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The Effect of Repeat Simulation After Reflection on Nursing Students Critical Thinking, Satisfaction, and Self-Confidence

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The National League of Nursing (NLN) called for research related to use of instructional technology, including new methods of teaching and learning in nursing education that occur in simulation. High-fidelity simulation is an instructional technology that nursing educators use to structure beneficial learning experiences for nursing students (Beauchesne & Douglas, 2011; Neill & Wotton, 2011). Therefore, nursing educators must ensure that the use of simulation as an education strategy is also supported by evidence-based practice (Landeen & Jeffries, 2008). The researcher hopes to contribute to the development of a teaching model that uses simulation, which maximizes student learning and outcomes. Simulation is appealing because of the lack of clinical sites that provide the complex patient care experiences needed to prepare nursing students adequately (Billings & Halstead, 2009).

Nursing has used low fidelity simulation for practicing and performing skills for many years. However, in today's pedagogical environment, our millennial students demand the use of more innovative technology. Therefore, nursing education has advanced the use of simulation to high-fidelity simulation (HFS; Baptista, Martins, Pereira, & Mazzo, 2014). Current researchers are not in agreement with the efficacy or rigor of simulation-debriefing training (Aebersold & Tschannen, 2013; Kassab & Kenner, 2011). Moreover, studies utilizing low-fidelity techniques of simulation training have not investigated the efficacy of debriefing, which is the gap in the literature that the researcher aims to explore. The challenge of this research is understanding the problem solving processes that directly relate to nursing students' critical thinking skills, self-confidence, and satisfaction in learning. One of the major concerns in health care in the 21st century is the failure of nurses to recognize and respond appropriately to complex clinical environments and deterioration in clients. The purpose of this non randomized, control group, pre-test/post-test design is for the researcher to investigate the effect of repeated low-fidelity simulation after debriefing learning exercises critical thinking skills, self-confidence, and satisfaction in nursing students.
Many researchers have studied nursing education in regards to the relationships between simulation and critical thinking, clinical reasoning, self-confidence, student satisfaction, simulation design and effective debriefing methods. The purpose of this quantitative quasi-experimental, more specifically, non randomized, control group, pre-test/post-test study, is for the researcher to investigate the effect of repeated low-fidelity simulation after debriefing learning exercises on critical thinking skills, self-confidence, and satisfaction in nursing students. The research questions were: *What is the effect of repeat low-fidelity simulation after reflection in the development of critical thinking skills in nursing students? What is the effect of repeat low-fidelity simulation after reflection in*

the development of self-confidence in nursing students? What is the effect of repeat low-fidelity simulation after reflection in the development of satisfaction of learning in nursing students? The primary theories that support this research study are the National League of Nursing (NLN) reflective simulation framework and the National Education Simulation Framework. A total of 24 nursing students participated in the study. The researcher assigned half of the participants (*n* = 12) to the control group and completed one low-fidelity simulation. The other half of the participants (*n* = 12) were assigned to the test group and completed a second low-fidelity simulation. The results showed that, the test group did not differ from the control group on critical thinking, student self-confidence, or student satisfaction. Therefore, the researcher failed to reject hypotheses H01, H02, and H03. A larger sample size would increase the validity, reliability and generalizability of the study. Additionally, another option for further research would be to conduct this study again utilizing a mixed method or quantitative comparative design. The researcher would also like to utilize the NLN Clinical Reasoning tool for future studies in lieu of The Watson Glaser Critical Thinking tool.

Title:

The Effect of Repeat Simulation After Reflection on Nursing Students Critical Thinking, Satisfaction, and Self-Confidence

Keywords:

Critical thinking, Simulation and Student Satisfaction

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Abstract Summary:

Researchers have studied nursing education in regards to the relationships between simulation, critical thinking, clinical reasoning, self-confidence, student satisfaction, simulation design and effective debriefing methods. The purpose of this study was to investigate the effect of repeated simulation after debriefing on critical thinking, self-confidence, and satisfaction in nursing students.

Content Outline:

I. Introduction

A. The purpose of this quantitative quasi-experimental, non randomized study, was for the researcher to investigate the effect of repeated simulation after debriefing learning exercises on critical thinking skills, self-confidence, and satisfaction in nursing students. Clinical simulation is an evolving teaching and learning strategy in nursing education that uses exercises that mimic real life scenarios (Beauchesne & Douglas, 2011; Schlairet, 2011; Waznonis, 2014).

B. The primary theories that support this research study are the National League of Nursing (NLN) reflective simulation framework and the National Education Simulation Framework (NESF). The NESF focuses on the essential concept of reflection that begins prior to simulation and is integrated throughout and after completion of the simulation activity. The framework consists of six elements of reflection: planned action, apply and embed simulation activity, feedback, and review, self-appraisal, and identification of learner needs. This study evaluates the effectiveness of repeating a simulation experience after the reflection process is completed in relationship to critical thinking, self-confidence, and student satisfaction with learning Alexander, Durham, Hooper, Jeffries, Goldman, & Kardong-Edgren, S. . . . Tillman, 2015).

II. Body

A. Nursing education has significantly increased the utilization of HFS during the last 10 years
to address the growing needs of millennial students. Simulation training enables students to
gain clinical experiences that are emotionally engaging and increase their motivation to learn
(Chen, Grierson, & Norman, 2015).
1. The NLN called for research related to use of instructional technology, including new methods of teaching and learning in nursing education that occur in simulation. High-fidelity simulation is an instructional technology that nursing educators use to structure beneficial learning experiences for nursing students (Beauchesne & Douglas, 2011; Neill & Wotton, 2011). Therefore, nursing educators must ensure that the use of simulation as an education strategy is also supported by evidence-based practice (Landeen & Jeffries, 2008).

2. Simulation use during the teaching and assessment of students is seen as an improved pedagogical method (Ahmed, Gardner, Atkinson, & Gable, 2014). Simulation provides a safe environment where students can learn to manage extraneous variables that they will encounter in the actual health care setting. Management of extraneous variables can be reflected upon and discussed during debriefing.

3. Clinical simulation is an evolving teaching and learning strategy in nursing education that uses exercises that mimic real life scenarios (Beauchesne & Douglas, 2011; Schlairet, 2011; Waznonis, 2014). Furthermore, the nursing education community understands the value of simulation as a teaching methodology in achieving student-learning outcomes (Beauchesne & Douglas, 2011; Bray et al., 2011; Waxman, 2010).
4. Nursing education must acknowledge that current nursing students request and expect the use of technology and immediate feedback during simulation training (Montenery et al., 2013; Sharpnack & Madigan, 2012; Swenty & Eggleston, 2011). Simulation is a type of technology that engages the learner and can improve student satisfaction and learning outcomes (Beauchesne & Douglas, 2011; LaFond & Van Hulle Vincent, 2013; Levett-Jones, 2011; Swenty & Eggleston, 2011).
B. Simulation is a type of technology that engages the learner and can improve student satisfaction and learning outcomes (Beauchesne & Douglas, 2011; LaFond & Van Hulle Vincent, 2013; Levett-Jones, 2011; Swenty & Eggleston, 2011).
1. The development of self-confidence in nursing may be a vital and essential link to positive patient outcomes. Self-evaluation and reflection are valuable sources of evaluating and promoting self-confidence. The aim of this study is to contribute to the theoretical underpinnings of the nursing simulation education and reflective simulation framework through examining student satisfaction and self-confidence, which contribute to greater problem solving skills (Samawi, Miller, & Haras, 2014).
2. Nursing students' cognitive abilities are typically measured with standardized testing. Deficiencies in critical thinking have been identified in graduating nursing students (Swenty & Eggleston, 2011). This deficiency affects the ability to make accurate and

timely decisions, which negatively affects the quality of patient care. A need exists for research regarding how and to what extent simulation training with a period of debriefing affects self-confidence and critical thinking in nursing students (Lavoie et al., 2015).

3. Nursing educators are aware that many students have difficulty with critical thinking (Sullivan, 2012). Because nursing students are often task oriented in the clinical setting, they may have difficulty applying and reflecting on the theoretical knowledge past the performance of a psychomotor skill (Sullivan, 2012). Several governing bodies have identified this lack of reflection as a problem (Sullivan, 2012). The NLN mandated that critical thinking be incorporated into the curriculum in 1992 (Sullivan, 2012). In 1993, the Joint Commission Accreditation Hospital Organization stated that it was critical that undergraduate BSN programs integrate critical thinking into their curriculum (Sullivan, 2012).

C. Debriefing is an important part of ensuring that nurses learn from simulation experiences
(Driefuerst, 2012). However, a gap exists in the literature that addresses best practices for
debriefing after a simulation experience (Driefuerst, 2012). Debriefing is also referred to as a "constructivist teaching strategy" (Driefuerst, 2012, p. 327). Debriefing is considered
to be a vital component of simulation. Debriefing is the stage of simulation in which reflection of the participant's performance, key concepts and objectives are reviewed. It is vital that debriefing is conducted by educators trained in debriefing to ensure the maximum benefit is attained. If the debriefer does not have adequate training, the entire value of the simulation experience can be compromised (Driefuerst, 2012).

1. Nursing educators use DML to teach and practice clinical reasoning skills, which is an essential skill that nursing students should develop (Driefuerst, 2012). The clients in today's health care system have complex multi-system acute and chronic conditions (Driefuerst, 2012). The Debriefing Meaningful Learning (DML) contains six essential elements: (a)
engaging the learners, (b) exploring the options, (c) explaining decisions, (d) elaborating, (e) evaluating, and (f) extending analytical thinking and reflection (Driefuerst, 2012). DML uses inferential and analytical thinking (Driefuerst, 2012, p. 327).

2. The goal of reflection (debriefing) is to improve clinical performance and skills in a safe environment where experienced practitioners are available to review and reflect on performance and enhance the learning opportunity of the simulation. (Ahmed et al., 2014). According to Jaye, Thomas, and Reedy (2015), "Debriefing is considered to be the most important element in providing effective learning in simulation based learning" (p. 171).

D. The NLN has established a center for the innovation and learning related to simulation (Forneris, 2016). The NLN wants to assist nursing educators to stay up to date regarding the effective use of simulation. It is also essential to improve patient outcomes by improving assessment skills, critical thinking, and clinical decision-making. Many researchers have conducted studies regarding the relationship between critical thinking and self-confidence in relation to simulation. Debriefing is considered the most crucial element of the simulation experience. The number of studies related to the

effectiveness of simulation has increased during the past few years. However, a gap exists in the literature pertaining to research on the effectiveness of repetitive simulation after debriefing. Therefore, the researcher chose to focus on the effect that repetitive simulation could have on student satisfaction, self-confidence, and critical thinking.

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