefore, these topics will be considered important in the development of the simulation orientation program project. The literature review uncovered a lack of literature surrounding simulation orientation programs, however, the benefits and importance of pre-briefing, best practices, as well as strategies to be used for adult learners based on andragogy will also be applied to the development. The consultations that will take place with key stakeholders at the CNS, including simulation team members and BScN students will also be considered with the findings from this environmental scan.

Conclusion

The environmental scan facilitated the identification of current simulation orientation resources, which could be promptly adapted at the CNS. This scan also played a crucial role in shaping decisions regarding the content and delivery mode of the simulation orientation

program. Upon reviewing and analyzing the retrieved resources, key topics emerged, including the purpose and components of simulation, best practice guidelines, and a simulation lab review. Notably, video emerged as the most common delivery method, influencing its incorporation into the program. Utilizing findings from the environmental scan, literature review, and consultations will contribute to the development of a simulation orientation program for first-year nursing students at the CNS.

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Appendix A: Email sent to Accredited nursing schools in Atlantic Canada, as well as the University of Lethbridge/Lethbridge College, Brandon University, as well as Toronto Metropolitan University

Hello (name of dean or director of specific school),

My name is Megan Hiscott, I am a registered nurse working as a nurse educator for Bachelor of Science in Nursing (BScN) students at the Centre for Nursing Studies (CNS) in St. John's, NL. I am also a Master of Science in Nursing (MScN) student at Memorial University of Newfoundland. I am currently completing my final practicum project, developing a simulation orientation program for first-year nursing students at the CNS. This program would be a brief orientation to simulation early in the undergraduate Bachelor of Science in Nursing program. The goal would be to increase understanding of simulation learning and give students information on guidelines for their future simulation learning experiences throughout the program. As per best practice guidelines, this would not remove the need for a prebrief, but I want to introduce simulation to students early, so they have less anxiety, greater knowledge, and less misunderstanding of the purpose of simulation in the nursing program.

I am writing selected accredited nursing programs in universities across Canada to inquire if your school has a simulation orientation program early in your nursing program. If so, would you be willing to share further information on this program? This would be a one-time correspondence responding to a set of questions regarding your simulation orientation program.

Thank you so much for your time, the information you provide will be used in the development of my MScN practicum project. No identifying information will be provided in my final report. The information you provide may be used to help guide my project and use the feedback you provide for development.

Any questions on the project can be directed to me at the email below. I would be happy to discuss it with you further!

Thank you,

Megan Hiscott, B.A., B.N., RN, CCCNI
Nurse Educator, Centre for Nursing Studies, St. John's, NL
m.carlson@mun.ca

Appendix B: Questions for Existing Simulation Orientation Programs

1. Do you have an orientation to simulation?
2. Do you have any resources available that you use for the orientation to simulation?
3. Could you provide access to any resources you have available related to your simulation orientation program?

Appendix C: Table for Data Collection for Internet Search

Findings from environmental scan (internet search and website scan)						
Source	**Nursing School/Organization**	**Type of Resource**	**Focus of content**	**Length**	**Evaluation**	**Limitations**
Healthysimulation.com	St. Mary Medical Center, Pennsylvania, USA	YouTube video	-Basic assumptions of simulation -Introduction to simulation -Simulation environment -Scenarios -Debriefing	5min	-Used prior to each simulation, not initial only orientation. -provided great overview of simulation	-Target seemed more for each simulation briefing.
Healthysimulation.com	British Columbia Institute of Technology: School of Health Sciences, British Columbia, Canada	YouTube Video	-Dress code expectations -Research/prep expectations -Mannequin basic introduction -Brief sim lab intro (to practice skills, critical thinking, etc.)	1min 43sec	-Brief and efficient way to provide information -Laid good ground rules for simulation	-Not enough focus on simulation operation/interaction -Not enough orientation to simulation lab environment
Google Search	LA Harbor College, California, USA	YouTube Video	-Simulation lab environment orientation extensive: -supplies location, what is at the nursing station, where to find more supplies/to ask for them, sim mannequins working with and abilities (brief).	8min 45sec	-Very thorough orientation to the simulation lab	-No rules of simulation or expectations for scenarios -Only focus on orientation to sim lab environment

Google Search	Grossmont College, California, USA	Embedded video on website	-Demonstration of what a simulation may look like	3min	-Allows viewer to see what it looks like to interact with, complete assessment, etc. on simulation mannequin.	- Does not provide any information on simulation, what it is, rules, etc. -Only gives students a chance to see a brief simulation. -Video cut off after 3min
Google Search	Rhode Island College School of Nursing, Rhode Island, USA	PowerPoint	-Definitions of simulation, environment, orientation, and prebrief. -Very basic introduction to simulation (equipment that may be included) -Basic explanation of room set up (manikin in bed, needed supplies, diagnostic tools, charts, etc.) -How students will receive report -National patient safety goals and quality and safety education for nurses listed. -Brief explanation that simulation in safe learning environment -Ends with an embedded video of the simulation lab	11 slides	-Efficient, ensures all students get same messages regardless of who presents it -Short, will not lose student attention -Provides very brief mention of some of the most important points	-Very short, does not go into detail about important information -Focus should be placed on more of an orientation of what simulation is, how it works. This may be used before every simulation as a prebrief as it doesn't go into the detail needed for a first-time simulation exposure

Appendix D: Table for Data Collection for Email Contact with Nursing Schools Across Canada

Location	Simulation orientation?	Type of Resource	Content	Length	Evaluation	Additional Information
Cape Breton University, Cape Breton, NB	Yes*	PowerPoint	-What is simulation -INACSL standards of best practice overview -Pro's & cons to sim -Main components of simulation (briefing, scenario, debriefing) -Overview of how simulation unfolds -Fictional contract overview -List of important things to be prepared for (IV rate calculations, normal values, IV solutions)	17 slides	-Many important components for an orientation -Some sections would not be applicable to a simulation orientation (pro's & con's, IV rate calculations, normal lab values and IV fluids) -While they don't consider it an orientation, there are many aspects of it in line with the idea of simulation orientation.	* "We do not have a sim orientation program, but we do have a PowerPoint that is reviewed prior to the first sims being delivered"
Dalhousie University, Halifax, NS	Yes					Stated yes, they have an orientation program, however, did not respond to further emails.

Appendix E: Content Analysis for Orientation Resources

Source	Resource	Meaning Unit	Condensed Meaning Unit	Theme(s)
St. Mary Medical Center (HealthySimulation.com)	Youtube Video	Introducing basic assumptions of simulation learning and phases of simulation Introducing simulation environment	Video provides information (theory) and visual introduction to simulation lab	Introduction to the simulation lab environment Introducing the idea of the basic assumptions of simulated learnings
British Columbia Institute of Technology (HealthySimulation.com)	Youtube Video	Introducing preparation expectations Brief simulation lab introduction	Video provides expectations and visual mannequin introduction	Introduction to the simulation lab environment An explanation of simulation in relation to student learning
LA Harbor College (Google search)	YouTube Video	Introducing simulation lab with tour and showing where supplies are located, how simulation mannequin works	Video gives tour of simulation lab	Introduction to the simulation lab environment
Grossmont College (Google search)	Embedded Video	Shows a sample simulation learning experience to introduce students to simulation	Video demonstrates what a simulation could look like	Introduction to the simulation lab environment
Rhode Island College School of Nursing (Google search)	PowerPoint	Slides show content on definitions related to simulation, basic information on how simulation works and brief explanation regarding simulation learning is a safe environment	PowerPoint presentation slides introduce and explain simulation to students	An explanation of simulation in relation to student learning

		Still pictures to show lab environment		Introduction to the simulation lab environment Introducing the idea of the basic assumptions of simulated learning Enhancing student simulation experiences by following best practice guidelines
Cape Breton University (Nursing school consultations via email)	PowerPoint	Slides show content related to what simulation is, including definitions and best practice overviews. Discussion on the main components of simulation, explanation of how simulation unfolds.		An explanation of simulation in relation to student learning Introduction to the simulation lab environment Introducing the idea of the basic assumptions of simulated learning Enhancing student simulation experiences by following best practice guidelines

Appendix F: Health Research Ethics Authority (HREA) Screening Tool

Student Name: Megan Hiscott

Title of Practicum Project: The Development of a Simulation Orientation Program for Undergraduate Nursing Students

Date Checklist Completed: July 2, 2023

This project is exempt from Health Research Ethics Board approval because it matches item number ____3____ from the list below.

1. Research that relies exclusively on publicly available information when the information is legally accessible to the public and appropriately protected by law; or the information is publicly accessible and there is no reasonable expectation of privacy.
2. Research involving naturalistic observation in public places (where it does not involve any intervention staged by the researcher or direct interaction with the individual or groups; individuals or groups targeted for observation have no reasonable expectation of privacy, and any dissemination of research results does not allow identification of specific individuals).
3. Quality assurance and quality improvement studies, program evaluation activities, performance reviews, and testing within normal educational requirements if there is no research question involved (used exclusively for assessment, management, or improvement purposes).
4. Research based on review of published/publicly reported literature.
5. Research exclusively involving secondary use of anonymous information or anonymous human biological materials, so long as the process of data linkage or recording or dissemination of results does not generate identifiable information.
6. Research is based solely on the researcher's personal reflections and self-observation (e.g. auto-ethnography).
7. Case reports.
8. Creative practice activities (where an artist makes or interprets a work or works of art).

For more information please visit the Health Research Ethics Authority (HREA) at https://rpresources.mun.ca/triage/is-your-project-exempt-from-review/

Appendix D: Consultation Report

Background

Simulation-based learning activities have been expanding and more opportunities are offered in simulated environments (Akselbo & Aune, 2023; World Health Organization (WHO), 2018). Simulation has three main phases: prebriefing, facilitation, and debriefing. Prebriefing is an important component of simulation and part of healthcare simulation standards of best practice (Molloy et al., 2021). The purpose of prebriefing is to prepare students and review learning objectives for the simulation scenario. Orientation is a component of prebriefing; it gives students an opportunity to become familiar with simulation learning prior to their scheduled simulation shift (Molloy et al., 2021). Orientation is the process of being introduced, familiarized, and given information to familiarize individuals with an activity or new environment. This process may include presentations, discussions of rules, explaining expectations, and allowing participants to gain an understanding of how something works (Lioce, 2020; Merriam-Webster n.d.).

Providing an orientation to simulation enables nursing students to become familiarized with simulation mannequin features prior to their initial simulation shift (Anderson & Cox, 2020). This introduction not only familiarizes them with the equipment but also contributes to enhancing the psychological safety of the simulation environment an essential criterion for effective simulated learning (Turner & Harder, 2018). Students supported by an orientation program would ideally be able to prepare for and arrive for their simulation already familiar with the actual high-fidelity simulator functioning and environment. The goal of a simulation orientation would be to decrease anxiety surrounding the simulator and the unfamiliarity of the simulation environment. By successfully accomplishing this goal, students should be able to complete the scenario with increased confidence; focus on their critical thinking; decision-

making; and skills (Anderson & Cox; Ross et al.; Murphy & Janisse; Turner & Harder). Although the orientation to simulation is considered as a vital component in the students' learning process, there is a limited of studies specifically exploring the implications of a simulation orientation on students. This includes its potential impact on factors such as anxiety or preparation. Therefore, it is imperative to engage in consultations with key stakeholders at the Centre for Nursing Studies (CNS) to ensure that the orientation program aligns with their priorities. We will use the information gathered from consultation with key stakeholders at the CNS to clarify the content needs, receive opinions on the orientation, and receive any suggestions faculty may have regarding the orientation program. This is vital information to include to successfully developing a new program for implementation. Additionally, this practicum project seeks to create a simulation orientation resource tailored to the specific requirements of the CNS and students with the aim of better preparing them for nursing education using simulation. Consultations with key stakeholders will be instrumental in developing a simulation orientation program for implementation.

Specific Objective(s) for Consultations

There were six specific objectives for the consultations:

1. Examine whether there is currently an existing simulation orientation program in place

2. Explore the opinions of third-year BScN students at the CNS about implementation of a simulation orientation program

3. Identify third-year BScN students' learning needs and preferred educational modalities for delivering a simulation orientation program.

4. Assess the requirements of a simulation orientation program for the simulation coordinator.

5. Determine any institutional needs of the CNS for a simulation orientation.

6. Examine potential barriers and facilitators for the implementation of a simulation orientation program.

Sample & Methods

The consultations were completed with the associate director (AD) of academic and quality initiatives, the simulation coordinator, faculty members, and, third year Bachelor of Science in Nursing (BScN) Collaborative students at the CNS. The AD of academic and quality initiatives and the simulation coordinator were included in this consultation because they can provide feedback on any institutional needs or opinions on the development of the simulation orientation program. In addition, they can also play a pivotal role in ensuring that projects align with the requirements and guidelines of the simulation program and the broader CNS.

Second, nineteen faculty members who are simulation team members or who have used simulation learning in their courses were included in these consultations. This group can provide feedback related to their experience from teaching simulation or incorporating a simulation into their course. Faculty would be able to see how students were in simulations in past years and consider if they feel there would or could be benefits to a simulation orientation early in the BScN program.

The consultations also involved 125 students in the third year of the BScN program. Including students is consistent with my project's theoretical framework of andragogy, allowing adult learners to be active participants in their future learning and increase feelings that their input helps shape their education (Knowles, 1980; 1990). This group was chosen for their ability to offer firsthand experiential feedback on previous simulations and their perspectives on the

potential benefits of a simulation orientation. Having undergone a simulation experience at the CNS last year without any pre-simulation day orientation, they can provide insights into their feelings and experiences during their initial simulation. Additionally, they can articulate their opinions on whether a simulation orientation would or would not have been beneficial to them.

Data Collection

For the purpose of this consultation, data was gathered from participants through two methods, in-person semi-structured interviews and the use of questionnaires. The interviews were conducted to gather data from the Associate Director of Academic and Quality Initiatives and the Simulation Coordinator. The questionnaires were employed to collect data from faculty members and third-year nursing students. The interviews took approximately 30 minutes to complete in the participants offices at the CNS. Both faculty members were emailed to request their participation in the interviews (See Appendix E). The questions for these interviews were created in Microsoft Word, based on the objectives of my consultations and can be found in Appendix F. Notes that were taken during the interviews were reviewed and reiterated to them to ensure they were accurate.

The questionnaires were created using the Qualtrics survey software tool. The questionnaire for third-year BScN students and faculty comprised a total of six questions. While the two questionnaires shared similarities, they were not identical. The student questionnaire consisted of five open-ended questions and one question requiring students to rank 11 statements on a 5-point Likert scale. On the other hand, the faculty questionnaire included three open-ended questions, one question requiring faculty to rank 10 statements on a 5-point Likert scale, and two closed-ended questions.

A total of 164 questionnaires were distributed to participants using the online Qualtrics survey tool. Out of these, 125 surveys were sent to BScN CNS students, and 19 questionnaires were distributed to CNS faculty. Only 39 students and 8 faculty members completed the surveys. The estimated completion time for the questionnaire was 10 to 15 minutes, and confidentiality was assured. Upon completion, responses were anonymous, and the CNS research assistant delivered the results in two password-protected PDFs. Survey formats for students and faculty can be found in Appendices C and D, respectively.

Data Management and Analysis

The management and analysis of this data was completed using both qualitative and quantitative data analysis methods. Quantitative data was obtained from the questionnaires and was managed using Qualtrics. Microsoft Excel managed qualitative data obtained from the open-ended questions on questionnaires and the interviews, Information gathered from faculty questionnaires, student questionnaires, and interviews was maintained and analyzed independently. The qualitative data was analyzed using content analysis (Bengtsson, 2016). Responses were reviewed, and meaning units were abstracted from this information. After this was completed, they were described using text in condensed units as described by Bengtsson (2016), which was then reviewed to identify sub-themes, and this was used to identify the common themes.

Qualtrics automatically analyzed the quantitative data from the questionnaires that included the closed ended elements and Likert scale questions, and a response summary was provided in both numerical and visual representations of descriptive statistics. This is discussed further in the results section.

Results

There are three groups to consider when looking at the results of the consultations. The AD of academic and quality initiatives and the Simulation Coordinator who participated in in-person interviews, nursing faculty at the CNS who completed a questionnaire and third year BScN students at the CNS who also completed a questionnaire.

Qualitative Results (AD of Academic and Quality Initiatives and Simulation Coordinator)

Detailed notes were taken during the in-person interviews and subsequently analyzed using content analysis, following Bengtsson's methodology (2016). Both interview participants expressed support for the integration of a simulation orientation program within the BScN (Collaborative) program at the CNS during the first year. The analysis of the interviews revealed the identification of five themes. The themes were: 1) **an introduction to the ground rules for simulation learning experiences**, 2) **striving to decrease student anxiety during simulation**, 3) **allowing students to become familiar with the simulation lab, 4) navigating scheduling challenges for large numbers of students, and 5) consistency in information students are receiving related to simulation.**

***An Introduction to the Ground Rules for Simulation Learning Experiences*.** Both the AD of academic and quality initiatives and the simulation coordinator made comments related to ensuring that the ground rules for simulation are included in a simulation orientation program. One participant stated, "*Students need to know that ground rules for simulation before they ever arrive to a scheduled simulation."* Another participant emphasized the importance of the simulation and said, "We need to *ensure that we are telling students the ground rules of simulation so that they know about them when they are talked about throughout the program."*

The repetition of comments made by these two participants during the interviews suggests a shared perspective on the importance of reviewing ground rules with students during the simulation orientation. This indicates a mutual understanding that such a practice is crucial for effective simulation sessions. The literature review supports the idea of ensuring that students are well informed about the ground rules. McDermott et al. (2021) emphasize the importance of ensuring participants are aware of simulation ground rules during prebriefing, a principle that can be extended and applied to an orientation context.

Striving to Decrease Student Anxiety during Simulation. Both participants throughout the interview discussed striving to decrease student anxiety during simulation many times. The simulation coordinator stated, *"The most important reason for this orientation would be to hopefully decrease they anxiety students feel during their first simulation experiences when they don't know what to expect*." Similarly, the AD of academic and quality initiatives said that they hoped that "*by creating an orientation for simulation, students would have less anxiety about their shifts because they would have a better idea of what to expect."* In the literature review, it was argued that for simulation learning experiences to be a psychologically safe learning environment, it is important that students are comfortable and familiar with what to expect (Anderson & Cox, 2020; Turner & Harder, 2018).

Allowing Students to Become Familiar with the Simulation Lab. Allowing students to become familiar with the simulation lab was the third theme that was uncovered from questions one, two, four and six following content analysis of the responses. Both participants in the in-person interviews brought up points that led to the development of these themes. They discussed the importance of students being able to become familiar with simulators and see how a simulation lab looks during the orientation. This will be taken into consideration when

developing the simulation orientation program. The literature supports that by exposing student to the actual simulator prior to their first scheduled simulation shift that students should be able to complete the scenario with increased confidence and focus on their critical thinking, decision-making, and skills (Anderson & Cox, 2020; Ross et al., 2022; Murphy & Janisse, 2017; Turner & Harder, 2018).

***Navigating Scheduling Challenges for Large Numbers of Student*s.** Navigating scheduling challenges for large numbers of students was uncovered as a major theme. Both the simulation coordinator and the AD of academic and quality initiatives reported difficulties that may be encountered trying to implement a simulation program. The most discussed concerns were related to the scheduling challenges that may be encountered due to the large number of BScN (collaborative) students at the CNS. One participant stated, *"Scheduling will be the biggest challenge with implementing this. It's just so busy and there are so many students*." The second participant said they felt that a challenge would be "*time, and ensuring there is enough time given to the orientation that all the things that need to be covered are covere*d." The authors of two qualitative studies examined nursing faculty perceptions regarding the implementation of simulation in nursing schools. Both studies revealed that faculty expressed support for simulation orientation (Akhtar-Danesh et al., 2009; Jansen et al., 2009). Despite this, faculty highlighted the need for greater human resources as one of the areas needed to offer a quality simulation program. Because finding the time, available faculty and space to have a simulation orientation program have been highlighted in the interviews and literature review, it will be important to consider this during the development and implementation of the simulation orientation.

Consistency in Information Students are Receiving Related to Simulation. Both the AD of academic and quality initiatives and the simulation coordinator discussed that faculty need to

be consistent and have a full understanding of the rules of simulation and understanding on how to facilitate student learning during the orientation. The simulation coordinator stated, *"Faculty need to have a guide to follow so we can make sure that all faculty who are delivering the orientation are giving out the same information to students*." Similarly, the other participant discussed ensuring "*faculty has good understanding on standards of practice for simulation, and that they know their role and how best to facilitate student learning."* It is important to ensure that the simulation orientation has a guide for faculty to ensure that students all receive the same information, regardless of who is facilitating the orientation. Filming an orientation and posting it for students to review throughout the program if they want to review the information that was covered can also be considered to ensure consistency.

Quantitative Results (CNS Simulation Faculty) Faculty who are members of the simulation team or who have incorporated simulation into their courses had a questionnaire emailed to them that resulted in both quantitative and qualitative data. Both data types will be discussed, as both contain important information for the consultation.

Table 1

Simulation Involvement Questions: CNS Faculty

Questions	Yes % (n)	No % (n)	
Have you had the opportunity to facilitate or operate a medium or high-fidelity simulation scenario in the BScN program thus far? (n=8)	87.5% (7)	12.5% (1)	
If yes, how often did it seem that students had any experience with simulation using a high-fidelity mannequin before their first simulation experience at the CNS? (n=7)	**Never** 71.4% (5)	**Occasionally** 28.6% (2)	**Frequently** 0.0% (0)

If no, has medium or high fidelity simulation been a component of a course you lead? (n=1)	100% (1)	0.00% (0)
Do you feel it would have been beneficial for students to have had an orientation prior to the day of their first simulation experience? (n=7)	85.7% (6)	14.3% (1)

Abbreviations: CNS = Centre for Nursing Studies. BScN= Bachelor of Science in Nursing

Table 1 shows that 87.5% of BScN program faculty have experience facilitating or operating the simulator during a simulation, and 12.5% have had simulation as a component of a course they led. 71.4% of respondents who facilitated or operated a simulator reported students had no prior simulation exposure. 85.7% of all respondents believe an orientation is beneficial, supporting a program's development.

In Table 2, Approximately 28.6% of faculty members agree, and 57.1% strongly agree that the simulation orientation has the potential to decrease students' anxiety surrounding simulation, and it can contribute to students feeling better prepared for their first simulation. 14.3% of faculty strongly disagree that a simulation orientation would increase student anxiety surrounding simulation, have no effect on student anxiety, contribute to students feeling less prepared for their first simulation, increase confusion surrounding their first simulation, not be an interesting way for students to learn about simulation or not be a beneficial way for faculty to spend their time.

Table 2

Faculty's opinions on impact of a simulation orientation (n=7)

Faculty's opinions	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
1. Decrease anxiety surrounding simulation	0.0% (0)	0.0% (0)	14.3%(1)	28.6% (2)	57.1% (4)

2. Increase anxiety surrounding simulation	14.3% (1)	71.4% (5)	0.0% (0)	0.0% (0)	14.3% (1)
3. Have no effect on student anxiety about simulation	14.3% (1)	71.4% (5)	14.3% (1)	0.0% (0)	0.0% (0)
4. Contribute to students feeling better prepared for first simulation	0.0% (0)	0.0% (0)	14.3% (1)	28.6% (2)	57.1% (4)
5. Contribute to students feeling less prepared for first simulation	14.3% (1)	85.7% (6)	0.0% (0)	0.0% (0)	0.0% (0)
6. Increase confusion surrounding first simulation	14.3% (1)	85.7% (6)	0.0% (0)	0.0% (0)	0.0% (0)
7. Decrease confusion surrounding first simulation	0.0% (0)	0.0% (0)	14.3% (1)	57.1% (4)	28.6% (2)
8. Be an interesting way for students to learn about simulation	0.0% (0)	0.0% (0)	0.0% (0)	42.9% (3)	57.1% (4)
9. Not be an interesting way for students to learn about simulation	14.3% (1)	71.4% (5)	0.0% (0)	14.3% (1)	0.0% (0)
10. Not be a beneficial way for faculty to spend their time	14.3% (1)	85.7% (6)	0.0% (0)	0.0% (0)	0.0% (0)

Qualitative Results

The qualitative data obtained from the open-ended questions in numbers 5 and 6 of the questionnaire, which was completed by the faculty, underwent analysis using the content analysis (Bengtsson, 2016). The analysis uncovered two primary themes: ***the experience of uncertainty surrounding simulation*** and ***the facilitation of familiarity with simulators and the simulation environment***. Question 1 was a yes or no question that allowed for an explanation, however it provided only information regarding what simulation faculty have facilitated or operated. Questions five and six were analyzed using content analysis, revealing two major themes: **an experience of uncertainty surrounding simulation** and **allowing familiarity with simulators and simulation environment.**

An Experience of Uncertainty Surrounding Simulation. Although there were only six comments providing insights into faculty views on the benefits of simulation, a recurring theme was the consistent mention of its role in reducing feelings of uncertainty among students. One participant stated, "Orientation *would be beneficial because it minimizes the uncertainty of simulation*." Another participant said that *"it takes some of the unknown and fear out of it and helps them feel more in control and comfortable*." The faculty members' beliefs that a simulation orientation would be beneficial for students is in line with the findings of the literature review. Multiple articles argued the purpose of preparation in the form of orientation would be to establish a sense of psychological safety for students during simulation. Exposure to and familiarity with simulation components contribute to an increased sense of safety (Kolbe et al., 2015; McDermott et al., 2021; Turner & Harder, 2018).

Allowing Familiarity with Simulators and Simulation Environment. Allowing familiarity with simulators and simulation environment was a common theme uncovered during content analysis. Faculty recognized that having students participate in an orientation would allow them the ability to be more familiar with the simulation lab and high fidelity mannequins prior to their first shift. A participant reported that an orientation would be beneficial because "they [students] could become familiar with equipment." Similarly, another faculty member viewed orientation being helpful *"to introduce [students] to the simulators and have a better idea of what to expect"*. The faculty responses showed that they acknowledged the benefits of an orientation program for students. The literature review supported the importance of learners being familiar with the simulation environment. For instance, Turner and Harder (2018) argue that an orientation to the physical environment of simulation, as well as having preparation information, is extremely important. Prior to engaging in any simulations, students should be

equipped with fundamental interaction skills for high-fidelity simulators. These early experiences foster confidence, alleviate anxiety, and contribute to enhancing the psychological safety of the learning environment (Kolbe et al., 2015; McDermott et al., 2021)

Third Year BScN CNS Students

Questionnaires distributed to third year students resulted in both quantitative and qualitative data being obtained. Results of both data types will be discussed below, as each provides important information collected.

Table 3

Simulation Participation Questions Third year BScN CNS students

Questions	Yes % (n)	No % (n)
Have you had the opportunity to participate in a simulation experience in the BScN (Collaborative) at the CNS thus far? (n=39)	92.3% (36)	7.7% (3)
If yes, did you have any experience with simulation using a high-fidelity mannequin before your first simulation experience at the CNS? (n=35)	17.1% (6)	82.7% (29)
If no, do you have any experience with simulation using a high-fidelity mannequin? (n=3)	66.7% (2)	33.3% (1)
Do you feel it would have been beneficial for you to have had an orientation before your first simulation experience? (n=35)	97.1% (34)	2.1% (1)

Abbreviations: CNS = Centre for Nursing Studies.

As can be seen in Table 3, 92.3% of students participated in a simulation, but only 17.1% had prior high-fidelity mannequin experience at CNS. This implies 82.7% had their first high-fidelity simulation without prior exposure. For the 7.7% of respondents who have not had a simulation experience at the CNS 66.7% have experienced high fidelity simulation elsewhere. Furthermore, 97.1% of respondents felt it would have been beneficial for them to have had an

orientation to simulation before their first simulation experience. This suggests a strong demand for a simulation orientation program.

Table 4 represents the impact students perceived an orientation program would have on various factors. All participating students expressed that a simulation orientation completed before their first scheduled simulation shift would be beneficial. Specifically, 100% of respondents agreed or strongly agreed that a simulation orientation prior to their initial simulation would reduce anxiety related to simulation and contribute to feeling better prepared for the experience. Similarly, 91.4% of students believed that having a simulation orientation would decrease confusion surrounding their first simulation encounter. 37.1% of students strongly disagreed that a simulation orientation would increase anxiety or confusion surrounding their first simulation. 97.1% of students felt that having a simulation orientation would be an interesting way to learn about simulation, and only 2.9% of student respondents strongly agreed that a simulation orientation would not be an interesting way. Finally, 22.9% strongly disagreed that having an orientation would result in students being less likely, and 80% felt it would result in students being more likely to prepare for their first simulation.

These findings underscore student support for the implementation of a simulation orientation program. Additionally, qualitative content analysis from open-ended questions on the student questionnaire further highlighted student endorsement for such an orientation.

Table 4

Student's opinions on impact of a simulation orientation (n=35)

	Strongly Disagree % (n)	Disagree % (n)	Neither Agree or Disagree % (n)	Agree % (n)	Strongly Agree % (n)
1) Decrease anxiety surrounding simulation	0.0% (0)	0.0% (0)	0.0% (0)	48.5% (17)	51.4% (18)
2) Increase anxiety surrounding simulation	37.1% (13)	45.7% (16)	14.3% (5)	2.9% (1)	0.0% (0)
3) Have no effect on student anxiety about simulation	22.9% (8)	48.6% (17)	22.9% (8)	5.7% (2)	0.0% (0)
4) Contribute to students feeling better prepared for first simulation	0.0% (0)	0.0% (0)	0.0% (0)	54.3% (19)	45.7% (16)
5) Contribute to students feeling less prepared for first simulation	45.7% (16)	42.9% (15)	8.6% (3)	0.0% (0)	2.9% (1)
6) Increase confusion surrounding first simulation	37.1% (13)	48.6% (17)	14.3% (5)	0.0% (0)	0.0% (0)
7) Decrease confusion surrounding first simulation	0.0% (0)	2.9% (1)	5.7% (2)	54.3% (19)	37.1% (13)
8) Be an interesting way for students to learn about simulation	2.9% (1)	0.0% (0)	0.0% (0)	71.4% (25)	25.7% (9)
9) Not be an interesting way for students to learn about simulation	25.7% (9)	62.9% (22)	8.7% (3)	0.0% (0)	2.8% (1)
10) Result in students being less likely to prepare for first simulation	22.9% (8)	60.0% (21)	5.7% (2)	8.6% (3)	2.9% (1)
11) Results in students being more likely to prepare for first simulation	0.0% (0)	2.9% (1)	17.1% (6)	62.9% (22)	17.1% (6)

Qualitative Results

The content analysis method by Bengtsson (2016) was used to conduct the qualitative data analysis for the open-ended questions on the questionnaire for the BScN students. While all the yes or no questions allowed an open-ended response, two of the questions provided only a list of what simulation experiences students have experienced. I used Bengtsson's content analysis method to identify common themes for questions number five and six. The analysis yielded two themes: ***feelings of anxiety related to the unknown*** and ***a perception of confusion regarding not knowing what to expect***.

Feelings of Anxiety Related to the Unknown. Feelings of anxiety related to the unknown was an extremely common theme shared by third year BScN students at the CNS. Feeling anxiety regarding their first scheduled simulation shift was reported frequently because they did not know what simulation was, where it was, or what a simulation mannequin even looked like. One student said, "*I feel it would have been beneficial to have gone through the environment surrounding the simulation, how it would go, where it was taking place and get a feel for the environment*." Many students reported their anxiety levels were very high prior to their first simulation, and one student reported crying because of this anxiety. One student stated *"I was very anxious prior to my simulation experience and wasn't sure what to expect….I feel as though it [orientation] would have lessened my anxiety and made me feel more prepared and comfortable to participate*." Some students also commented that they believe an orientation to simulation would have greatly decreased their anxiety because it would not have been so unfamiliar to them. There were also statements that if students had received an orientation before the day of their simulation, they would have been more comfortable during their scheduled simulation shift. The students expressed that greater comfort would enhance their

simulation experience, as it would reduce the heightened level of anxiety they felt. These findings are consistent with the literature review. Decreasing the anxiety surrounding the actual simulation mannequin through an orientation, should allow students to be able to complete the scenario with increased confidence and focus on their critical thinking, decision-making, and completion of skills (Anderson & Cox, 2020; Ross et al., 2022; Murphy & Janisse, 2017; Turner & Harder, 2018).

Perception of Confusion Surrounding Not Knowing What to Expect. The second main theme identified was a perception of confusion surrounding not knowing what to expect. Many third-year students reported that they did not know what to expect when they found out they had a simulation shift. Some students mentioned that having an orientation would have been beneficial, as it could have provided clarity about what to expect from simulation, thereby enabling better preparation and reducing confusion. One student stated, "*By knowing what to expect and how to prepare for the simulation it [orientation] helps the student visualize the simulation and fully understand how the simulation will proceed."* These comments from students agree with the literature findings. Anderson & Cox (2020) discuss the benefits of an orientation that allows students to become familiarized with simulation mannequin features before their shift. Turner & Harder (2018) also reported that an orientation would increase the psychological safety of simulation for the students, which is a key goal of simulated learning. This project aims to develop a simulation orientation to ensure optimal learning outcomes during simulation shifts.

Ethical Considerations

To distribute the BScN questionnaire to CNS students, the questionnaire had to be submitted to the CNS Executive Committee for approval. Following permission being granted, I

was able to email the link and QR code for the questionnaire to the third year BScN students on the CNS third year email listserv. I did not require consent to email the questionnaire or request for an interview to faculty members. The email sent to students and faculty members explained that participation was voluntary, therefore participation and agreeing to a meeting is considered consent. All questionnaires completed were anonymous with no identifying information and the results are in a password protected document stored on my computer. All notes that were made from the in-person interview were destroyed, along with the data obtained from the questionnaires, upon completion of my practicum project. The Health Research Ethics Authority (HREA) screening tool was completed (Appendix G) and it was determined that this project does not require Health Research Ethics Board approval.

Implications for the Practicum Project

The data obtained from both quantitative and qualitative, across all groups was consistent, and supported the need for the development of a simulation orientation program at the CNS. The incorporation of a simulation orientation program will improve students' understanding of simulation by enabling them to arrive to their simulation shift more prepared and with decreased levels of anxiety. Students who use simulation learning had higher levels of self-efficacy, lower anxiety levels, and lower numbers of medical errors in comparison to those who did not (Ayed et al., 2022; Kocyigit et al., 2022). To ensure that nursing students receive the best possible education, it is important that nursing educators continue to support the use of simulation and strive to uncover new strategies to further enhance student learning outcomes. Adding an orientation to nursing programs to better prepare students for simulation is one method of improving a learning strategy that has demonstrated great benefits.

The simulation orientation program developed in this practicum project can be used as a model for other nursing schools. The literature review, environmental scan, and consultations conducted during the development of this program can serve as evidence of the need for implementation of orientation programs at other sites. The practicum project will continue to develop the simulation orientation, as well as an implementation and evaluation plan. This material can be very beneficial for nursing schools looking to address student anxiety related to simulation. By implementing such programs, nursing schools can not only improve student outcomes but also demonstrate support for student psychological safety in aspects of learning that have been identified to cause anxiety.

Conclusion

Overall, the data obtained from the three groups during consultations demonstrated a consensus regarding the benefits of the development of a simulation orientation program. Completing this consultation, in combination with the previously conducted environmental scan and literature review, gives more comprehensive insight into the simulation orientation project among nursing students. The information gathered through the consultations provide a detailed understanding of simulation orientation from various key stakeholders, including the simulation coordinator, AD of academic and quality initiatives, faculty involved in simulation, and third-year nursing students. This information will be used to contribute to the development of a resource for orientating nursing students to simulation.

The information from the consultations makes it evident that the desire from students, and support from faculty, is present at the CNS for a simulation orientation. This is valuable information, both for the development of the project, as well as for the implementation plan. For simulation learning experiences to be a psychologically safe learning environment, it is

important that students are comfortable, familiar with what to expect, and feel empowered to learn from the simulated scenario (Anderson & Cox, 2020; Turner & Harder, 2018). The goal of a simulation orientation program is to alleviate stress and enhance students comfort level when utilizing simulation as a learning tool.

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Appendix A: Recruitment Letter for Students

Subject: Join my Exciting Nursing Education Simulation Practicum Project!

Dear Students

I hope this email finds you well. I am very excited to invite you to take part in an essential survey for my master of science in nursing (MScN) program at Memorial University. As the world of simulation in nursing education expands at the Centre for Nursing Studies (CNS), there are continuous efforts on working to make improvements. Your input will be instrumental in helping to refine and enhance this crucial initiative. Simulation is designed to provide nursing students with a comprehensive simulation-based learning experience. In continuing to develop this program, your feedback will assist in potentially designing a simulation orientation for first year BScN students to simulation-based learning.

Deadline for Participation: November 13th, 2023

Survey Details:

Duration: Approximately 10-15 minutes
Confidentiality: Your responses will remain completely anonymous and confidential.

Why Your Participation Matters:

Your firsthand experiences and perspectives will be instrumental in assessing the need for, and aiding in the potential development of a simulation orientation program. By sharing your feedback, you will be contributing to the ongoing improvement of nursing education and the simulation program here at the CNS.

To participate in this survey, please click on the following link: (https://mun.az1.qualtrics.com/jfe/form/SV_9NR5OAfvUOFkb8a). Your responses are invaluable and I appreciate your assistance and dedication to improving the future of nursing education through this practicum project.

Thank you for your commitment to nursing education and your willingness to help me shape the future of simulation nursing education. If you have any questions, please reach out to myself at m.carlson@mun.ca or call my office at 709-777-8135.

Sincerley,

Megan Hiscott
Nurse educator, CNS
m.carlson@mun.ca
709-746-3279

Appendix B: Recruitment Letter for Faculty

Subject: Join my Nursing Education Simulation Practicum Project!

Dear Colleagues,

I hope this email finds you well. I am very excited to invite you to take part in an essential survey for my master of science in nursing (MScN) program at Memorial University. As the world of simulation in nursing education expands at the Centre for Nursing Studies (CNS), there are continuous efforts on working to make improvements. Your input will be instrumental in helping to refine and enhance this crucial initiative. Simulation is designed to provide nursing students with a comprehensive simulation-based learning experience. In continuing to develop this program, your feedback will assist in potentially designing a simulation orientation for first year BScN students to simulation-based learning.

Deadline for Participation: November 13th, 2023

Survey Details:

Duration: Approximately 10-15 minutes
Confidentiality: Your responses will remain completely anonymous and confidential.

Why Your Participation Matters:

Your firsthand experiences and perspectives will be instrumental in assessing the need for, and aiding in the potential development of a simulation orientation program. By sharing your feedback, you will be contributing to the ongoing improvement of nursing education and the simulation program here at the CNS.

To participate in this survey, please click on the following link: (https://mun.az1.qualtrics.com/jfe/form/SV_1RkASwVzgdZZCce). Your responses are invaluable, and I appreciate your assistance and dedication to improving the future of nursing education through this practicum project.

Thank you for your commitment to nursing education and your willingness to help me shape the future of simulation nursing education. If you have any questions, please reach out to myself at m.carlson@mun.ca or call my office at 709-777-8135.

Sincerley,

Megan Hiscott
Nurse educator, CNS
m.carlson@mun.ca
709-746-3279

Appendix C: Questionnaire for third year BScN Students

This questionnaire was developed for third-year BScN students at the Centre for Nursing Studies. The goal of the questionnaire is to learn your perspective and opinion on the implementation of a simulation orientation program. This is a component of my master of science in nursing practicum project, and participation is voluntary. Please place no identifying information on the questionnaire. This will take approximately 10 minutes of your time to complete.

The questionnaire refers to high-fidelity simulation, which is defined as "simulation experiences that are extremely realistic and provide a high level of interactivity and realism for the learner" (International Nursing Association for Clinical Simulation and Learning, 2013 as cited in Lioce et al., 2020).

Examples of high-fidelity simulation experiences you may have encountered at the CNS in **NURS2502:** L&D and OBS simulation (Simmone delivering newborn, SimNewB newborn assessment, and post-partum assessment)

1. Have you had the opportunity to participate in a simulation experience in the BScN program at the CNS thus far? ☐ Yes ☐ No **if no, please skip to question 3.**

If yes, describe: _____
_____
_____

2. If yes, did you have any experience with simulation using a high-fidelity mannequin before your first simulation experience at the CNS? ☐ Yes ☐ No **Please skip to question 4**

If yes, describe: _____
_____
_____

3. Do you have any experience with simulation using a high-fidelity mannequin?
   Yes ☐ No ☐

If yes, describe: _____
_____
_____

4. To what extent do you disagree or agree with the following statements:

Please rank on a 5-point scale
1=strongly disagree 2=disagree 3=neutral 4=agree 5=strongly agree

A simulation orientation prior to the day a student has to complete their first scheduled simulation scenario would:

Statements	**1 Strongly Disagree**	**2 Disagree**	**3 Neutral**	**4 Agree**	**5 Strongly Agree**
Decrease anxiety surrounding simulation					
Increase anxiety surrounding simulation					
Have no effect on student anxiety about simulation					
Contribute to students feeling better prepared for their first simulation experience					
Contribute to students feeling less prepared for their first simulation experience					
Increase confusion surrounding first simulation experience					
Decrease confusion surrounding first simulation experience					
Be an interesting way for students to learn about simulation					
Not be an interesting way for students to learn about simulation					
Result in students being less likely to prepare for their first simulation experience					
Result in students being more likely to prepare for their first simulation experience					

5. Do you feel it would have been beneficial for you to have had an orientation before your first simulation experience? ☐ Yes ☐ No

Please explain:

_____
_____
_____
_____

6. Please feel free to share any additional comments:

_____
_____
_____
_____

Thank you! Any questions please contact Megan Hiscott at m.carlson@mun.ca

Appendix D: Questionnaire for CNS Faculty

This questionnaire was developed for faculty involved with simulation at the Centre for Nursing Studies. The goal of the questionnaire is to learn your perspective and opinion on a simulation orientation program. This is a component of my master of science in nursing practicum project, and participation is completely voluntary. Please place no identifying information on the questionnaire. This should only take 10-15 minutes of your time.
The questionnaire refers to high-fidelity simulation, which is defined as "simulation experiences that are extremely realistic and provide a high level of interactivity and realism for the learner" (International Nursing Association for Clinical Simulation and Learning, 2013 as cited in Lioce, 2020).

1. Have you had the opportunity to facilitate or operate a medium or high-fidelity simulation scenario in the BScN program thus far? ☐ Yes ☐ No **if no, please skip to question 3.**

If yes, describe: _____
_____
_____

2. If yes, how often did students did it appear students had any experience with simulation using a high-fidelity mannequin before their first simulation experience at the CNS?
Never ☐ Occasionally ☐ Frequently ☐ All of the time ☐ **Please skip to question 4**

3. Has medium or high fidelity simulation been a component of a course you lead?
Yes ☐ No ☐ N/A ☐

4. To what extent do you disagree or agree with the following statements:

Please rank on a 5-point scale
1=strongly disagree 2=disagree 3=neutral 4=agree 5=strongly agree

A simulation orientation prior to the day a student has to complete their first scheduled simulation scenario would:

Questions	**1 Strongly Disagree**	**2 Disagree**	**3 Neutral**	**4 Agree**	**5 Strongly Agree**
Decrease anxiety surrounding simulation					
Increase anxiety surrounding simulation					
Have no effect on student anxiety about simulation:					
Contribute to students feeling better prepared for their first simulation experience					

Contribute to students feeling less prepared for their first simulation experience					
Increase confusion surrounding first simulation experience:					
Decrease confusion surrounding first simulation experience					
Be an interesting way for students to learn about simulation					
Not be an interesting way for students to learn about simulation:					
Not be a beneficial way for faculty to spend their time					

5. Do you feel it would have been beneficial for students to have had an orientation before their first simulation experience? ☐ Yes ☐ No

Why or why not?

_____
_____
_____
_____

6. Please feel free to share any additional comments:

_____
_____
_____
_____

Thank you! Any questions please contact Megan Hiscott at m.carlson@mun.ca

Appendix E: Recruitment Letter for Simulation Coordinator and AD of Academic and Quality Initiatives

Subject: Looking for your input on my practicum project!

Hello (Participant Name),

My name is Megan Hiscott, and the purpose of this email is to request your participation in an interview on the topic of simulation orientation that will assist with the completion of my master's practicum project. I am a Registered Nurse currently enrolled in the Master of Science in Nursing program at Memorial University of Newfoundland and my final practicum project is focused on simulation learning, which involves the development of a simulation orientation program for first year BScN students.

I am seeking consultation with you, on any information about simulation you may have and could help to support the content and implementation of this resource.

Participation would involve participating in a meeting that may take place in your office, and would last approximately 20-30 minutes. Participation is voluntary and any information shared would remain strictly confidential. The data will be stored on my personal laptop that is password protected. My practicum supervisor and I will only view the data collected. Upon completion of my practicum project, all data will be permanently deleted.

I would like to thank you for taking the time to review my request. If you have any questions, concerns, or would like to participate, please contact me at m.carlson@mun.ca. I would like to complete the interviews by November 10th, 2023. Any assistance that you would be able to provide with respect to your nursing knowledge and experiences would be greatly appreciated and extremely valuable to the development of this resource to support simulation orientation for nursing students.

Best regards,

Megan Hiscott
Nurse educator, CNS
m.carlson@mun.ca
709-746-3279

Appendix F: Guiding Questions for Face-to-face Interviews

The interviews will take place face-to-face. I will begin the interview by thanking them for their willingness to participate in my interview. Then I will provide a brief overview of my simulation orientation plan, the aim of the project, and that this may take approximately 30min of their time depending on the discussion. I will be asking questions to help guide the development of my simulation orientation program, seeking input on important aspects they would like included, any concerns they may have, and requirements for development and implementation into the CNS. The following questions will guide the interview, however, may not be exhaustive if the conversation leads to other discussions on the development of this program.

1. Do you believe implementing a simulation orientation program for nursing students would be advantageous for them, and if so, what are the key reasons?

2. What do you see as important to include in a simulation orientation for first-year students at the CNS?

3. What challenges do you anticipate may be encountered trying to implement a simulation orientation program in the first year of the BScN at the CNS?

4. What do you think students need in a simulation orientation?

5. What do you think faculty need in a simulation orientation?

6. Is there anything you haven't already spoken about that you would like to add to be considered when developing the simulation orientation program?

Appendix G: Health Research Ethics Authority (HREA) Screening Tool

Student Name: Megan Hiscott

Title of Practicum Project: The Development of a Simulation Orientation Program for Undergraduate Nursing Students

Date Checklist Completed: July 1st, 2023

This project is exempt from Health Research Ethics Board approval because it matches item number ___3__ from the list below.

9. Research that relies exclusively on publicly available information when the information is legally accessible to the public and appropriately protected by law; or the information is publicly accessible and there is no reasonable expectation of privacy.
10. Research involving naturalistic observation in public places (where it does not involve any intervention staged by the researcher or direct interaction with the individual or groups; individuals or groups targeted for observation have no reasonable expectation of privacy; and any dissemination of research results does not allow identification of specific individuals).
11. Quality assurance and quality improvement studies, program evaluation activities, performance reviews, and testing within normal educational requirements if there is no research question involved (used exclusively for assessment, management or improvement purposes).
12. Research based on review of published/publicly reported literature.
13. Research exclusively involving secondary use of anonymous information or anonymous human biological materials, so long as the process of data linkage or recording or dissemination of results does not generate identifiable information.
14. Research based solely on the researcher's personal reflections and self-observation (e.g. auto-ethnography).
15. Case reports.
16. Creative practice activities (where an artist makes or interprets a work or works of art).

For more information please visit the Health Research Ethics Authority (HREA) at https://rpresources.mun.ca/triage/is-your-project-exempt-from-review/

Appendix E: Resource

Simulation Orientation Program for First-Year BScN Students: A Facilitators' Manual

Developed by:

Megan Hscott BA, BN, RN, CCCI

Table of Contents

How to Use This Manual

Introduction

This simulation orientation resource has been developed for orientating Bachelor of Science in Nursing (BScN) students during their first year of simulation learning. This resource is specifically crafted to provide nursing faculty members on the simulation team with an overview of the simulation orientation program tailored for first-year Bachelor of Science in Nursing (BScN) (Collaborative) students, serving as a valuable guide as they prepare to lead student orientation. This orientation was developed based on findings of an integrated literature review; an environmental scan of orientations available across Canada; and information gathered from key stakeholders, including students, faculty, and administration at the Centre for Nursing Studies (CNS) in St. John's, Newfoundland & Labrador.

Purpose of Manual Development

Providing orientation for simulation is crucial to help nursing students to be familiar with expectations, and empower them to learn from the simulated scenario, foster a conducive learning experience through the creation of a psychologically safe environment (Anderson & Cox, 2020; Turner & Harder, 2018). While it is crucial for nursing students to be familiarized with simulation before starting their actual learning outcomes, there is currently a limited orientation to the simulation program in place. Therefore, the overall goal of this practicum project is to develop a simulation orientation program for first-year Bachelor of Science in Nursing (BScN) (Collaborative) students at the Centre for Nursing Studies (CNS), utilizing medium and/or high-fidelity simulators. The program is designed to enhance the effective utilization of

simulation time for nursing scenarios while mitigating student anxiety associated with their initial simulation experience.

Theoretical Underpinnings

This simulation orientation program has been developed following Knowles' adult learning theory, also known as andragogy (Clapper, 2010; Knowles, 1980; 1990). The six principles of andragogy were used to guide the development of this program. These principles discussed by Knowles are: 1) self-directedness, 2) reservoir of experience, 3) readiness to learn, 4) application of knowledge, 5) internal motivation, and 6) needing to know how or why things learned will help them (Clapper, 2010).

Self-directedness is related to recognizing that adult learners thrive in more self-directed learning environments. Simulation is a great example of highlighting this type of learning. The simulation orientation includes discussion, opportunities to explore and ask questions, as well as handouts. The simulation instructors will recognize students' role as responsible and self-directed individuals entering the nursing profession. They will encourage students to collaborate and actively participate and share their perspectives about simulation.

Reservoir of experience explains that adult learners can draw on their individual experiences and apply them to their learning. Simulation allows students to come together using their past experiences, as well as current learning and apply it to scenarios. The orientation will ensure all students enter simulation learning with equivalent levels of understanding. Simulation instructors will consider students' existing experiences and prior knowledge about simulation.

Readiness to learn relates to simulation because as adults learn they thrive in learning material that is relevant. They need to understand why they are learning what they learn. The orientation will assist students in understanding why simulation is used, the benefit it has for their learning and prepare them for nursing practice.

Problem-centered learning is important for adult learners. Applying what they are learning in theory and lab to clinical situations in simulation will allow students to apply their knowledge in a problem-centered approach. The orientation will give them the ability to be familiar with simulation so they can apply that knowledge to future simulation shifts.

Motivation to learn. The orientation will allow students to understand the purpose of simulation. The goal will be to decrease anxiety surrounding simulation so students will be able to focus on the benefit simulation has to their learning. Instructors will emphasize the connection between simulation experiences and improved clinical practice.

Beneficial Learning: adult learners want to know why their learning is beneficial for them. The simulation orientation will seek to provide them with information on simulation benefits. This information will help them understand the benefits of simulation learning and recognize its importance to their nursing education.

(Clapper, 2010; Knowles 1980;1990)

Figure 1: Knowles' Adult Learning Theory

Purpose of the Orientation

This orientation program gives students a chance to:

1. Learn about simulation
2. Understand their responsibility as a student for simulation shifts
3. Become familiar with what a simulation lab looks like
4. Discover the phases of simulation
5. Decrease participants anxiety regarding the unknown of simulation

Learning Objectives

By the end of this simulation orientation, participants will:

1. Understand their responsibility in simulation learning in the BScN program
2. Discover the simulation lab environment
3. Consider the benefits of simulation learning to their nursing education
4. Understand the rules of simulation and how to approach scheduled simulation shifts

Orientation Format

The simulation orientation should be conducted during the **first semester of the nursing program**. It consists of one session, approximately 30 minutes in duration during an already scheduled lab slot to ensure availability of students. Students are together in a classroom for a brief PowerPoint presentation overviewing simulation. Students then break up into small groups of 10-15 students for exploration of simulation lab. The orientation content is described in greater detail below.

Orientation Facilitator

Orientation should be delivered by a member of the Simulation Team who has expertise in simulation learning. Facilitators should review orientation facilitator manual, including PowerPoint presentation, prior to orientation. Facilitator or other Simulation Team members should prepare the orientation lab rooms by turning on the simulators and ensuring that rooms are ready for student use immediately upon arrival.

Orientation Content

1. **Introduction to Simulation Orientation (10-15 minutes)**
    - Introduction to the CNS simulation program, including that there is a Simulation Coordinator and a simulation team
    - Students complete a brief pre-test (Appendix A)
    - Facilitator presents a PowerPoint presentation covering rules of simulation, types of simulation, phases of simulation, and student responsibilities and expectations for simulation shifts (Appendix B)
2. **Simulation Lab Exploration (10 minutes)**
    - Students are shown a simulation lab in their lab groups, including medium or high-fidelity mannequin, and orientated to their surroundings.
    - Students can explore simulation lab, including interacting with mannequins.
3. **Question Period (5-10 minutes)**
    - Time available for students to ask questions they may have related to simulation, simulation lab environment.
    - Students are given a handout containing key points from orientation for their review (Appendix C).
    - Students are given the post-test to complete (Appendix D).

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Appendix A: Pre-Test

1. Simulation scenarios are completed as a test for skills that students have learned:
   True
   False

2. What are the phases of simulation?
   a. Preparation, Introduction, Simulation, Conclusion
   b. Preparation, Prebrief, Simulation, Debrief
   c. Introduction, Prebrief, Simulation, Reflection
   d. Pretest, Prebrief, Simulation, Debrief

3. What is simulation?
   a. Learning method that combines acting skills and knowledge with nursing skills
   b. The process of applying nursing skills to real-life settings
   c. Learning process allowing participants to practice and learn in an environment representing a real life situation
   d. The method of learning by pretending participants are in a real-life situation

4. To prepare for simulation, participants should:
   a. Review preparation material, review learning objectives, complete required readings, review skills that are relevant to the simulation scenario overview
   b. Review course syllabus, review all skills for that course, practice role that is provided to ensure acting is appropriate,
   c. There is no preparation necessary, participants should arrive and immerse themselves in the simulation to ensure roles are acted out appropriately
   d. Review learning objectives, arrange to meet with simulation group to discuss ideas for a simulation, and discuss how they would like it to unfold

5. Simulation provides the opportunity to practice (Please check all that apply):
   - ☐ Skills previously learned
   - ☐ Acting skills
   - ☐ Skills that may be learned in the future
   - ☐ Communication skills
   - ☐ Decision Making

6. What role do you play in simulation learning?

_____

_____

_____

_____

7. Do you know the simulation lab environment?
   - ☐ Yes
   - ☐ No

8. Are you familiar with the rules of simulation?
   - ☐ Yes
   - ☐ No

9. What are the benefits of simulation learning to your nursing education?

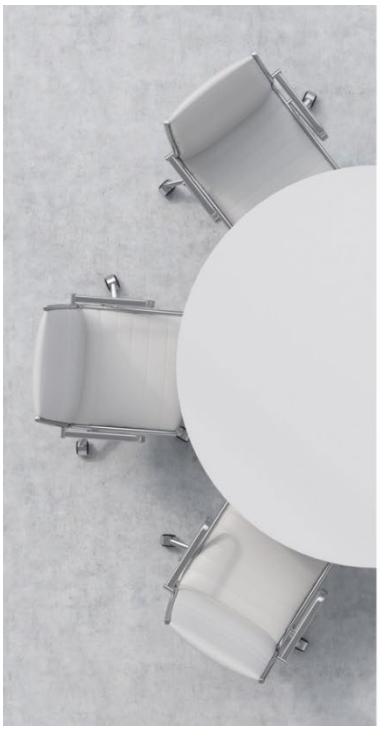
_____

_____

_____

_____

Appendix B: PowerPoint



Simulation at the CNS

CNS Simulation Team

- Led by Simulation Coordinator, Karen Blundon, MSN BN RN PNP FNE
- Made up of faculty members with an interest and training in simulation learning
- Some members have specialty training through CASN in Simulation in Nursing Education
- Responsible for creating simulations, facilitating and operating simulators in BScN, PN and IEN programs
- Keep up to date on simulation best-practice guidelines

What is Simulation?

"A technique that creates a situation or environment to allow persons to experience a representation of a real event for the purpose of practice, learning, evaluation, testing, or to gain understanding of systems or human actions" (Lioce et al., 2020, p.44)

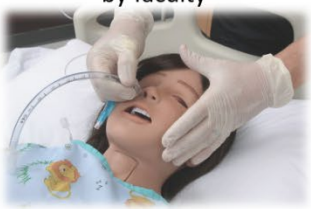
Importance of Simulation in Nursing Education

Types of Simulation

- **Low Fidelity**: Do not need to be controlled or programmed



- **High Fidelity**: Very realistic, high level of interactivity, are controlled or programmed by faculty



(Lioce et al., 2020)

Phases of Simulation

1. Preparation

- Information given before simulation shift by course faculty
- May include:
  - Information on scenario
  - Skills needed to review
  - Articles or chapters to read
  - Learning objectives etc.

2. Prebrief

- Shift report will be on door of simulation room at scheduled time, you'll be given 30min to prepare
- You will meet with Sim team to review expectations
- Tour/introduction to simulation area, and time for you to explore simulation lab
- Choose roles for simulation scenario

(McDermott et al., 2021)

3. Simulation

- Scenario will take place based on learning needs and learning level of students.
- Faculty will not be guiding simulation but present if needed.

4. Debrief

- Chance for everyone to discuss and review the scenario
- Students will talk about strengths, challenges, and learning that took place.

(Decker et al., 2021;Persico et al., 2021)

Rules/Expectations of Simulation

1. Simulation is Confidential

- Same expectations as clinical, do not discuss patient care outside of simulation
- What happens in simulation, stays in simulation!

2. Simulation is for Learning

- Provides **safe** environment to practice skills in an environment that simulates clinical
- Ability to practice and learn, with **no** risk to patients!
- Demonstrate psychomotor skills, therapeutic communication, clinical judgement and critical thinking

3. Your Responsibility in Simulation

- Come dressed for clinical (Scrubs, white warm-up jacket if desired)
- No coats, jackets or bags in simulation lab
- Treat patient and classmates as you would in clinical
- Prepare with the information you are given, all skills learned to date have the potential to be practiced

(Campbell et al., 2023; Palaganas et al., 2022; Turner & Harder, 2018)

Simulation Lab Environment Introduction

Please proceed to the following rooms in your lab groups:

- Lab instructor's Name: Room Number
- Lab instructor 2's Name: Room Number
- Lab instructor 3's Name: Room Number
- Lab instructor 4's Name: Room Number
- Lab instructor 5's Name: Room Number
- Lab instructor 6's Name: Room Number

Appendix C: Orientation Handout

Simulation: What you need to know

Preparation: Your course faculty will provide you with pre-simulation information, please review this as it will guide your preparation. Skills learned may present themselves during the simulation. Complete readings assigned and any learning activities prior to the simulation day.

-Shift report will be available on the door of your assigned simulation room at the scheduled time. You will have 30 minutes to research regarding your patient and the scenario.

Prebrief: Simulation will begin with a simulation team member reviewing learning objectives, simulation ground rules, and provided an opportunity to become familiar with your simulation room, environment and the simulator (as applicable).

-Participants will choose roles (nurse, student nurse, or observer) to help navigate the simulation scenario.

Simulation: The scenarios are developed to meet the learning objectives of your course. The scenario will allow interaction between participants and the simulator, including taking vitals, completing assessments and therapeutic communication.

Debrief**:** After the scenario concludes, participants and those facilitating the simulation will gather to debrief on the simulation scenario. This is a chance for students to reflect on the learning that took place, the strengths and challenges participants had, review the learning objectives, and develop nursing diagnoses.

Rules of Simulation

1. **Confidential:** The scenario, what takes place, decisions made by participants and outcomes are strictly confidential and are not shared outside the walls of that simulation.
2. **Safe:** This is a safe space to practice psychomotor skills, decision making, therapeutic communication, and critical thinking. Participants developing trust in each other is paramount.
3. **Learning Opportunity:** Apply skills and theory in a simulated clinical environment, so no risk of patient harm! Time-out can be called by the active participant during the simulation if time is needed to discuss or review skills, medications, or policies.

4. **Professionalism:** This is always expected and practiced in the simulation lab. Simulation is a mutually reflective environment. This happens between participants, between participants and faculty, and vice versa! Simulation should be a continuous learning process for all involved!

(Campbell et al., 2023; Palaganas et al., 2020; Turner & Harder, 2018)

Appendix D: Post-Test

1. Simulation scenarios are completed as a test for skills that students have learned:
   True
   False

2. What are the phases of simulation?
   a. Preparation, Introduction, Simulation, Conclusion
   b. Preparation, Prebrief, Simulation, Debrief
   c. Introduction, Prebrief, Simulation, Reflection
   d. Pretest, Prebrief, Simulation, Debrief

3. What is simulation?

   A. Learning method that combines acting skills and knowledge with nursing skills

   B. The process of applying nursing skills to real-life settings

   C. Learning process allowing participants to practice and learn in an environment representing a real life situation

   D. The method of learning by pretending participants are in a real-life situation

4. To prepare for simulation, participants should:

   A. Review preparation material, review learning objectives, complete required readings, review skills that are relevant to the simulation scenario overview

   B. Review course syllabus, review all skills for that course, practice role that is provided to ensure acting is appropriate,

   C. There is no preparation necessary, participants should arrive and immerse themselves in the simulation to ensure roles are acted out appropriately

   D. Review learning objectives, arrange to meet with simulation group to discuss ideas for a simulation, and discuss how they would like it to unfold

5. Simulation provides the opportunity to practice (Please check all that apply):

- ☐ Skills previously learned
- ☐ Acting skills
- ☐ Skills that may be learned in the future
- ☐ Communication skills
- ☐ Decision Making

6. What role do you play in simulation learning?

_____

_____

_____

_____

7. Do you know the simulation lab environment?
   - ☐ Yes
   - ☐ No

8. Are you familiar with the rules of simulation?
   - ☐ Yes
   - ☐ No

9. What are the benefits of simulation learning to your nursing education?

_____

_____

_____

_____

Appendix E: Pre-Test and Post-Test Answers

1. Simulation scenarios are completed as a test for skills that students have learned:

True

False

2. What are the phases of simulation?

a. Preparation, Introduction, Simulation, Conclusion

b. Preparation, Prebrief, Simulation, Debrief

c. Introduction, Prebrief, Simulation, Reflection

d. Pretest, Prebrief, Simulation, Debrief

3. What is simulation?

A. Learning method that combines acting skills and knowledge with nursing skills

B. The process of applying nursing skills to real-life settings

C. Learning process allowing participants to practice and learn in an environment representing a real life situation

D. The method of learning watched by clinical instructors where students pretend they are actually in clinical and grading how they perform

4. To prepare for simulation, participants should:

A. Review preparation material, review learning objectives, complete required readings, review skills that are relevant to the simulation scenario overview

B. Review course syllabus, review all skills for that course, practice role that is provided to ensure acting is appropriate,

C. There is no preparation necessary, participants should arrive and immerse themselves in the simulation to ensure roles are acted out appropriately

D. Review learning objectives, arrange to meet with simulation group to discuss ideas for a simulation, and discuss how they would like it to unfold

5. Simulation provides the opportunity to practice (Please check all that apply):

☐ **Skills previously learned**

☐ Acting skills

☐ Skills that may be learned in the future

☐ **Communication skills**

☐ **Decision Making**

6. What role do you play in simulation learning?

- Come dressed for clinical (Scrubs, white warm-up jacket if desired)
- No coats, jackets or bags in simulation lab
- Treat patient and classmates as you would in clinical
- Prepare with the information you are given

7. Do you know the simulation lab environment?

- ☐ Yes
- ☐ No

8. Are you familiar with the rules of simulation?

- ☐ Yes
- ☐ No

9. What are the benefits of simulation learning to your nursing education?

Allows you to practice:

- Decision making
- Teamwork
- Skills previously learned
- Therapeutic communication
- Leadership
- Communication skills

Appendix F: Feedback Form for Simulation Orientation

1. Do you believe this program effectively prepares you for participating in simulation activities?

_____

_____

2. What aspects of the orientation program did you find most helpful?

_____

_____

_____

3. Were there any parts of the orientation program that you found confusing or unclear?

_____

_____

_____

4. Did you feel adequately supported and guided during the orientation program?

_____

_____

_____

5. Do you have any additional comments or suggestions for enhancing the simulation orientation program?

_____

_____

_____

Thank you!!