2019

A Systematic Review of the Effectiveness of the NLN Jeffries Simulation Framework

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Abstract

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ADN, Grossmont Community College, 1990

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Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

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Abstract

Simulation theoretical frameworks serve as guidelines for the development, planning, implementation, and evaluation phases during nursing simulation activities. Simulation frameworks provide a substantive foundation for research, education, and practices that contribute to the science of nursing education. The purpose of this systematic literature review was to evaluate and synthesize evidence-based research that can be used to recommend the National League for Nursing (NLN) simulation education framework for simulation activities. The Academic Center for Evidence-Based Practice star model of knowledge transformation and descriptive theory were used as frameworks to guide this systematic literature review. The practice question for this systematic literature review focused on investigating simulation best-practice standards that were integrated into the NLN Jeffries Simulation Framework to support simulation activities in hospitals and teaching institutions. The findings of this project have implications for social change in nursing because simulation activities that follow the guidance of evidence-based teaching practices and characteristics might directly affect health care educational outcomes.

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Dedication

I would like to dedicate this work to our Heavenly Father, creator, and maker of all things, who has given me great faith, strength, love, and wisdom to complete my DNP. I would like to dedicate this to my family. My beloved husband of 26 years and three loving children. I would of never of been able to accomplish this goal and have the love in my heart to help others and contribute to the good of helping our communities without your faith, love and support. My faith, love and foundation in Jesus Christ are the reason for everything good in my life, heart, soul and mind and the miracle of this dissertation. This faith has given me strength to walk down challenging pathways that has required perseverance, love, strength, hope and forgiveness. This faith is the only reason for the accomplishment of great dreams, goals, miracles and everything good in my life most of all my beloved husband, his family and my children. For this reason every step, every degree, every job and every person that has supported and pointed me in the right direction is reasons this dissertation is dedicated to them. I extend a special thank you to my mentors Joan Craigwell, Mavis Young and my good friends Beverly Jafek, Diane Hancock and Janet Brandenburg for helping to guide me in the right direction and believing in me. Your support and love have helped to change generations.

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Acknowledgments

I would like to acknowledge my family, friends, colleagues, and mentor for supporting me through this endeavor. In addition, I would also like to acknowledge Walden University faculty for their guidance throughout the Doctorate in Nursing Practice (DNP) program.

Table of Contents

Section 1: Nature of the Project

Introduction

Evidence-based simulation theoretical frameworks are essential to advance nursing science, research, science of nursing; teaching practices and strategies, organizational/system level outcomes, and safe patient care level outcomes (Jeffries, 2016). Nursing education today faces a time of exciting dramatic change, presenting challenges for simulation nursing educators to influence the discipline and science of nursing and contribute to research, education, and practice (Jeffries, 2016). Over the past decade, the use of simulation in nursing education has gained increasing popularity among training nurses to learn a variety of subject matter, decision-making, and critical thinking skills that are essential to deliver positive patient care outcomes.

At the Doctorate of Nursing Practice (DNP) practicum site, nurse educators assigned to their specialty unit are not using organized evidence-based simulation frameworks to guide their simulation activities. Simulation activities are implemented through nursing without proven and tested systematic frameworks cannot describe the relationship of the concepts and characteristics and clarify the relationships with other observed phenomena (Jeffries, 2016). Simulation theory can help measure learning outcomes and performance standards and provide best learning and teaching strategies (Jeffries, 2016). The overall consequences of this gap in the knowledge include a lack of best simulation practices, teaching practices/strategies, learning and patient/care-level outcomes, and evidence-based performance standards at the bedside. Nurse educators have the responsibility to use theory to achieve organization/system level outcomes

related to the best standards of practice in both education and clinical performance to improve assessment and nursing interventions that are best for the patient/family value systems (Wilson & Haggler, 2012).

The National League for Nursing (NLN) Simulation Framework is a highly systematic process and provides a basis for improved learning and performance measurements at the DNP practicum site (Jeffries, 2007). The NLN/Jeffries Simulation Framework outlines major concepts that contribute to the science of nursing simulation research and evidence-based nursing practice (Jeffries, 2016). This framework uses a highly systematic simulation design feature integrated with five individual major concepts and design characteristics. The five concepts are facilitator, participant, educational practices, outcomes, and simulation design characteristics (Jeffries, 2016). Simulation educational activities under this framework in nursing contribute to best evidence-based practice standards in both educational outcomes and patient care outcomes in health care organizations (Jeffries, 2016).

Evidence gathered through the systematic review process related to empirical support for nurse-driven simulation activities integrated with the five major components and characteristics of the NLN Jeffries Simulation Frameworks supported the purpose, research question, and direction of this DNP project. The findings of this systematic review may translate into the adoption of standardized guidelines for the management of best nurse-led simulation activities at the practicum site. The overall benefit of this DNP project is to illuminate and support nurse educators and clinicians at the practicum site to

contribute to the science and research in nursing and improve learning/patient-level outcomes.

The nature (DNP) project is to provide a systematic review of the NLN Jeffries Simulation Framework. The research findings will support best simulation practices, research to support these practices, and future changes in practice of best guidelines for the management of nurse-led simulation activities at the practicum site hospital. It is part of a larger project related to developing standardized simulation activities guidelines in health care organizations to contribute to the science of evidence-based practices and research in education and bedside patient care outcomes. The goal was to guide and support nurse educators during simulation activities and scenario development by integrating the findings from the current evidence-based articles related to the best simulation recommendations and practices of the NLN Jeffries Simulation Framework.

This DNP project can lead to social change in the science of nursing by recommending all nurse-driven simulation activities directed and governed by current proven and validated simulation theoretical frameworks in health care organizations. The recommendations of this project proposal examine the evidence to support the effectiveness of the NLN Jeffries Simulation Framework, which contributes to the advancement of the nursing discipline, evidence-based practice, and future theory and research development and testing.

The goals of this DNP project are to disseminate the empirical findings from systematic reviews of the literature related to the effectiveness of the NLN/Simulation Framework. The research findings and dissemination of nursing provides a basis for

informed practice change guidelines related to the management of nurse-driven simulation activities and provide evidence to support these practices and identify priorities or next steps for future simulation activities at the practicum site.

Problem Statement

Local Nursing Practice Problem

Research demonstrates that simulation activities, when compared to other traditional learning strategies, contribute to improved performance, satisfaction, confidence, improved learning, and improved safe patient care performance (Jeffries, 2016). The current practice of simulation activities at the practicum site is that simulation lesson plans and teaching strategies do not have clear guidance or direction and subjective interpretation of the scenario. Simulation activities include scenario development, implementation, and evaluation processes for the best simulation of evidence-based practice guidelines at the practicum site. Simulation frameworks can assist nurse educators during simulation activities beginning with the assessment, development, and implementation and evaluation phases, combined with best teaching strategies to contribute to positive outcomes including patient or care recipients, organizational systems, and learner or nurse recipients related to simulation training activities (Jeffries, 2007).

Several variables influence simulation learning outcomes, such as having clear guidance, direction, application, and evaluation strategies that nursing employees typically seek during the management of simulation activities at hospitals (Jeffries,

2016). The gap and key issues identified at the practicum site, involving the fact that simulation activities lack best practice guidelines and recommendations reflects a need for this DNP systematic literature review and for higher quality simulation designs, and improved performance measurement practices during simulation training sessions and at the bedside.

The current local nursing practice problem at the DNP practicum site is that simulation activities lack evidence-based guidelines during scenario development, implementation, and evaluation of the outcomes. The simulation activities are subjective and lack the current empirical best evidence-based guidelines. Findings from the research demonstrate that simulation compared to with baseline or no interventions contribute to quality performance in decision-making and nursing actions during patient care (Cook et al., 2011). Simulation-teaching strategies, when compared to traditional teaching strategies, improve learning and clinical practice performance measurements (Cook et al., 2011). This DNP practicum project will examine the empirical evidence findings related to the NLN Jeffries Theoretical Framework and recommend the best changes to practice guidelines for nurse-led management of simulation activities at the practicum hospital site. The systematic literature review will provide further evidence and create a valid argument to support the simulation frameworks related to best simulation practices, research to support the recommended changes, and priorities for the future management of nurse-led management of simulation activities in hospitals.

The project site has simulation lesson plans for nurse educators to use for simulation activities; however, there is a lack of evidence theory-driven lesson plans

during the development, implementation, and evaluation hinders successful outcomes. The nurse educators become confused and frustrated when asked to communicate and collaborate outcomes to nursing staff and interdisciplinary team members for further evaluation and research. One of the greatest challenges for the nurse educators involves designing simulation-based training activities centered on best-recommended practices related to the assessment, recognition, and management of different patient care outcomes measurements in hospitals.

The need to address this problem is evident and urgent at the practicum site; nurse educators are responsible for the simulation activities and the initiation of best simulation practice guidelines and institute timely appropriate recommendation and guidelines from the literature review. This will be a starting point for the development of the nurse-led management of their simulation program at the practicum site to promote positive learning and improve patient care outcomes. The purpose of this systematic review was to look at the NLN-Jeffries Theoretical Framework as a starting point for best simulation practices, and then apply the findings to recommend empirical best practices associated with quality simulation experiences.

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Local Relevance

While there is a great deal of simulation activities comparing outcomes at different health care organizations, there is no consistent, agreed-upon definition of evidence-based practice simulation guidelines or standards related to nurse management of simulation activities in hospitals (Jeffries, 2016). Theory guides practice, and

evidence-based practice guides theory and research to improve patient care measurement. Implementing simulation activities without these components will affect quality outcomes and compromise clinical experience learning outcomes (Jeffries, 2012). Simulation frameworks help to explain the relationship between the concepts, variables, and characteristics and their influence on expected learning and patient care outcomes (Jeffries, 2016).

The purpose of simulation theory is to provide a foundation for the best simulation educational practice guidelines and design characteristics. The NLN-Jeffries Simulation Framework helps to explain the relationship between the major concepts, variables, design characteristics, and best teaching strategies. The NLN-Jeffries Simulation Framework provides nurse educators with clear direction between the different concepts and variables to predict positive educational outcomes (Jeffries, 2016) and for the assessment and evaluation of the simulation outcomes. The NLN Simulation Framework contributes to the discipline and science of nursing for future research opportunities in simulation theory (Jeffries, 2016). Benefits of this DNP project will provide evidence to support the change in practice guidelines and adopt recommendations to manage nurse-driven evidence-based simulation activities at hospitals.

This lack of clarity and direction regarding what constitutes best practices during nurse management of simulation activities at hospitals negatively affects best educational strategies and patient care outcomes. Numerous research findings provide evidence to support the integration of the NLN Jeffries Simulation Framework to promote best

educational practices relevant to improving patient care outcomes (Cook et al., 2011). Researchers have recommended the use of simulation evidence-based guidelines for nurse educators' preparedness during simulation scenario development, implementation, and evaluation measurements that affect patient care outcome measurements (Jeffries, 2016). The purpose of this DNP literature review is to provide current evidence to support nurse-led management of simulation activities at hospitals.

Nurse-led simulation activities at the practicum site lack simulation theory, best educational practices, and understanding of simulation theoretical frameworks. This gap in the knowledge negatively affects learning outcomes and clinical performance outcomes during patient care (Jeffries, 2016). The simulation learning outcomes at the practicum site for simulation activities are not being measured, communicated, or evaluated in the patient care environment due to the failure to use a simulation theory during simulation scenario development, implementation, and evaluation of simulation activities. This gap in the knowledge, lack of understanding, and lack of familiarity of evidence-based simulation frameworks at the practicum site may contribute to the negative evaluation of the structured learning and clinical outcome performance (Jeffries, 2016). The main purpose of the DNP project is to provide current scientific evidence to recommend guidelines to manage nurse-led simulation activities at the practicum site.

A comprehensive review of the NLN Jeffries Simulation Theoretical Framework for management of simulation activities includes essential best practice strategies that the current research supports (Jeffries, 2016). The findings from Jeffries (2016), supported the NLN Jeffries Theoretical Framework, identified essential best practice teaching

elements and characteristics, established evidence-based teaching practices, contributed to curriculum development and integration, addressed the variations and range of difficulty levels in nursing actions, included multiple learning strategies, captured the simulation relationship to clinical variation outcomes, promoted a controlled environment, provided individualized learning, and clearly defined benchmark simulation activity and the validity of the simulation framework (BEME, 2016, pp. 21-24).

Cook et al. (2013) confirmed the benefits of the NLN Jeffries Theoretical Framework evidence-based attributes. Additional benefits such as distributed practices, interactivity, mastery learning, longer time in simulation, and group instructions also support these best-practice simulation activities. A simulation framework serves as the foundation to support effective learning outcomes for the management of nurse-led simulation activities at hospitals (Jeffries, 2016).

The NLN-Simulation Theoretical Framework can be used to facilitate a formalized systematic approach for nurse led management of simulation activities in hospitals to promote clinical reasoning, actions, decision making, communication, interdisciplinary collaboration and patient care outcome measurements instead of subjective educational practices, guidelines, and characteristics (Jeffries, 2016). For these reasons, the lack of evidence-based simulation theoretical framework guidelines for nurse educators within the use of a simulation-based training course centered on assessment, recognition, and management of simulation activities in a hospital must be addressed.

Significance of Nursing Practice

This DNP project holds significance to the field of nursing practice, as it may motivate the practicum site to identify and establish an agreed-upon evidence-based simulation nursing theoretical framework that will standardize the management of the simulation scenario phases including the development, implementation, and evaluation of performance. This will help to provide clear guidance and direction for nurse educators to manage their simulation activities and learning outcome. The project also addresses the problem of the lack of evidence-based simulation activities and influence on the delivery of positive patient care outcomes at the practicum site. This doctoral project is significant to nursing practice and research, because it may help identify and communicate the effectiveness of the NLN Jeffries Simulation Framework for further development. This project can significantly improve nursing practice, research, curricular integration, communication, and collaboration and empower nurses to make clinical reasoning decisions and actions that are based on empirical evidence, reduce the rate of low learning and patient care outcomes, and decrease the high cost of morbidity and mortality rates.

The literature review of scholarly articles revealed several articles on the NLN-simulation theoretical frameworks. Research is primarily based on findings gathered at educational institutions, and very few articles are available through research at hospitals related to performance standards (see Cook et al., 2011; Jeffries, 2016). The published literature findings for this DNP project may help establish universal guidelines for simulation learning activities at the local practicum site for nursing and communication

with the inter-disciplinary team. An attempt to address the creation of human patient simulation scenarios integrated with the NLN/Jeffries Simulation Framework is currently being performed at one of the local teaching hospitals in the community. They have combined patient simulation scenarios with the simulation framework to function during simulation scenarios and to function as a theoretical framework for continued research on the implementation of simulation (Wilson & Hagler, 2012; Young & Shellenbarger, 2012).

At the DNP project site, this issue gap in the best simulation practice guidelines is substantial, and it affects the contribution of nursing research, learning and patient care outcomes, curricular integration, the learning environment, knowledge acquisition, patient satisfaction, and clinical skill attainment (see Jeffries, 2016). Key issues related to the benefits of simulation training-based activities include experience in a controlled learning environment where learners can make mistakes, distributed clinical practice variations, interactivity, mastery learning, longer time in simulation and groups, repetitive practice, range of difficulty level, multiple learning strategies, individualized learning, and predetermined defined outcomes and expectations (Cook et al., 2011). Of these benefits, simulation components and characteristics integrated in the NLN Jeffries Framework find support in the research and address the best educational practices component of effective simulation to improve participant learning and performance (Jeffries, 2016).

These benefits combined with new research findings support the effectiveness of evidence-based simulation with superior outcomes. The National Council of State Boards

of Nursing (NCSBN) supports simulation and recommends that it be used to replace up to 50 percent of clinical time (Jeffries, 2016). The gap in knowledge related to the key benefits of best simulation practices for management of nurse-led simulation activities is the basis of this DNP project, including providing nurse educators at the practicum site with tools to produce best simulation activities and outcomes, thus reducing confusion and frustration in relation to the components of effective simulation.

Nursing educators today face the challenges of clinical site shortage, increasing complex patient care, and preparation of graduates for the 21st century health care practices in a rapidly changing technological world (Jeffries, 2016). Furthermore, challenges for nurse educators include their lack of knowledge and unfamiliarity with simulation learning experiences when using simulation design frameworks as they develop, implement, and evaluate simulations (Jeffries, 2016). These challenges have proven to change the learning environment, teaching plans, and strategies utilized in simulation-based educational experiences (Jeffries, 2016). All of these challenges present new obstacles and barriers for nurse educators from didactic, laboratory, or clinical settings. Many of these challenges are due to complex health care environments that require high-tech, problem-solving, and decision-making skills and strong knowledge backgrounds that are essential to achieve safe clinical diagnostic health care goals (Jeffries, 2007).

Nurse educators can confront and overcome these challenges and changes by incorporating and supplementing new evidence-based practice theoretical frameworks into practice guidelines and standards while improving their innovative simulation

teaching-learning methods, clinical methods, and educational practices (Jeffries, 2007). Incorporating the NLN-Laerdal Theoretical Framework and practices into their methods will help future nursing educators and nursing students achieve high-quality educational goals, confidence, satisfaction, learning, and performance (Jeffries, 2016). Nurse educators can overcome these challenges and barriers during simulation activities by utilizing simulation theoretical frameworks.

Simulation activities based on evidence-based simulation frameworks have the additional benefit of grounding and rooting educational plans and assisting in the implementation of evidence-based practice guidelines at hospitals (Jeffries, 2016). Simulation education programs that draw upon proven simulation frameworks will enhance the development, implementation, and evaluation of the hospital nursing educational programs used during simulations (Jeffries, 2016). Overall, major benefits of this evidence-based project will result in positive learning outcomes for nurse educators, nurses, and patients.

Within the first step toward this goal, nurse educators at hospitals must establish the effectiveness of the simulation theory chosen to manage their simulation activities for performance outcome evaluation strategies. The consensus establishment of the evidence-based simulation theoretical framework will provide a foundational guideline for nurse educators at hospitals to develop, implement, and evaluate their simulation activities (Jeffries, 2016). This important process of identifying and establishing foundational principles will contribute to research, communication, collaboration, learning outcomes, positive patient care outcomes, decreased morbidity and mortality rates, and decreased

hospital re-admissions for complications (Jeffries, 2016). This may also lead to quality development of evidence-based simulation activities that improve clinical performance standards and outcomes and increase the number of nurse educators and researchers' contributions. As such, these developments will help establish the effectiveness of simulation-based training that positively contributes to patient care outcomes in hospitals.

Purpose

The purpose of this project is to provide a systematic review of the literature related to the NLN Jeffries Simulation Framework and examine and disseminate evidence findings from the literature that can be used in the management of nurse-led simulation activities at the practicum site. This project may contribute to the adoption of standardized simulation guidelines for the management of all nurse-led simulation activities using the NLN-Simulation Theoretical Framework in hospitals and at the practicum site.

The literature review examines and summarizes the benefits and effectiveness of the NLN-Jeffries Simulation Theory guidelines and best teaching practices to support and establish informed practice related to the management and evaluation of simulation activities that improve learning and patient care outcomes in hospitals.

Few studies have established the direct effect on improved patient care outcomes after simulation activities. This DNP project provides evidence-based guidelines and evidence-based practice theory during the management of simulation activities in hospitals. Simulation educational frameworks can provide nurse educators the direction

and features to ensure the application of the gold standard for nurses to provide quality evidence-based patient care outcomes that reduce complications, morbidity, and mortality rates (Jeffries, 2016).

There is great debate and concern that simulation activities in hospitals and educational institutions that are not governed by evidence-based simulation theory will negatively influence the learning outcomes and directly affect evidence-based performance standards in hospitals, despite the benefits of using evidence-based simulation theory to manage simulation activities (Jeffries, 2016). An evidence-based performance standards and interventions protocol exists for nurses to deliver performance standards to the patient population; however, there is no evidence or standard protocol established for the management of nurse-led simulation activities at hospitals.

Because of the state of current practice of simulation activities that theory does not regulate, it is evident that nurse educators face a practice gap at hospitals. The DNP project may provide nurse educators with a framework to develop, implement, and evaluate learning and patient care outcomes in hospitals. An NLN-Jeffries Simulation Framework will support the further development and evaluation of simulation activities that directly affect patient care outcomes.

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Practice Focused Question

The practice-focused question of this doctoral project is thus: “What are the best practices and current research supports that can be used during the development, management, and evaluation of simulation activities in the hospital patient care

populations?" In the systematic literature review I used the NLN Jeffries Simulation Framework and the five individual concepts of the NLN Jeffries Simulation Framework (facilitator, participant, educational practices, outcomes, and simulation design characteristics) to identify best simulation practices and support decision making and support the adoption, development, and implementation of an evidence-based simulation theoretical framework tool that will positively impact learning outcomes, nursing performance outcomes, and patient care outcomes in hospital settings.

The population sample from the research included nurse educators, staff nurses, and administrators that deliver simulation activities and training sessions in the hospital that directly influence performance standards and interventions that may influence patient care outcomes. The intervention and outcome of this DNP project was to identify the best practices and current research of the NLN-Jeffries Simulation Theoretical Framework to support nurse educators' practice during simulation development and implementation of simulation scenarios, evaluation of learning outcomes that directly influence patient care outcomes, relationships within the outcomes, patient care complications, hospital re-admission rates, morbidity and mortality rates in hospitals, and contributions to the nursing research. The development and implementation of the framework must be ongoing to provide further simulation research and development that will accelerate positive nursing actions and performance standard guidelines that are clear in both direction and magnitude. The findings from the systematic review help to inform and explain to nurse educators in hospitals what is currently known about best simulation practices, what research exists to promote these practices, and priorities for future

research (Jeffries, 2016). The design of this systematic review was the synthesis of the literature review for the systematic reviews, quantitative studies, qualitative studies, and pilot studies.

Nature of the Doctoral Project

Source of Evidence

Between January 2018 and March 2018, the CINAHL, Pub Med, and ProQuest databases were searched using the terms simulat* and simulat theory AND NLN OR simulation theory. Included in the reviews were empirical research, commentaries, and review articles published in English during the last ten (10) years. The systematic analysis review of the current research of the evidence-based simulation theory was useful to provide a basis for informed practices related to the best simulation practice guidelines and practices. The NLN Jeffries Simulation Framework provides clear direction, details, progression, information, consequences of actions, and major landmarks that can improve nursing practice guidelines, improve learning and patient care outcomes, and determine what constitutes best simulation activities (Jeffries 2016). The nature of this project was to collect and reveal evidence that supports the current NLN Jeffries Simulation Framework research in the literature for the implementation of evidence-based simulation activities and the development of scenarios and evaluation strategies for performance measurements of learning outcomes in the hospital setting. The sources included nursing journals and peer-reviewed articles.

Approach

The systematic review included rigorous and systematic analysis of empirical articles using descriptive theory to guide the synthesis matrix. The synthesis matrix is a tool often outlined in a chart that allows researchers to classify and sort out the different arguments presented on an issue (John Hopkins, 2017). This tool provides a visual map to examine the subtopic but highlights the effects of the main idea, which may be similar or different, and points out their relationship to each other (John Hopkins, 2017). The approach included a paper trail of database research and constructs a matrix synthesis that abstracted relevant and pertinent content from the articles. The matrices analysis and synthesis included an organized approach that categorized and structured the current knowledge of the research question related to the relevant concepts of the NLN Jeffries Simulation Framework (Jeffries, 2016) for the systematic analysis and synthesis of the literature. The matrix analysis was organized according to the following research question: "What constitutes best practices, and what research supports the NLN Jeffries Simulation Theoretical Framework for simulation activities." This systematic approach creates a foundation that facilitates ongoing research, practice, organization, and confidence to recommend a change of practice standard.

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Significance

Stakeholders

One of the most significant challenges nurse educators face relates to how teaching and learning strategies with simulation contribute to positive learning outcomes

compared to traditional methods used at hospitals (Jeffries, 2007). Nurse educators in hospitals provide ongoing training and simulation activities to nurses in all different specialty areas. Nurses provide training and simulation activities in their community to improve health standards and promote optimal health outcomes. Hospital administrators may provide additional training to nurse educators, interdisciplinary team members, and administration team members. The effect of the DNP project will affect multiple stakeholders that currently implement simulation activities at hospitals, because it provides evidence to support the need for best simulation practices.

Other stakeholders include patient, patient family members, nursing management teams, chief executive officers, national council committee members, and individual state board of nursing members. In addition, evidence gathered from this project will affect individuals at multiple levels, because it affects every entity and professional who works collaboratively with nurse educators, nurses, and multi-interdisciplinary teams in hospitals.

Contribution of the Doctoral Project

According to Jeffries (2007), nursing education is at a time of exciting dramatic change and challenge for nursing educators to influence the discipline of nursing by developing, implementing and evaluating foundational simulation teaching-learning processes. Over the past decade, the use of simulation in nursing education has gained increasing popularity in training nurses to learn a variety of subject matters, decision making, and critical thinking skills that are essential for patient care (Jeffries, 2016). The project contributes to the science of nursing research and practice by providing evidence

and knowledge to support integration of the NLN Jefferies Simulation Framework as a tool to guide simulation activities. This project will support best educational practices to improve learning outcomes and patient care outcomes in hospitals. The project can be the beginning foundation to support hospitals formalizing their simulation activities using a standardized methodology into their educational plans and curriculums. The project provides the foundation and direction for improved practice standards and nursing research. Positive learning outcomes for nurse educators, nurses, and patients.

This project introduces and examines evidence to support the NLN-Simulation Design Framework, recommended an informed change of practice standards, guidelines and evaluation strategies to support nurse educators in their advance roles in organizing, synthesizing, analyzing, and incorporating essential evidence-based educational components into their simulation teaching plans, activities, and curriculums. The project can be the beginning foundation to support hospitals formalizing their simulation activities using a current evidence-based findings and strategies during management of simulation activities, development of their educational plans and curriculums.

One of the biggest challenges and questions nurse educators are asking center on what teaching and learning strategies with simulation contribute to positive learning outcomes (Jeffries, 2007). Nursing educators lack of experience and familiarity with simulation-based design teaching plans and theoretical frameworks contribute to inadequate preparation of students for complex patient care environments. Moreover, integrating findings from systematic literature review related to the NLN-Simulation Design Framework project across my practicum's nursing program's curriculums will

contribute to positive learning outcomes. These positive simulation-learning experiences will contribute to the transfer of knowledge and skills into the patient care arena. The safe simulation learning environment minimizes harm to actual patients and bridges the gap of knowledge from classroom and laboratory to patient care and clinical settings, to improve patient care performance standards at the bed-side (Jeffries, 2007).

Most nursing educators at hospitals have minimal education simulation activities using evidenced based theoretical frameworks to guide their educational plans and curriculums (Jeffries, 2016). Many nurse educators are not experienced or familiar with evidence-based simulation lesson plans and scenarios that are guided by theory. (Jeffries, 2016). Recommendations in this project will help nurse educators to gain knowledge, support, and feel confident to adopt a simulation framework and begin to apply different components, features, and design characteristics into their nursing programs curriculum and improve learning and patient care performance standards. Long term goals during dissemination of the systematic review findings include improved new and innovative simulation learning practices and strategies, refined best and effective teaching-learning practices, improved curricular designs and evaluation strategies at my practicum site (Jeffries, 2007).

Transferability

Nursing educators today face the challenges of increasing complex patient care and preparing graduates for 21st century health care practices in a rapidly changing technological world (Jeffries, 2016). Furthermore, challenges for nurse educators include their lack of knowledge and unfamiliarity with simulation learning experiences using

simulation design frameworks to help them develop, implement, and evaluate simulations (Jeffries, 2016). Evidence-based teaching practices are based on cumulative evidence research and testing that provides clinical reasoning, decision making, and a method of knowledge transfer to change practice, improve patient care outcomes, reduce hospital cost, and improve the quality and deliver of patient care.

The findings from the literature review related to the NLN-Simulation Framework may improve patient care outcomes and learning outcomes in hospitals nationwide. The results of the systematic literature review can be shared with hospitals, community health care organizations, and educational institutions that provide simulation activities during training or curricular development. This DNP project can provide the foundation for evidence-based simulation theory to be used as a standardized guideline for the management of nurse-led simulation educational activities, nursing performance evaluations, patient performance outcomes measurements, research at their hospitals, and transferability to all nurse educators throughout the country.

Social Change Implication

The DNP project can create positive social change within the project site by promoting informed evidence-based practice standards and supporting nurse educators to provide simulation activities that are based on evidence and best learning/teaching practices and characteristics that improve learning and patient care outcomes. Nurse educators can have the confidence to adopt the NLN Jeffries Framework or another

proven effective framework as the basis of their simulation activities to begin to contribute to the science of nursing and bridge the gap of important principles between best informed practice guidelines and management of all nurse-led simulation practice activities and improve curriculum development (Jeffries, 2007).

Nursing students, nurse educators, and patients will benefit from this evidence-based project and bridge the gap between application of knowledge and skills in the simulation-learning environment into the patient care environment. The systematic literature review can provide nurse educators a tool that will help to manage, govern, and evaluate all simulation activities that directly affect the safety of patient care outcomes at the practicum site.

The DNP project will improve communication, collaboration, and contribute to both practice and research at the practicum site. The findings from the literature review related to the specific components, features, characteristics, and educational practices of the NLN-Simulation Design Framework into simulation activities would improve their understanding, development, and application. It will also clearly define and organize the complex design, process, and multifaceted simulation teaching plans and improve their simulation teaching/learning plans and strategies. The overall effect related to well-organized and systematic simulation lesson plans will help educators optimally design, develop, implement, and evaluate their simulation educational experiences (Jeffries, 2007). Adoption of the NLN-Simulation Theoretical framework to be used during the management of all nurse-led simulation activities will improve and contribute to best

simulation and learning practices to illuminate the research findings to support these practices and provide a tool for future research and evaluation strategies in simulation.

Summary

The focus and type of learning outcomes, strategies, and instructions provided during simulation-based training sessions directly influence the outcomes in the learning and patient care environment. Multiple studies demonstrated that simulation produced superior learning outcomes when compared to more traditional lecture or didactic teaching strategies (Tiffen, Corbridge, Shen, & Robinson, 2011). This supports the need for further research and testing of simulation frameworks to guide and govern all simulation activities. There is still great debate and needed research to support simulation activities outcomes transfer to the clinical environment to impact patient care (Jeffries, 2016). The best learning practices that are embedded into NLN-Simulation Design Theoretical Framework provide confidence and evidence to nurse educators to use this tool for simulation management activities to improve communication and clinical decision making, and the actions applied during nursing practice interventions will transfer to patient care outcomes (Jeffries 2016).

Hospitals that adopt a proven and validated simulation framework for the management and practice of nurse-led simulation activities can help to standardize the simulation educational design, plan, and experiences (Jeffries, 2007). The NLN Jeffries Theoretical Frameworks provide essential components, focus, and direction in order to lay a solid foundation for optimal teaching-learning educational experiences (Jeffries, 2007). This is the first step in simulation program development to improve nurses'

educational performance outcomes and professional growth and transfer positive performance measurements into patient care. The NLN-Simulation Design Framework provides the essential context, components, focus, and direction at my practicum site in order to contribute to the positive learning outcomes.

Nursing educators and faculty members struggle with simulation educational plans and curricular inconsistencies regarding their approach and teaching strategies at hospitals and educational institutions (Jeffries, 2016). Their lack of training, familiarity, exposure, and experiences with simulation educational plans, teaching strategies, and standardized simulation patients contribute further to these challenges. This gap and the key issues identified within this project indicate that evidence-based simulation programs produce higher quality simulation designs, improved measurements, and preparation for all variations of nurses to deliver competent and safe health care practices to complex patient health care problems (Jeffries, 2007). The evidence gathered from this DNP project will provide a tool for nurse educators at hospital to use that will illuminate obscurity and subjectivity; assist in the development of evidence-based simulation lesson plans, teaching strategies, and pedagogy; and improve both learning outcomes and safe patient care outcomes.

The second section of this project will provide an overview of the concepts, model, and theories that guide the literature systematic review of the NLN-Simulation Framework. The relevance of the nursing problem to nursing practice, local background, and context will be discussed in this section.

Section 2: Background and Context

Introduction

Nursing is re-defining its practices and delivery of simulation learning outcomes and activities toward evidence-based practice that contribute to improved performance measurements and patient care outcomes in hospitals (Jeffries, 2016). Evidence-based practice uses the best available scientific evidence with a problem-solving approach to clinical decisions, problem-solving strategies, and actions during patient care (Burns, 2009). It combines the best available experiential patient and clinical practitioner evidence and requires a systematic search, examination, synthesis, analysis, and application of the most current relevant evidence to answer the question regarding best practices to be used by nurse educators in the hospital during simulation activities (Burns, 2009). Simulation activities are complex, as they can be affected by multiple variables and multiple organizational systems that influence patient care performance measurements (Jeffries, 2016). At the practicum site, theory was not managing and guiding the simulation activities, which influences learning outcomes, evaluation methodology, communication, collaboration, research development, and practice.

There are many rewarding and promising learning experiences and outcomes that can be achieved during organized simulation activities and experiences (Jeffries, 2007). According to Cook et al. (2011), research demonstrates that simulation, when compared with other types of instruction, produces superior and positive learning outcomes. This supports the claim that the practice problem at the practicum site involved simulation activities that were not using higher quality simulation theory, design, and valid and

reliable instruments to measure performance standards and effects on patient care outcomes. The focused practice question for this doctoral project was thus: What are the best practices and current research support used in the NLN Jeffries Theoretical Framework that can be used during the development, management, and evaluation of simulation activities in the hospital patient care populations?

The overall goal of this project was to perform a systematic literature review to analyze, evaluate, synthesizes, and summarize the NLN Jeffries Simulation Framework and the five individual concepts of the NLN Jeffries Simulation Framework (facilitator, participant, educational practices, outcomes, and simulation design characteristics). The findings from the systematic literature review will provide informed practice change evidence and support for nurse educators related to the development and management of nurse-led simulation activities to improve learning and patient care performance outcomes in the practicum hospital setting. Further benefits of this project include the identification and dissemination of the findings related to best simulation practices and educational practices; support for decision-making processes; and the development and implementation of an evidence-based simulation theoretical framework tool that will positively impact learning outcomes to improve nursing performance standards in hospital settings.

The simulation learning environments provide a calm and safe environment in which to synthesize, organize, apply, and stimulate critical-thinking skills that are necessary to develop in order to best prepare nurses to deliver evidence-based nursing practice standards (Jeffries, 2007). If the foundation of the simulation activities is not

based on theory, it will be difficult to identify during simulation activities what constitutes best practices supported by the research that is necessary for the management of patients in hospitals (Jeffries, 2012). The benefits and learning experiences that are acquired in a simulation experience can be further enhanced as nursing educators implement standardized educational plans and evidence-based theoretical framework into their simulation activities and across their nursing program curriculum.

This section describes the specific concepts, characteristics, and best learning practices in the literature review of best simulation activities management and practice. This section includes a synthesis of the NLN-Simulation Theoretical Framework theory as it relates to the use of evidence-based theory for the management of simulation activities in the hospital care patient care population. This section includes a discussion of the importance of this project for nursing practice, the local background, and the context of the problem at the practicum site. The student roles and activities in the project and definition of terms will also be discussed.

Concepts, Models, and Theories

Rationale for Concepts, Models and Theories

The concept of evidence-based simulation theory supported this DNP project. Nurse regulators use evidence-based simulation theory, which is a complex methodology, to manage teaching strategies, nurses' performance practice standards, and decision-making processes (Burns, 2009). It combines the best research data related to a particular problem with clinical expertise, reasoning, and patient values (Burns, 2009). The research is synthesized and analyzed for expert opinions to support learning performance

outcomes. Nurse Educators should always incorporate evidence-based practice into their curricula and use evidence-based strategies to support their teaching strategies (Jeffries, 2016)). Evidence-based simulation theory relates to this project, as the nursing management of simulation activities at the practicum site does not use the current scientific theory to guide their simulation practice standards.

I used the descriptive theory to guide the systematic review to achieve outcomes and explain the regularities in the findings and recommendations related to the NLN Jeffries Theoretical Framework. Simulation is experiential in nature that seeks to describe the observed behavior, patterns, and choices (Jeffries, 2012). It explains and predicts how learning occurs and outlines the reasons learning outcomes are met or not met in context. The NLN Jeffries Theoretical Framework is experiential or descriptive in nature (Jeffries, 2012). Both theories seek to describe how people learn and respond to the simulation structure, requirements, and outcomes and what questions to ask related to the observed simulation experiences.

Descriptive or experiential theory helps to explain the relationship between the features, concepts, characteristics, and structure of the NLN Jeffries Simulation Framework to predict and provide reasons for the choices and actions the learner has made during simulation activities. Descriptive theory provides the basis for this DNP project, because it involves integrating new information with pre-existing knowledge that is factual and observable (Jeffries, 2016). This theory provided support to my systematic review process, support synthesis and analysis of the findings of the articles, support

recommendations of the synthesis of literature, and assist to disseminate the findings at the practicum site.

The ACE Star Model of knowledge transformation was used for the synthesis, analysis, and dissemination of this DNP practicum project. This model was developed by the Academic Center for Evidence-Based Practice (ACE) to assist in the process of knowledge transformation of best-informed practice into development and the implementation of guidelines that improve performance outcomes at health care organizations (Heye & Stevens, 2009). The model uses interdisciplinary strategies to improve multi-level nursing and institution/organizational quality outcomes (Heye & Stevens, 2009). This model provides a framework that can be used by nurses during the development, implementation, and evaluation of evidence-based processes (Heye & Stevens, 2009). It provides a visual illustration tool to provide direction and assist nurses to synthesize and analyze their scientific evidence during the literature review. The ACE model provides tools to assist nurses to identify barriers that could prevent the adoption of scientific evidence into practice (Heye & Stevens, 2009). The nurse is guided through a five-step framework to discover new knowledge, summarize findings of research to recommend a change of practice, and evaluate the impact of the practice change that affect quality improvement performance measurements (Heye & Stevens, 2009). The ACE star model is valuable for easy and quick dissemination and transformation of recommended evidenced-based practice guidelines.

The Ace Star Model is popular with nurse educators, because both nurses and organizations can expedite the translation of research into change of practice guidelines

in a variety of settings. The Ace Star Model framework helps to examine, organize, synthesize, and analyze knowledge and principles into a systematic organized framework that can help nurse educators teaching EBP concepts (Heye & Stevens, 2009). The model can also help clinical expert nurses to develop, implement, and evaluate a variety of recommended guidelines that improve clinical practice guidelines (Heye & Stevens, 2009). Nurses use a variety of models in practice settings to organize, identify, examine, and analyze the strength of the scientific research findings to recommend change of practice standards and evaluate the impact of the recommendations on quality improvement standards. The ACE star model provides nurse educators the tools necessary for transformation of knowledge to guide change in practice standards guidelines.

Related Synthesis

Evidence-based models and concepts facilitate the process of translating evidence-based practice guidelines into frameworks that will promote best simulation educational strategies, practices, and simulation design features at the practicum site. The descriptive and ACE star model helps clinicians and nurse educators make informed practice guidelines quickly to change the current state of practice standards in a variety of settings, including both hospitals and educational institutions (Heye & Stevens, 2009).The ACE star model is similar to the nursing process and includes five different phases to guide nursing practice, research, and education to contribute to the knowledge transformation of clinician expert evidence-based practice and nursing interventions that improve performance standards and improve practice guidelines (Heye & Stevens, 2009).

The ACE model was appropriate for this systematic review of the literature review process. The challenge in the science of nursing lies in testing, validating, and using theory to guide research in studying simulation and to contribute to the science of evidence-based nursing practice in nursing education (Heye & Stevens, 2009).

Evidence-based nursing practice or evidence-based teaching contributes through theory, concepts, or models that facilitate the process of conceptualization of nursing activities, strategies, interventions, or actions through theory-based policies and theory-driven practice (Jeffries, 2018). Simulation frameworks in nursing have the potential to revolutionize patient safety standards, outcomes, and organizational quality improvement processes (Jeffries, 2016). One of the major key contributions that simulation theory offers research, nurses, educators, organizations, and educational institutions is the communication of the current best evidence-based practice simulation activity guidelines. Theoretical concepts and model activities promote organization, clarity, understanding, and directions to help develop, advance, and clarify nursing science (Jeffries, 2016).

If appropriately used, simulation training programs that have adopted a proven and validated framework to guide simulation activities such as the NLN Jeffries Simulation Framework facilitate best practices, outcomes, system changes, research, development of new knowledge, and practices that improve learning and patient outcome performance measurements (Jeffries, 2016). The evidence and recommendations of best practice simulation guidelines findings from the literature review in this DNP project will help nurse educators to adopt best simulation theory; incorporate essential components,

characteristics, and features into their simulation activities and curriculums; and support the mission of Walden University.

The descriptive theory is experiential in nature; it helps to explain the components of the NLN Jeffries Theoretical Framework. This framework is primarily descriptive and provides guidance to nurse educators to identify observations, predict outcomes, and evaluate nursing actions (Jeffries, 2007). This framework offers an effective guide for simulation. The components and features are essential educational principles and characteristics that are both grounded in philosophy, theory and evidence-based nursing science (Jeffries, 2016). This framework is important because it offers nurses a tool that facilitates clear directions, guidance, development, and delivery of simulation learning experiences (Jeffries, 2016). This model provides the foundation for simulation activities and guides the process of teaching strategies in a variety of complex situations. The current state of simulation activities in nursing is challenged by this gap in literature and a lack of research, and testing related to simulation theory to guide simulation activities to make informed best practice recommendations in the clinical setting. The findings of this literature review and its recommendations does not end here; it is only the beginning of exploring best simulation practice, outcomes, and system changes through research.

In order to optimally prepare nurses in all disciplines for the changing and complex health care environment, nurse educators at hospitals must use evidence-based theoretical frameworks during their nurse-led simulation activities at hospitals (Jeffries, 2016). Nursing educators contribute to the science of nursing education and nursing practice guidelines through research, communication, and activities that contribute to the

development of theory (Jeffries, 2012). Nurse educators promote best nursing practice guidelines related to commitment to theory that advance knowledge and improve patient care performance measurements (Jeffries, 2016). The research findings from the literature review in this DNP project contribute to the science of nursing by assisting theory development and communication of knowledge to hospitals and the nursing education research community. Simulation concepts, theory, and models provide a conscientious and explicit substantive foundation for research, education, evidence-based nursing practice, and evaluation of performance outcomes measurements.

Clarification of Terms

*Evidence-based Medicine***:** Nurses who perform conscientious actions related to current evidence-based findings and practice guidelines make informed decisions about the care of individual patients and their value systems. The terms *evidence-based health care, evidence-based nursing,* and *evidence-based practice* are used interchangeably with *evidence-based medicine* (Masic, Miokovic, & Muhamedagic, 2008).

Evidence-based Practices: Used interchangeably with *evidence-based medicine* and *evidence-based nursing* (Masic et al., 2008).

Evidence-based Nursing: Used interchangeably with *evidence-based medicine* and *evidence-based nursing* (Masic et al., 2008).

Simulation: Uses an imitative representation of realistic processes or procedures in a training-based environment that is made to look, feel, or behave like something else so that it can be studied or used to train people (Jeffries, 2016).

Relevance to Nursing Practice

Theoretical thinking and frameworks are important in developing nursing science, educational activities, and evaluation of performance measurements that affect patient care outcomes. In order to optimally prepare nursing in all disciplines for the changing and complex health care environment, nurse educators at hospitals must use evidence-based theoretical frameworks in their simulation teaching plans, case studies, and simulation pedagogy and experiences (Jeffries, 2016). Nursing educators have the responsibility to incorporate empirically proven evidence-based theoretical frameworks into their simulation-based educational plans to facilitate evidence-based performance outcomes during nurse-led simulation activities in hospitals. Nurses have a long history and commitment to theory-driven activities to describe observations, practices, and interventions related to patient problems and to the teaching-learning practices and behaviors that address these problems (Jeffries, 2016).

The commitment to theory and best educational practices must be maintained during the management of nurse-led simulation activities to facilitate evidence-based nursing actions related to patient care outcomes. If nurses who are managing nurse-led simulation activities in the hospitals are not using a substantive simulation theory to guide evidence-based interventions, performance standards, and actions, the current evidence-based guidelines cannot be implemented and evaluated (Jeffries, 2012). Simulation theoretical framework provides nurse educators the processes to manage simulation activities in hospitals and supports the integration of evidence-based learning

and cognitive principles during simulation scenario development, implementation, and evaluation methods (Jeffries, 2007).

Evidence-based simulation activities that are managed with theory promote the development and integration of strong simulation teaching-learning plans that help educate nurses in all disciplines to achieve optimal professional and educational goals (Jeffries, 2007). Many of the best educational practices and components integrated into the NLN-Laerdal Simulation Theoretical Framework (STF) focus on simulation learner-centered practices that enhance processing and experiential learning (Jeffries, 2007).

The educational practices incorporated into the NLN-Laerdal Simulation theoretical framework are active learning, feedback, collaboration, student/faculty interaction, high expectation, diverse learning, and time spent on task activities (Jeffries, 2007). The concepts outlined in the framework assist nurse educators in the hospital during their management of simulation activities to promote active learning, retention, and application of knowledge from the classroom and laboratory to patient care in their simulation teaching plans. Theory supports the management of simulation activities and best educational practices that promote positive and dynamic teaching and learning outcomes during simulations.

Most evidence-based practice research that has evaluated the effectiveness of simulation plans focuses on nursing students; very few studies are available to measure the outcomes of simulation activities that directly impact the acquisition of skills and knowledge from experienced nurses transferred into positive patient care measurements (Jeffries, 2016). Nurse educators in both academia and clinical settings that integrate a

simulation framework into their simulation activities promote the development of evidence-based practice and evidence-based educational practice guidelines during simulation training sessions and performance evaluation methodology. Nurse educators at hospitals across the United States have the responsibility to continually evaluate their simulation curriculums according to the most updated research in order to contribute to evidence-based practice guidelines, the discipline of nursing, research, and quality improvement measurements. Hospitals that continually evaluate simulation activities during educational training sessions in all domains can examine and determine the positive effectiveness of the learning outcomes and interventions related to improved patient care outcomes.

The gap in the existing knowledge is a challenge to the nursing education and nursing practice community. There are very few research articles that demonstrate the evaluation of effective simulation theoretical frameworks as the underpinning foundation of the simulation curriculum and training development used in hospitals (Jeffries, 2016). The research is limited in the articles that evaluate the effectiveness of simulation theory related to improvement from evidence-based guidelines to improve patient care performance outcomes. Many articles can be retrieved that evaluate patient safety simulation training theoretical frameworks with nursing schools and students, but very few studies have demonstrated the evaluation of patient safety simulation theoretical frameworks in hospital settings. Nationally, many hospitals are unfamiliar with simulation theoretical frameworks to guide their educational plans and curriculums. Simulations in educational training sessions being used nationally at hospitals are not

driven by evidence-based theoretical frameworks. Devastating learner and patient care outcomes can result without strict adherence and consideration to evidence-based simulation theory to support the management of simulation activities during training sessions.

According to Weaver (2011), integrative reviews were conducted to analyze studies published since 1998 on the effectiveness of high-fidelity patient simulation (HFPS) educational practices in undergraduate nursing education. The findings from this study demonstrated multiple benefits of simulation activities in terms of knowledge, value, realism, and learner satisfaction; findings were mixed in the areas of student confidence, knowledge transfer, and stress. Few research articles have been completed on the benefits of simulation training for practicing nurses in hospitals, and limited research has evaluated the effectiveness of simulation theoretical frameworks in hospitals during the management of simulation activities and curriculums in hospitals.

Most nursing educators and trainers at hospitals have minimal education and experience in simulation laboratory settings and often are unfamiliar with the theory that drives their simulation scenarios, experiences, and integration of current best evidence-based nursing practice guidelines into their curriculums in hospitals (Jeffries, 2007 & University of Iowa, 2010). Many nurse educators in hospitals are not experienced or familiar with evidence-based simulation lesson plans and scenarios, a finding that supports the systematic literature review development and implementation of this project proposal (Jeffries, 2005 & University of Iowa, 2010). Nurse educators in hospitals for annual skills training are using simulation without theory that guides the knowledge and

practice of evidence-based guidelines into positive patient care measurements; unfamiliarity with evidence-based simulation design frameworks further complicates nurses' preparation for optimal data collection, analysis, complex decision making, critical thinking, synthesis, and application of knowledge acquired from the skills lab training into the clinical setting (Jeffries, 2016; University of Iowa, 2010).

Both the knowledge and skills acquired during simulation training sessions are necessary to deliver safe evidence-based practice guidelines and competent patient care that applies a holistic approach. In order to best prepare nurses in hospitals during simulation activities and experiences, educators must formulate and integrate evidence-based simulation theory frameworks into their scenario development combined with best evidence-based teaching practices (Jeffries, 2016; Jeffries, 2007). Integrating and unfolding the principles and components of the NLN-Laerdal Simulation Design Theory during management of during simulation activities in hospitals will ensure quality-driven simulation educational experiences and clinical skills, contribute to positive learning outcomes, and contribute to the discipline of nursing (Jeffries, 2005).

Evidence-based nursing practice is essential to help guide nurses' decision-making and clinical reasoning skills that influence patient care improvement outcomes. One of the biggest challenges and questions nurse educators face center on what theory, teaching, and learning simulation strategies contribute to positive learning outcomes compared to traditional methods used at hospitals (Jeffries, 2007). Standardization of simulation activities practices at the hospital by using current empirical scientific research finding and the best-recommended practices can reduce unpredictable patient

care complications, improve quality patient care outcomes, and improve learning outcomes (Jeffries, 2016).

Nursing educators' lack of experience and familiarity with simulation-based design teaching plans and theoretical frameworks exacerbate the inadequate preparation of nurses and students for complex patient care environments. This systematic review of the NLN Jeffries Simulation Framework may provide a tool for nurse educators to manage all simulation activities in the hospital, which could lead to a state- and national-level change to support guidelines to nurse educators during simulation activities that require clinical decision making during patient care in hospitals.

Creating new guidelines and informed change of practice standards for management of simulation activities in hospitals within the 21st century requires theory to be the basis and substantive foundation for all informed practice if simulation is to be fully integrated into nursing education practices at colleges and hospitals. Evidence-based simulation theory provides clear guidance and direction at hospitals for both novice and expert nurse educators and clinicians. Theories provide the basis for research and help to predict positive simulation learning experiences, contribute to the transfer of knowledge and skills into the patient care arena, and improve communication and collaboration with nurses and multi-interdisciplinary teams in hospitals. The safe simulation-learning environment minimizes harm to actual patients and bridges the gap of knowledge from the hospital nurse educator simulation program to the patient care arena specialties at the hospital (Jeffries, 2007).

The National League for Nursing published updated research in 2016 to support the integration of the evidence-based Jeffries NLN Simulation Framework for the management of simulation activities for nurse educators (Jeffries, 2016). This framework provides essential concepts, characteristics, and best educational practices for management of simulation activities. The framework includes a validated standardized tool for the assessment, management, and evaluation of simulation activities during training sessions. The theory guidelines include validated tools for management and evaluation of simulation activities to be transferred into effective teaching-learning practices, curricular designs, and evaluation strategies (Jeffries, 2007). Regulation of simulation activities that are not managed with theory at hospitals does not exist to address these problems. The systematic review may contribute to innovative change in nursing education and may support full integration and standardization of guidelines to be used by state regulators and national regulators on the management of simulation activities that affect patient care measurement outcomes.

Current Nursing Practice for Simulation and Recommendations

The current state of nursing practice for management of simulation activities is based on the nurses' clinical expertise, not often guided using a theory to explain patterns in practice and interventions that evidence can support (Jeffries, 2016). Limited research and testing has been conducted on nursing simulation theoretical frameworks and effective teaching strategies used in simulation educational plans. The complex patient

care environment in various health care settings, lack of education and training, and the increasing cost and changes in technology further complicate these challenges.

There are few evidence-based articles to provide nurse educators sufficient evidence to support full integration of a simulation theoretical framework for informed practice guidelines. Future research, development, and testing of the simulation theories are needed to explain patterns seen in practice supported by evidence-based practice guidelines. The literature review demonstrates limited research in hospitals to evaluate the effectiveness of simulation theoretical principles (Jeffries, 2016). Gaps in the literature point to limited research and future development of simulation theoretical frameworks that helps drive the hospitals' simulation educational curriculum. In order to bridge the gap between research and practice, further research and development must be performed in this area due to the increasing demand and use of simulation training in hospitals during the last decade.

Previous Strategies

The NLN established guidelines and key recommendations for simulation practice guidelines in nursing education in 2005 (Jeffries, 2016). The NLN Jeffries Simulation Framework guidelines, concepts, and characteristics have been tested and evaluated over time and still need further development and testing. According to Jeffries (2007), clinical practitioner research continues to provide evidence to support further the development, implementation, and evaluation of the NLN-Simulation Design Framework.

There is substantial research available to support the relationship between the different concepts, variable, characteristics, and components outlined in NLN-Simulation Design Framework to support the management of simulation activities in hospitals. Evidence in the literature supports simulation educational experiences; knowledge acquisition and skills obtained during simulation experiences have been shown to affect both learning and patient care performance measurements (Jeffries, 2005; Jeffries, 2007).

Nurse educators in hospitals have questions regarding scientific research for best practices and guidelines during simulation activities; their lack of education and familiarity with the different simulation design framework components and design characteristics contribute to these challenges (Jeffries, 2007).

Local Background and Context

Summary of Local Evidence

The DNP project practicum site serves adult, neonatal, and pediatric populations in the northern San Diego inland valley region. It is one of the largest employers in northern San Diego. The practicum site serves over 397 beds, a full-service acute care hospital with three primary care clinics, and over 700 physicians practicing in over 60 specialties. Even though it has achieved over six consecutive “A” Leap Frog ratings in patient safety, national accreditations, and excellent clinical outcomes, some areas in nursing education practices need improvement. One example is the nurse-led management of simulation activities, which lacks simulation theory. A simulation theoretical framework must be adopted for the management of simulation activities to

support safe effective patient care delivered by the current evidence-based practice guidelines.

Institutional Context

The mission of the practicum sites is to become the hospital of choice for patients by providing the highest quality healthcare. The practicum site considers research to be an important duty to fulfill their vision in addition to providing nursing care that is generated from the current scientific evidence-based standard guidelines. The unit for the DNP project is a 26-bed behavioral health unit. The unit has a nurse educator who provides training sessions and simulation activities that align with quality measurement standards. The clinical research at the practicum site is aimed at fulfilling the mission of finding better ways to prevent, detect, and treat diseases. Research is being conducted in the areas of drug, device, and biologicals, such as antibody therapeutics. There is no research being conducted on the evaluation of educational outcomes translated in positive patient performance measurements. There is no theory that guides the simulation activities at the practicum site.

State Federal Context

In the United States (U.S.), many institutions have federal, state, local, and other regulatory agencies that support the research, development, implementation, and evaluation of evidence-based practice guidelines and educational program preparedness in both academic and hospital settings for safety, quality, and improvement standards. These institutions include Magnet Recognition Programs, National Institute of Health

(NIH), and Agency for Healthcare Research (AHRQ), which are recognized for leadership skills in research, dissemination, and adoption of evidence-based practice guidelines to deliver excellence during patient care. The NIH initiative research in dissemination and implementation was expanded in January of 2013, which includes strategies within specific settings to assist in the integration of evidence-based health interventions and change practice patterns (NIH, 2013, Section I, para. 11). Each state has its own National Council Board of Nursing that regulates and ensures that safe quality nursing care is delivered and evaluates educational programs preparedness. This DNP practicum project will ensure quality-driven safe patient care standards, and simulation educational practices will improve compliance with the California Board of Nursing Practice Acts.

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Role of the DNP Student

Student Professional Context

I currently practice as a nurse educator at a local community college in California. My title and job description is Simulation Laboratory Coordinator. Within my role, I deliver quality evidence-based simulation activities to ensure that safe practice standards are delivered in the clinical setting at local hospitals. Nurse educators have the capacity and influence to motivate changes in practice standards to implement and disseminate evidence-based guidelines across nursing program curriculums and provide education about best practices at local hospitals (Jeffries, 2016).

Student Motivation

This practicum project has allowed me the opportunity to advance in my nurse educator's role by promoting research, communicating, collaborating, and improving my understanding of how to develop, evaluate, disseminate, and integrate best evidence-based strategies that improve patient care outcomes. Nurse educators play a central role across a variety of educational settings, health care settings, and clinical microsystems to integrate the current evidence-based research into changes in practice standards. Many nurse educators in both colleges and hospitals have expressed a lack of understanding and challenges related to simulation activities.

Nearly all nurse educators at the practicum site were not able to articulate the importance of a simulation theory to drive their simulation activities and facilitate evaluation of learning outcomes. Most of the nurses have heard of the NLN Jeffries Simulation Framework but are unable to identify the benefits and potential contribution on patient care performance measurements. An evidence-based model was not applied to guide the learning process of evidence-based nursing decision making and actions; this motivated me to contribute to the body of nursing using a systematic literature review approach to facilitate the adoption of an evidence-based simulation frameworks during the management of simulation activities at hospitals.

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Potential Biases

According to the Burns (2009), bias is defined as any actions that cause prejudiced consideration of a research questions. Even though bias is nearly always

present in published articles one must consider their prejudices that can prevent proper and ethical design and implementation. A potential bias during this practicum project is influenced by inclusion of research studies during the systematic review. This was avoided by defining strict criteria for articles that were included and eliminated in the systematic review.

Summary

Nurse educators are held to the highest standards and duty to assist in groups, health systems, and the community to deliver excellent quality patient care guidelines. The ACE Model guided the systematic literature review process. The recommendations of this project may result in standardized guidelines for the management of all nursing simulation-nursing activities at the practicum site. The guideline adoption calls for the better use of knowledge and nursing decision-making processes that generate nursing interventions that influence patient care outcomes. The results and recommendations of the literature review will contribute to quality improvement efforts and generate the evidence needed to make system improvements and guidelines applied during the management of nursing simulation activities.

The third section of this project provides an overview of the collection and analysis of evidence. Section 3 will also discuss the practice-focused question and the search inclusion and exclusion criteria.

Section 3: Collection and Analysis of Evidence

Introduction

Modern nursing education today involves simulation education as an expected component of the educational programs and training sessions at hospitals. Simulation theoretical frameworks that are used to manage simulation activities in hospitals are challenged and not fully integrated into nursing education because of the limited research available (Jeffries, 2016). The purpose of the project was to research, examine, synthesize, and analyze evidence from the current research articles that can be used to recommend a change of practice standard to adopt standardized simulation theory guidelines for the management of nurse-led simulation activities in the hospital. The NLN Jeffries Theoretical Framework was examined and identified as the evidence-based theory approach for the management of simulation activities and teaching strategies by nurse educators in the hospital.

Nurse educators are challenged to advance the discipline of nursing science through theory processes that guide the conceptualization of nursing actions, theory-based policies, and theory-driven practices (Jeffries, 2016). Nursing theory brings organizations to advance and clarify nursing practice guidelines, whether evidence-based practice or evidence-based teaching (Jeffries, 2012). Nurse educators are challenged during their clinical reasoning and decision-making processes during the development, implementation, and evaluation of simulation activities. Nursing educators provide the foundation for the management of simulation activities that influence the nurse's role to promote the adoption of evidence-based nursing practice guidelines and improve safe

patient and family outcomes (Jeffries, 2012). Nurse educators provide evidence based guidelines and concepts during simulation activities and lesson plans that require substantive foundational simulation theory guidelines

This DNP project will help nurse educators and nurses at the practicum site to begin to use the ACE star model tool to evaluate, examine, synthesize, analyze, and support the transfer of the current state of science in support of the NLN Jeffries Framework into standardized simulation guidelines for all nurse-led management simulation activities at the practicum site. The findings and recommendations of the systematic literature review related to the support of the NLN Jeffries Simulation Framework will assist nurses and nurse educators during the design, implementation, and evaluation of their simulation-based education activities across their curriculums. Nurse educators will continue to review the current state of the science in support of the framework's concepts, constructs, characteristics, and features and immediately adopt and implement standardized simulation guidelines across their simulation-based curriculums and activities in hospitals**.** The specific methodology, source of evidence and analysis, and synthesis of the evidence-based process that was used to assist in the examination, selection, and elimination criteria during the literature review will be discussed.

Practice-focused Question

The clinical management of simulation activities at the hospital practicum site is not being guided by theory. Learning outcomes and patient care outcomes may be negatively affected by the lack of simulation evidence-based guidelines and theory

(Jeffries, 2016). The practice focus question for the DNP practicum project was as follows: What are the best practices and current research support that can be used during the development, management, and evaluation of simulation activities in the hospital patient care populations? This evidence-based DNP project contributes to the discipline of nursing and evidence-based nurse practice, as the recommendations from the systematic literature review are expected to reduce the subjective variation in practice for the management of simulation activities for nursing practice.

Clarifying the Purpose

The purpose of this doctoral project was to research, examine, evaluate, synthesize, and analyze evidence in the research articles based on the management of simulation activities that use the NLN Jeffries Simulation Theoretical Framework to promote recommendations for the management of nursing simulation activities in hospitals**.** The research aligns with the practice-focused question, and the approach or procedural steps for data collection provided research that supports recommendations for best evidence-based simulation guidelines and practices for all nurses that work in the hospital care settings.

The goals and evaluation process below aligns with the research questions and evidence-based practice guidelines and research. The evidence-based research findings provide a validated and tested tool related to the management of simulation activities for nurses at hospitals (Jeffries, 2016). The findings of the systematic review can be implemented to develop standardized guidelines as the best methods in management of

simulation activities. The findings from this DNP project systematic review contributes to the science of nursing and evidence-based teaching practice guidelines

Sources of Evidence

The purpose of this project was to critically analyze, synthesize, and evaluate the most robust existing research evidence in support of the NLN Jeffries Simulation Framework that can be recommended to improve the existing best practice guidelines in nurses' management of simulation activities in hospitals. The evidence used to address the practice-focused question was the most updated, robust research evidence related to the NLN Jeffries Simulation Framework. A review of the literature reveals that that simulation theory is descriptive in nature and provides a descriptive view only of the simulation experiences; simulation theory development and refinement are in the early stages (Jeffries, 2012). The foundation of the framework is the order and connections to primary concepts, variables, and characteristics. The concepts, features, and educational characteristics are the foundation of the framework to explain the concepts' influence on learning outcomes during simulation activities (Jeffries, 2016).

The systematic review focused on retrieving relevant articles from the databases CINAHL/Medline, ProQuest, Pub Med, and Google Scholar. The method used to guide the systematic literature process is the ACE star model theory. Analysis of the literature review was organized according to the research question. I organized the analysis of the literature review according to the research question. Two reviewers used the articles for

this systematic literature review to decrease bias. The preceptor reviewed articles to reduce the bias of only one reviewer.

Relationship of the Evidence to the Purpose

The purpose of this project was to critically analyze, evaluate, and synthesize the existing research evidence that can be used to recommend a nurse-driven best practice guideline for the management of simulation activities in the hospital. The evidence gathered from the literature provided the base needed to guide the recommendation and dissemination process of the guideline. Nurse educators have used various different methodologies, theories, and strategies to manage simulation activities. With the literature review I strove to validate best practice evidence to support the change of practice guidelines during nurse-led management of simulation activities in hospitals.

Evidence to address the Practice-focused Question

The purpose of the literature review is to use data from the described search to be extracted for further analysis and synthesis and thus expedite the best practices recommendations into patient care. The data collected was organized into a matrix related to the research question, which further facilitated the critical analysis and synthesis of the literature to recommend change of practice guidelines. The findings from this DNP project systematic review plays an increasingly important role in formulating evidence-based teaching and nursing practice guidelines by including only the highest quality

evidence for the development and recommendation of best-practice guidelines and to better direct nursing practices.

Databases and Search Engines

The author identified and documented the databases CINAHL & Med-Line, PubMed, ProQuest Health and Medical Collection, Walden Library, and Google Scholar during the systematic literature review. The search key words and filters in the CINAHL, PubMed, and Walden Library databases were related to the NLN Jeffries Simulation Framework: "simulation framework," "Jeffries," "National League for Nursing," "NLN," and "simulation." The search produced 396 article (n=396). I reduced the key words in the databases to answer the research question to determine the best simulation practice. The evidence gathered from the database will support the recommended change of practice guidelines.

The Scope of this Review

The purpose of the literature search was to provide evidence that supports change of practice standards for the management of simulation activities in the hospital and to support recommendations in this project. It was important to discern that the data collected may extend outside the boundaries of the existing key terms used in the framework related to the research question and provide substantial evidence to recommend change of practice guidelines. In order to avoid bias, key terms were related to the specific NLN framework to answer the research question. The search was further

reduced in the matrix and made selections based on the following inclusion and exclusion criteria and using the ACE Star Model Tool:

Articles Included in the Search Criteria

- Articles included in the NLN Jeffries Simulation Framework
- Articles including the management of simulation activities in nursing
- Articles with recommendations for evidence-based practice change related to simulation learning
- Articles that were less than ten (10) years old
- Articles that were reviewed by preceptor and committee chairs
- Articles in English or those that have been translated

Articles excluded from the Criteria

- Articles that did not include or mention NLN Jeffries Simulation Framework or Simulation Framework will be excluded and eliminated
- Articles greater than ten (10) years of age
- Article not peer reviewed
- Articles posted as commentary or blogs
- Articles that were not in English
-

Search Exhaustive and Comprehensive

The database search will be comprehensive and exhaustive, as I used a variety of key search terms and combinations of the key terms related to the research question. I selected the articles if they provided detailed comprehensive summary findings related to the research question, use of two reviewers, and application of exclusion criteria to avoid bias and provide substantial evidence to support the change of practice guidelines

Institutional Review Board

This DNP project provides protection for human subjects and is considered exempt human subject research because it is a systematic literature review. The data collection will be conducted on the databases at home and organized into a matrix paper trail in a Word document. Walden University will review my full application to ensure the protection of human rights during the research. Literature review used for change of practice recommendation will include research articles that the IRB has previously approved. There is no ethical or legal consideration related to human rights violation in this practicum proposal.

Analysis and Synthesis

Systems used for Recording, Tracking, Organizing, and Analyzing the Evidence

The research articles will be extensively researched and critically evaluated for evidence to supports the change of practice recommendations. The articles will be gathered from the recent or current literature, evaluated and organized into a matrix format outlined into a chart format. Analysis and synthesis of the evidence will facilitate clinical decision making to help change practice guidelines for nurse-led management of simulation activities.

The articles organized in a matrix format chart included title, author, objective, purpose, sample population, design, and relevant findings. The analysis and evaluation of the articles will include a hierarchy grade system adapted from the Level of Evidence Pyramid Hierarchy by Melynik & Fineout-Overholt (2011; See Appendix D). A PRISMA

flowchart diagram adapted from Moher et al. (2009) provides a visual graphical representation of the flow of articles included in the systematic review literature.

The data extracted in the databases used key terms related to the NLN Jeffries Simulation Framework: "Framework," "Jeffries," "National League for Nursing," "NLN," and "Simulation." The search produced 26 articles. The key words in the CINAHL, PubMed, ProQuest, Google Scholar, and Walden Library databases used the same key term, "Simulation Framework," to answer the research question regarding what the best simulation practice is. The evidence gathered from the databases will support the recommended change of practice guidelines.

Analysis Procedure

The systematic literature process in this DNP project involved documentation of the databases, a paper trail of database searches, matrices that abstracted relevant content from the articles, and matrix use for the analysis and synthesis of the evidence obtained from the articles. The analysis process in this DNP project is the evaluation of the evidence collected in the literature based on the predetermined criteria related to the level of strength of the evidence. The analysis phase of this project will provide strength confidence in the evidence to support the change of practice guidelines.

Summary

The purpose of the DNP project proposal is to complete a systematic literature review to provide evidence from the findings to support a change in practice recommendation. The objective of the literature review is to provide evidence that supports the validity of the NLN Jeffries Simulation Framework or other simulation framework to address the gap in the management of simulation activity guidelines. The outcomes of the systematic literature review will contribute to nursing practice, with improved learning outcomes and patient care competence in health care settings. The recommendations from this DNP project related to the management of nurse-driven simulation activities and standardized guidelines has the potential to become national standardized simulation guidelines to aid in the clinical decision-making in health care organizations and improve patient safety quality measurements. The establishment of any evidence-based simulation theoretical framework in simulation curriculums contributes to research, communication, and collaboration, learning outcomes, and positive patient care outcomes and decreases hospital re-admissions for complications.

The fourth section of this project will provide an overview of the findings and recommendations of the research. The limitations, implications for social change, and contribution to nursing will also be discussed.

Section 4: Findings and Recommendations

Introduction

Nurse educators in health care settings and educational institutions fulfill advanced nursing roles that demand translation and implementation of current and recent evidence-based practice standards. Nurse educators advance the science of nursing by applying the current research findings to the teaching methodologies and curriculum development to achieve quality student and patient outcomes (Jeffries, 2016). Recent literature demonstrates the benefits of simulation training and influence on clinical outcomes; yet research articles are limited in scope, replication, and translation of findings to improve nursing simulation theory and training, curriculums, and assessment tools and demonstrate improved clinical outcomes.

The science of simulation theory in nursing is influenced by a myriad of complex variables, educational principles, and concepts that are interactive for positive long-term achievement of learning and patient care outcomes (Jeffries, 2007). The experience of the nurse educators in simulation active learning environments influences the integration of evidence-based simulation practice standards and guidelines. Simulation in nursing is a proven and effective teaching methodology to improve best practices of learning and patient care outcomes (Jeffries, 2012). Simulation frameworks provide foundational core principles of educational programs, change the pattern in the delivery of the learning experiences and outcomes, and improve knowledge and retention of skills. Nurses who are trained using simulation methods provide a systematic approach to creation, development, implementation, and teaching principles during simulation training sessions

and provide the context and content in changing the traditional apprenticeship model of education of learning into the current standardized evidence-based simulation education guidelines for the management of all nurse-led simulation activities (Jeffries, 2012).

Research demonstrates that nurses and nursing students benefit in their long-term application of skills and knowledge gained from simulations compared to traditional apprenticeship models of training that demand that the learners observe experienced nurse educators as they practice their skills on a patient or in a lab setting; thus, they provide a return demonstration (Jeffries, 2016). Yet, commonly in hospitals and educational institutions, traditional teaching methods are still taught and part of curriculum outcomes, even though the research that supports these traditional methods and strategies are ineffective.

Evidence-based practice and guidelines are the gold standard for achievement of long-term quality patient and learning outcomes and require nurse educators to be leaders in the translation of best practice guidelines and best educational practice guidelines (Jeffries, 2016). The key question in this project centers on the premise of evidence-based practices and teaching strategies during simulations to be effectively translated into current practice standards must adopt a simulation framework to standardize the current state of simulation practice and guidelines. The highest standards of evidence-based practice guidelines cannot be delivered in simulation-based training methodology without using evidence-based simulation frameworks (Jeffries, 2012). It is a tremendous tool for nurse educators to use toward the achievement of the current standardized simulation guidelines and practice guidelines. Simulation frameworks are proven effective for

learning opportunities, curriculum development, research, valid assessment tools, and evaluation strategies. New approaches in the current state of simulation science and best standards of practice guidelines require evidence-based simulation theory as the core principles of the management nurse-led simulation activities (Jeffries, 2009). Evidence-based management of nurse-led simulation activities and guidelines requires a sound framework to govern simulation activities to improve learning competence, practice standards, application of resources, and risk to patients (LaFond & Vincent, 2012)

The current state of the science in nursing simulation demands that nurses join and consent to use an evidence-based simulation framework in their practice settings for effective management, analysis, and evaluation strategies of educational and patient outcomes (Jeffries, 2016). The literature proves the NLN/JSF as a tremendous tool for nurse educators to use for the creation, management, design, implementation, and evaluation of simulation training outcomes (Jeffries, 2012). The specific educational practices, simulation design characteristics, outcomes, and teaching strategies integrated in the NLN/Jeffries Simulation Framework provide nurse educators the current best simulation standard of practices that positively influence the delivery of safe patient care outcomes (see Appendix C).

Nursing education at the practicum site is the foundation of the institution, as nurses, students, families, and patients rely on nurse educators to provide learning experiences and simulation activities aligned with the best current published evidence (Jeffries, 2016). The quality and safety of patients and family members rely on nurse educators to provide up-to-date training to nurses and students that is supported by best

evidence-based practices for safe patient care (Jeffries, 2016). The benefits of using standardized evidence-based nurse-driven simulation guidelines include the improved clinical competence and experiences that support the safety and effectiveness of the nursing care delivery systems (Jeffries, 2016).

A gap in the nursing practice and education arises when evidence-based guidelines to support nursing education during the management of simulation activities is not being used or available. The purpose of this systematic review is to provide analysis and synthesis examination of the NLN/Jeffries Simulation Framework and similar published simulation frameworks that have been proven and tested to support three major constructs and subcomponents of educational principles and practices of simulation (Jeffries, 2012). This review will provide nurse educators across health care settings, educational institutions, and practicum sites with evidence to support the current changes in practice guidelines and assist in the decision-making process regarding nurse-led simulation management

Findings and Implication

Databases searched included Pro Quest Health and Medical Collection, Pub Med, and CINAHL with Med-line. The NLN/JSF and Simulation Framework was cited in 396 relevant articles from 468,820 articles when simulation and simulation framework was used in the search engine; Pro Quest produced 366 relevant articles; and Pub Med produced relevant seven (7) articles. CINAHL and Med-line combined produced 20 relevant articles, and Google Scholar produced three (3) relevant articles used in this project. Many of the articles in the databases were from the National League

for Nursing study's research project, and none came from other similar national nursing organizations during this search. Based on the extensive review and screening process, 368 articles were removed and screened for eligibility. The final studies included for synthesis and analysis in this review produced 14 (n=14) articles meeting the relevant review inclusion and exclusion criteria for the review selection procedure (see Appendix D).

The literature confirmed the importance of the NLN-Jeffries Framework in simulation learning outcomes measurements, educational principles, and confidence in knowledge and skill acquisition. The literature supports the educational practices and simulation design concepts and subcomponents. The literature recognizes the importance of the NLN/Jeffries Simulation Framework in the future development, research, and assessment validity tools to expand the scope of the science of nursing simulation. The literature supports the use of the NLN/Jeffries Framework in nursing to supported longer-term educational outcomes and evaluation methods. The evaluation of simulation activities is necessary to examine the effects of simulation on student performance standards, patient care outcomes, training sessions, assessment tools, and quality safety measurements in the health care settings and across nursing curriculums (Jeffries, 2012).

Two reviewers further analyzed the articles retrieved from the databases for the quality and strength of evidence using the level of evidence pyramid hierarchy designed by Melnyk and Findeout-Overholt (2012) (see Appendix D). The majority of the articles were correlational or cohort studies and measured nursing students' experiences, perceptions, and confidence compared to learning outcomes, performance outcomes, test

scores, and safety indicators. Improved skill performance evaluation surveys were also used but were limited. The National League for Nursing and I created many of the surveys and tools used in the articles.

There were two articles that were level II: randomized control studies on the evidence pyramid hierarchy (Melnyk & Fineout-Overholt, 2011). Burns, Rohrich, and Chung (2011) reported strong recommendations from studies that can be given with lower levels of strength of evidence and should not be degraded, because we evaluate the quality of data. The majority of the articles used in this systematic review scored at levels IV & VI, and three articles scored level III on the hierarchy grading system related to the strength and quality of the data on the grading system (see Appendix D). The findings in all of the articles in this review were positive and consistent and used the NLN/JSF framework to guide their research and provide insight and direction to nurse educators regarding their current state of practice in the science of nursing simulation. The majority of the articles were consistent in supporting similar findings, recommendations, and the quality of data to make recommendations for changing the practice standards in nurse-led simulation activity management.

Several articles supported the management of simulation activities using the NLN/JSF framework with high scores in confidence, satisfaction, and learning experiences. Howard et al. (2011) reported findings that supported the simulation learning experiences for improved knowledge acquisition and understanding related to nursing concepts; simulations throughout the nursing curriculum are supported as valuable learning experiences. In another study by Tiffen et al. (2011), students with

minimal experience improved in their performance and self-confidence in heart and lung assessments after completing high fidelity active learning simulations. Another similar article by Ballie and Curzio (2009) reported high satisfaction results regarding teacher feedback and instructor supervision during simulations used for multiple topics and a variety of different scenarios.

Several articles report the benefits of educational practices guidelines and simulation design characteristics of the NLN/JSF, but few are available in the literature regarding research in patient care settings for the testing, application, and transfer of the concepts and variables following simulations. Kardong-Edgren, Starkweather, and Ward (2008) conducted a study on the educational practices of the NLN/JSF and their subcomponents, supported for integration into foundational and complex simulation scenarios, including active learning, collaboration, diverse ways of learning, and high expectations.

Another similar study by Butler, Veltre, and Brady (2009) supported the educational principles components and simulation design characteristics of the NLN/SJF after completing a pediatric fluid and electrolyte simulation scenario. The researchers randomly assigned students to two groups: a high fidelity simulation group and a low fidelity simulation group. The high fidelity simulation group scored higher than the low fidelity group regarding educational principles, specifically active learning and problem solving. Both groups rated high in learning outcomes, satisfaction, and self-confidence in simulation learning.

The educational practice construct in the NLN/SJF is one of the major constructs with several subcomponents (active listening, feedback, student/faculty interaction, collaboration) (Jeffries, 2012). The simulation design characteristics (SDF) provide a second major construct of the NLN/SJF and contain several subcomponents (objectives, fidelity, problem-solving, student support, and feedback. The SDF constructs are often regarded and defined by educators as the NLN/SJF framework, thus resulting in further ambiguity regarding simulation frameworks (Jeffries, 2012). The third major construct in the framework is outcomes, with several subcomponents (objectives, fidelity, problem solving, student support, and debriefing) (Jeffries, 2012). The findings from these articles in this systematic review are consistent with previous studies and support the major construct and subcomponents in the NLN/JSF framework.

A study conducted by Eaton, Floyd & Brooks (2011) further explored the experiential learning component of the framework with positive affirmations. The literature rated active learning, feedback, and student/faculty interaction with high scores following in an end-of-life decision simulation scenario; improved knowledge acquisition also scored high following this scenario. Kardong-Edgren, Starkweather, and Ward (2008) supported the simulation design survey tool (SDS) used to evaluate the concepts and variables in the framework, specifically objectives, fidelity, problem-solving, student support, and feedback during debrief. Many of the articles in the literature apply the simulation design survey, satisfaction with the learning survey, and self-confidence in learning surveys. This questionnaire response methodology evaluates simulation experiences, learning outcomes, and the NLN/JSF after statistical analysis.

Smith and Roehrs (2009) further supported the simulation design characteristics and subcomponents and provided empirical evidence to support the design characteristics of the framework (objectives, fidelity, problem-solving, student support and feedback). They reported high correlation rates following simulation related to student satisfaction and improved confidence, with the highest correlation rates indicated between objectives and both confidence and satisfaction. In their research article, Reese, Jeffries, and Engum (2010) used the NLN Simulation Framework to guide research on medical and nursing students working collaboratively in a simulation scenario. They gave high affirmative scores for the simulation design characteristics, specifically feedback, as the most important design feature in the framework.

There is a significant amount of evidence to support how simulation contributes to improved performance when compared to the baseline or no simulation intervention (Cook et al., 2011). In a study conducted by Tiffen et al. (2011), researchers developed questionnaires to measure knowledge acquisition and performance. The simulation group mean scores were significantly higher than those of the control group. The positive effect of simulation on learners' outcome and support of the NLN/JSF matches the findings of previous research. Young and Jung (2015) found that students scored significantly higher on test scores within the simulation group compared to the didactic group.

Another study by Omar (2016) revealed that simulation improved knowledge and retention scores during health assessment active learning simulations. These study findings are consistent with the previous findings of knowledge acquisition gained from

simulation activities and supports the concepts, characteristics, simulation design features, and best educational practices.

McGaghie, Issenberg, Barsuk, and Wayne (2014) performed another study which showed that best simulation practice guidelines and management of simulation activities can transform into the achievement of positive performance standards transferred into the clinical setting and quality safe patient care outcomes. The researchers attribute learning in the simulation environment as having a downstream effect, and by virtue of this phenomenon, learning is transferred into safe clinical practices and into patient outcomes. However, limited research is available on simulation learning outcomes and their effect on safe clinical performance standards and patient care outcomes. Kardong-Edgren, Starkweather, and Ward (2008) reported faculty feedback during simulations improved student opportunity to ascertain foundational skills, cognitive reasoning, and critical thinking skills during simulation.

Ballie and Curzio (2009) reported improved competence and performance in skills during clinical practice following simulations.

In a study by Howard et al. (2011), students strongly agreed that simulations integrated into the curriculum stimulated their critical thinking. The National Council of State Boards of Nursing (NCSBN) landmark further supports evidence in support of simulation activities, multi-site, longitudinal study conducted research to explore the role and outcomes of simulation in pre-licensure clinical nursing education in the United States. The findings from this study support the claim that simulation activities can replace up to 50% of clinical time (Hayden, Smiley, Alexander, Kardong-Edgren, & Jefferies, 2014).

This literature review study found substantial evidence to support the empirical findings related to the major constructs and subcomponents of the NLN/JSF but found limited evidence available to evaluate the effectiveness of simulation management on patient care outcomes in health care settings.

Limitations/Potential Impact on Findings

All of the studies used in this systematic review confirmed the importance of applying the frameworks concepts, design characteristics, and educational principles. The evidence supports the positive influence on both learning and performance outcomes during simulations but offers limited insight and unilateral perspective regarding their influence and impact on learning and teaching outcomes. The findings of this systemic review provide evidence to support longer-term educational outcomes and impact patient care indicators from best practice management of nurse-led simulations in hospitals but lacks further research and development to support these changes in large health care institutions and training organizations.

There are limited research findings related to the specific influence of the concepts and characteristics of the NLN/JSF constructs and their effects to improve quality patient safety and active learning outcomes (Jeffries, 2016). Research findings from the work of Eaton, Floyd & Brooks (2011) confirmed positive outcomes, experiences, and preparedness for actual nursing care after participation in an end-of-life decision-making simulation but lacks evidence to support these affirmations transfer and influence on patient and family into positive outcomes. Student performance in a control-learning environment is positively influenced by instructor and peer support compared to

learning independently in clinical practice. Students may feel more comfortable and confident with their peers and the educational environment they are familiar with, compared to unfamiliar clinical experiences and patients. Research in the science of simulation must expand and begin to quantify and offer best simulation practices and standards that prepare students for these common, complex experiences and unpredicted situations in clinical practice (Jeffries, 2016).

Majority of the articles retrieved from the literature scored at levels IV and VI for their evidence strength and were cohort or correlational studies methodologies (Smith & Roehrs, 2009; Tiffen et al., 2011; Leighton and Scholl, 2009; Howard, Enhlert, Kameg, & Pero, 2011; Butler et al., 2009; Corbridge et al., 2010; Wilson & Haggler, 2012; and Zulosky, 2012). Many of the articles used student satisfaction, confidence, and simulation evaluation surveys for their evaluation instruments and methodologies (Smith & Roehrs, 2009; Tiffen et al., 2011; Leighton and Scholl, 2009; Howard, Enhlert, Kameg, & Pero, 2011; Butler et al., 2009; Corbridge et al., 2010; Wilson & Haggler, 2012; and Zulosky, 2012).

Many researchers developed their questionnaire survey results based on the National League for Nursing Simulation study and limited their confidence toe un-biased research and exploration of other influencing variables and consequences (Wilson & Haggler, 2012; Butler et al., 2009; Zulkosky, 2012; Howard, Enhlert, Kameg, & Pero, 2011; Butler et al., 2009; Corbridge et al., 2010; Wilson & Haggler, 2012; and Zulosky, 2012). The findings in this systematic review offer support and recommendations for the NLN/JSF to be used as best practice guidelines for the management of nurse-led

simulation activities but offer few tools for effective evaluation methodology outside of the National League for Nursing.

These limitations compromise the integrity of the testing outcomes, calling for exploration of other simulation frameworks and the development of new active simulation learning strategies. In order to effectively evaluate the NLN/JSF framework and similar simulation performance standards, evaluation strategies must shift from the students' perception and confidence into quantitatively evaluating best simulation teaching methods, learning outcomes, performance outcomes, and patient outcomes. These limitations have the potential for future robust research and instrument development for effective evaluation methodologies and best simulation practice guidelines.

Ironside et al. (2012) confirmed the effects of multiple simulation activities and their positive influence on the patient quality and safety outcomes but lacked evidence related to similar and different experiences during simulations. The findings from this study supported multiple simulations compared to one simulation experience with significant improvement and high scores in safety performance competencies in the simulation environment but lacks findings to support improved safety outcomes related to student age, GPA, and tolerance for ambiguity related to the achievement of patient safety competencies.

The ambiguity nature of simulations provides another challenge and barrier to testing and measuring the effectiveness of the framework and simulation outcomes (Jeffries, 2016). Nursing simulation theory provides the foundation and principles to

eliminate the ambiguity during the management of nurse-led simulation activities, standardizes management of nurse-led simulation activities, advances the science of simulation, and contributes globally to the research and evidence-based practice guideline development (Jeffries, 2012). Nurses must consent to a specific, well-defined, and explicit simulation theory for the development and implementation of quality safety educational guidelines and simulation practices in educational institutions and health care organization.

The current state of nursing lacks research, consensus, well-defined terms, and development of simulation theory to advance and contribute to the science of simulation (Jeffries, 2016).

The majority of the research findings applied student satisfaction and confidence scales to support positive simulation learning experiences and practices; yet, no research article was found to test the students' performance, satisfaction, and confidence from the simulation environment transferred to the patient care environment. Clinical instructors on a daily basis have the potential to evaluate the transfer of knowledge to the clinical environment but are limited in the scope and development of evidence-based evaluation tools that can be easily applied during the supervision of nursing students who practice their skills on real patients.

In an article by Tiffen et al. (2011), findings found that students indicate high satisfaction with learning and self-confidence during their simulation experience and supported simulations to be a part of the curriculum, yet nurse educators lack the theory, structure, and knowledge for curriculum development. The findings reported no

difference in confidence scores between the simulation and control groups following heart and lung assessment. These findings are significant, because nursing demands a variety of different proven evidence-based teaching strategies and principles to teach knowledge and skills in a variety of different, complex health care organizations.

Smith and Roehrs (2009) reported high confidence in students' ability to care for a patient with a respiratory condition following a high fidelity simulation scenario but lacked the evaluation of safety outcomes measurements and confidence during patient care within another similar study. Another article by Corbridge et al. (2010) examined student satisfaction and post-test knowledge scores between students receiving content online and students who participated in a simulation scenario related to mechanical ventilation; group scores reported improved satisfaction for the simulation group compared to the online control group but lacked transferability and long-term empirical finding in the learning and patient care environment. This gap in knowledge and implementation regarding best teaching strategies and methods for a variety of different fundamental and complex subjects and skills compromises the health and integrity of our communities. The current state of nursing lacks simulation research, research evaluation tools, theory development, and application of best simulation practice guidelines for the management of nurse-led simulation activities.

Zulosky et al. (2012) measured simulation objectives and knowledge by comparing pre-test and post-test scores following a cardiac simulation scenario. After a comparison study, test scores in the case study group earned significantly higher cardiac exam scores than the simulation group, yet the researchers applied no validated

measurement tool to the retention and performance of the cardiac skills during patient care. The pre-test and post-test methodology offers researchers and educators insight into the knowledge and retention of the learning objectives, which is limited in scope but provides foundational insight into student performance and application of the subject. Student test scores may not necessarily transfer into safe practice performance standards in the clinical setting.

The extant research lacks sufficient evidence and focus on applying the research findings into practice to support the effectiveness and generalizability of different simulation methodologies, simulation theories, and active learning theories compared to traditional education research and development. The NLN/JSF has borrowed the educational principles from traditional education research and approaches and may indicate ineffective methods and strategies to prepare students for the complex health care environments. This gap in the knowledge and lack of strong qualitative and quantitative research available on this topic in the databases significantly compromises the quality and safety of patient care outcomes.

The current state of the science of simulation with regard to simulation theory and translation of research findings is limited but does offer choices, unilateral perspective and insight into traditional education research, validated assessment tools, and strategies for nurse educators (Jeffries, 2016). The quality and amount of strength in the evidence of research findings from public and private education sectors combined with a nursing simulation framework can provide a starting point to develop the foundational core simulation learning and teaching principles to support the advancement of the science of

simulation and ultimately adopt a standardized best practice simulation model nationally and globally (Jeffries, 2016).

A large amount of evidence supports how simulation activities contribute to knowledge acquisition, satisfaction, and improved outcomes and clinical performance in educational settings, but the research lacks validated assessment tools to support long-term knowledge retention and its effect on patient care outcomes in health care settings (Jeffries, 2012). A literature review by Rosen et al. (2012) found that a larger percentage of articles and research on this subject focused on the learner's reaction to simulation (31%) compared to learning outcomes (3%), behavior change (21%), and outcomes (17%).

The research findings in this project confirm that the research is limited in scope, application, and transferability regarding strategies to improve nurses' performance standards and quality safety patient outcomes. The research is narrow and limited to educators gaining information about students' perceptions, reactions, and experiences during simulation, which may be biased and subjective in nature. The majority of the articles focused on learners' reactions, confidence, and satisfaction outcomes compared to learners' performance and replication of the learners' outcomes over time, tested and measured in simulation and patient care environments.

The clinical setting is rapidly changing and complex, using advances technology and standards of practice guidelines that demand that nurse educators improve the current state of the science in nursing simulation, curriculums, and assessment tools to demonstrate improved clinical outcomes after simulation-based training (Jeffries, 2007).

In order to prepare for these challenges, simulation programs must begin to adopt, evaluate, and integrate simulation theory into their curriculums. These limitations have important implications for nursing, researchers, and educators on a global scale for the further identification, research, and testing of simulation frameworks (Jeffries, 2012). Ultimately, nursing can validate simulation activities combined with best practice standards, simulation theory, and teaching strategies to improve learning and patient care performance standards.

Implication for Social Change

Experiential learning during simulation activities is rapidly changing and replacing the traditional teaching methods and different learning environments. Simulation theory is built on many effective educational principles that have been tested and replicated by numerous research studies and designs. The current state of the science of simulation is limited in research to keep up with the rapidly changing complex health care environment demands for effective management of nurse-led simulation and best practice standards. A majority of the articles focused their research and findings on active adult learning, satisfaction, and confidence in learning experiences compared to the improved performance standards and patient care outcomes.

This systematic literature review supports the need for further evidence-based nurse-driven management of simulation activities and research to improve learning, active learning, curriculum development, patient care outcome, inter-disciplinary communication, and collaboration. The current research on this topic is limited in its ability to evaluate, transfer, and replicate findings, because the majority of the studies

were conducted in simulation educational settings. The findings from this review support the necessity and mandate for a robust social change and culture of nursing in their management of nurse-led simulation activities, research, and evaluation methodologies related to simulation activities.

Lack of clarity, understanding, and definitions of the terms related to the simulation design concepts and characteristics in the NLN/Jeffries Simulation Framework is another barrier to the advancement of the science of simulation (Jeffries, 2012). Educators misinterpret the simulation design features to be the only prerequisite to develop, implement, and evaluate their simulation activities. The NLN/JSF is composed of many other important constructs and sub-components that require full integration and execution simultaneously into simulation because they are just as important and necessary to deliver positive learning outcomes (Jeffries, 2016).

Lack of unilateral perspective and insight into the phenomena of the science of simulation in nursing influences active adult learning and patient care outcomes. Simulation training is changing the culture of nursing and nursing education (Jeffries, 2016). This demands new robust teaching strategies, theory development, and research to provide safe practice standards in a complex, changing health care environment. This requires nurses and nurse educators to examine our current state of practices regarding educational practices, research, curriculums, and active learning methodologies for new evidence-based simulation practice guidelines globally.

Nurse educators would benefit from inclusion of a simulation framework into their simulations to assist in their design methodologies and best practice standards to

present evaluation data and contribute to the advanced science of simulation. The NLN-SDF framework provides foundational principles and direction to improve measurement, evaluation, transfer, and translation outcome findings for not only learners but also patients and organizations (Jeffries, 2016). The science of simulation is limited in the research and transfer of the learning experiences into the patient care environment (Jeffries, 2016). Several articles support the use of the NLN-JSF to be the fundamental foundational principle to support nurses in their delivery of best educational and patient care practices (Jeffries, 2016). The findings of this systematic literature support this gap in the knowledge to support social and cultural change strategies that improve the safety and outcomes for both learners and patients. This has important implications for nurse educators, nurses, and social change globally.

Recommendations

The findings from this systematic review to the practicum site provide a foundation for addressing the institutions' local and national high-quality and safe patient goals. Recommendations from this review have significance for nursing, practice of nurse education, and research at the project site. The article by Young and Shellenbarger (2012) supported the framework to assist nurse educators' preparations and curriculum development and serves as the foundation for fundamental simulation best standards of practice. Findings from this review support the concepts and variables in the NLN/SDF; the design elements and features of the framework provide nurse educators with a strategic structure to begin developing their nursing simulation programs and curriculums.

The recommendations revealed in this systematic literature review supports the concepts, variables, and characteristics of the Jeffries Simulation Framework, as proven core evidence-based principles can significantly contribute to the advancement of evidence-based simulation nursing guidelines. Further research is needed related to the examination of simulation activities and adoption of a standardized simulation framework nationally. The findings of this systematic literature review will address the gap in knowledge related to evidence-based simulation activities and management, which will ultimately improve the safety and outcomes at the local hospitals and health care settings.

After analyzing and synthesizing the data collected from this systematic review to the practicum site, it was recommended that the project would have a significant influence on the practice of nurse educators, nursing and research at the project site Young and Shellenbarger (2012) supported the framework to assist nurse educator's preparations and curriculum development. The recommendations revealed form this systematic literature review support the need for further study's on the results of simulation activity management and simulation theory and their effect in hospitals and health care settings.

Plan to Extend Beyond DNP Project

The DNP project will continue beyond the doctoral phase at the practicum site with the nurse educators and local IRB to implement the management of nurse-driven guidelines with support from the NLN Jeffries Simulation Framework. The implementation of this project will require considerable time and strategy. It requires

time to train the nurse educators, pilot the project, and evaluate the effectiveness of the simulation guidelines during patient care in the hospital setting.

Contributions of the Doctoral Project Team

The final doctoral project was presented to the team during a PowerPoint presentation and simulation demonstration in the patient care environment. The current problem, benefits, and evidence were addressed at the project site. The current evidence about the problem was addressed and presented at the practicum site. The nurse educators' role in this final recommendation and implementation included opportunities to provide feedback based on the recommendations and shared expertise and experiences related to the doctoral project during the presentation. The nurse educators' role in this final recommendation is essential to their acceptance of the recommendations of the systematic review and practicum project.

Strengths and Limitations of Doctoral Project

The strengths of this DNP project include the evidence, knowledge, and skills gained throughout the process of the project that will be transferred into both educational and work environments. There is evidence to support the recommendations with positive educational outcomes and their potential to transform delivery of educational methods and quality safe patient care outcomes. The recommendations from this project can provide nurse educators the core principles to develop effective evaluation strategies that focus on the patient and family outcomes and not just on learners' outcomes. There is little evidence and research in the literature regarding the influence of nurse-led

simulation activities and their impact on patient care outcomes. The research supports the design, concepts, and characteristics of the NLN Jeffries Simulation Framework, although the clarity and definitions of these constructs are necessary to advance the science of simulation in nursing.

Only one study in this review was inconclusive regarding the benefits of simulation compared to other traditional methodologies. Zulosky (2012) tested the difference between two groups of students randomly selected to participate in a recorded simulation session and case study group. The students that were in the case study group scored higher on the cardiac exam compared to the simulation group. There was no difference between the groups on the hypoperfusion test scores between the two groups. The findings from this review are applicable in diverse educational and health care settings and interdisciplinary simulations globally and provide a fundamental foundation for educators to explore new active learning methods combined with traditional methods of instruction and learning. Nursing must continue to explore and measure the educational principles and practices outside of the simulation design features that could positively influence learning outcomes and identify those that are effective and ineffective. Nurse educators in all sectors must join and begin to advance the science of simulation.

Another limitation is the need for additional empirical evidence to support the components and variables integrated into the framework and their relevance and transfer into diverse learning environments (La Fond and Vincent, 2012). The use of the NLN Jeffries Simulation Framework for the management of nurse-led simulation

activities, nurse educators' preparation, and curriculum development and sharing of this knowledge nationally contribute to the evolving methodology and state of the science of simulation-based education programs. The recommendations and summary of the project can guide nurse educators in diverse health care settings with their decision-making on initiatives and guidelines that influence patient care outcomes. The limitations of this project included the lack of research in the acute hospital setting, evaluation of the NLN-Jeffries Simulation Framework, and other similar simulation frameworks. The focus on the evaluation of learning satisfaction compared to learning and patient outcomes following simulations are limitations but can offer nurse educators and researchers insight into future research and development.

Recommendations for Future Projects

The analysis and synthesis of this systematic review demonstrated evidence and research for nurse educators to begin developing their simulation programs and curriculums built on the foundation of a standardized simulation framework for all management of nurse-led simulation activities. The findings of this systematic review process demand that nursing conduct more research on this topic and on specific patient care population in diverse and acute health care settings. In order to advance the quality and safety of nursing education, a validated and explicit simulation framework and validated measurement instruments are needed to advance the current state and science of nursing.

Nursing must gather together from all disciplines and mutually consent to provide simulation activities that are grounded and rooted in best evidence-based educational

practices, eliminate ambiguity, and choose a concise validated simulation theory to improve patient safety and quality care standards. The findings of the review concluded the adoption and support of the NLN Jeffries Simulation Framework to improve educational outcomes, quality and safety patient care outcomes and advance the science of simulation in nursing and education. Further research and empirical evidence in patient care settings by nursing are necessary to improve the relevance and impact on improving patient care outcomes. The NLN/JSF contains essential foundational principles that can serve as the first step toward the development of comprehensive guidelines for evidence-based nurse-led management of simulation activities.

The next section will discuss plans and strategies for dissemination of the research findings. The specific challenges, solutions, and insights are explored and discussed in this section.

Section 5: Dissemination Plan

Introduction

The impact of evidence-based practice and evidence-based educational practices is prevalent across the practice of nursing, and by investigating its relevance and incidence can lead to plans on how to disseminate the findings gathered from research (Jeffries, 2016). The findings from the research and knowledge of nursing that is immediately transferred and transformed into clinical practice standards and educational practice standards improves patient and family care outcomes (Jeffries, 2016). Simulation management activities that support the NLN Jeffries Framework in acute hospitals is challenging due to limited research and published guidelines.

The limited research and lack of clarity and published guidelines present further challenges for nurse educators during the management of simulation activities. The purpose of this project was to evaluate and synthesize evidence on nurse-driven management of simulation activities that support the NLN Jeffries Simulation Framework, which would lead to recommendations that would improve patient and family care outcomes in hospitals and health care settings. The findings of this research inform nurse educators, leaders, and administration to recommend adopting new guidelines for management of nurse-led simulation activities that directly influence patient and family care outcomes. The analysis and synthesis of the practicum project and systematic review disseminated to the practicum site leadership, administration, and nurse educators will provide evidence to support changes in practice guidelines.

Audiences for Dissemination

The primary audience for this project dissemination comprises nurse educators and nurses who deliver simulation activities to improve patient and family care outcomes. The major stakeholders involved in supporting this practicum project include nurse educators, unit directors, and nursing staff. The final project findings in a final PowerPoint presentation and poster board helped to disseminate knowledge transformation, the findings of the project, and recommendations. The final presentation and poster board will include the project findings and recommendations.

The findings of this practicum project may support and promote changes in management of nurse-led simulation activities at health care institutions and educational institutions to examine and evaluate learning outcomes and their transfer into safe patient and family care outcomes. Future promotion and support of the findings of the project will include poster board presentations to local hospitals and submission of an abstract to nursing journals and nursing education journals. The findings from the systemic review inform the practice of nursing and nursing educators and recommend adopting a new strategy and approach for the management of nurse-led simulation activities. The synthesis of project results disseminated to the practicum site through the literature review process and project provides the foundation for practice guidelines.

The primary audience for this project dissemination is the nurse educators and nurses that deliver simulation activities to improve patient and family care outcomes. The major stakeholders involved in supporting this practicum project include nurse educators, unit director, and nursing staff. The final project findings will be presented to the

stakeholders with a final PowerPoint presentation and poster board to disseminate knowledge transformation, findings of the project and recommendations. The final presentation and poster board will include the project findings and recommendations.

The findings of this practicum project may support and promote changes in management of nurse-led simulation activities in health care institutions that evaluate patient and family care outcomes. Future promotion and support of the findings of the project will include poster board presentations to local hospitals and submission of an abstract to nursing journals and nursing education journals. The findings from the systemic review were to inform the practice of nursing and nursing educators and recommend adopting a new strategy and approach for the management of nurse-led simulation activities. The synthesis of project results can be disseminated to the practicum site through the literature review process and project.

Analysis of Self

Challenges/Solution/Insights Gained

My journey to the doctoral nursing practice program started in 2012, with the goal to gain knowledge and skills in nursing education and simulation activities. Simulation and simulation frameworks were new in nursing education and hospitals at the time. I wanted to promote simulation activities supported with theory and evidence-based practice guidelines for management of nurse-led simulation activities. Before I began this journey, I viewed evidence-based practice guidelines for only clinical experts compared to evidence-based practice guidelines for nurse educators to use for the development, implementation, and evaluation strategies during simulation activities. I noticed a lack of

evidence-based practice guidelines by nurse educators during the management of simulation activities and curriculum development at the practicum site and other educational and health care institutions. I have learned that the value and impact of evidence-based guidelines are the keystones to problem solving, strategizing, and transforming quality and safe patient care outcomes in local communities and globally. This DNP program allowed me to develop and grow both personally and professionally and to gain evidence and knowledge as a nurse educator of the importance of evidence-based practice into curriculums across educational and health care settings that directly influence learner and patient care outcomes. I have gained further respect for research, theory, and empirical findings and their ability to interpret, transfer, and transform health care environments.

My professional role is a nurse educator at a local college, with a specialty in simulation education. My nurse educator experience has prepared me for my role as an advanced nurse leader and educator in simulation. My goal through this program was to address the gap in practice related to simulation activities and adopt evidence-based guidelines for nurse-led management of simulation activities in hospitals and educational institutions that are managing their simulation activities without theory. The overall resistance to change is one obstacle that was predictable but not impossible because of the systematic review process and dissemination process. I can predict and address barriers of resistance to change in a professional manner with leadership qualities because of the practicum project and DNP program.

Summary

Nurse-led management of simulation activities is challenging in health care settings, yet it greatly influences both educational and patient care outcomes in hospitals. The outcomes measured and evaluated during simulation activities are not being evaluated and their influence on patient and family care outcomes at health care organizations. This systematic literature review and evidence based recommendations can provide nurse educators at health care organizations with a tool that can help improve their curriculums and the delivery of simulation activities. The NLN Jeffries Framework provides clear guidelines for nurse educators employed at health care organizations to use during the development, implementation and evaluation methodology of all simulation activities. Further research is needed in this area to support and contribute to the development of evidence-based driven simulation theoretical frameworks. This systematic review of the literature substantively addressed the research question, and will contribute to the transformation of the Framework at the practicum site and health care organizations. The nurse educators at the practicum site will have to continue to develop their simulation activities and curriculums with the recommendations of this practicum project.

References

Aggarwal, R., Mytton, T., Derbrew, M., Hananel, D., Heydenburg, M., & Issenberg, B. (2010). Training and simulation for patient safety. Quality Safety Health Care, 19 (Suppl 2):i34–43.10.1136/qshc.2009.038562.

Alinier, G., Hunt, B., Gordon, R., & Harwood, C. (2006). Effectiveness of intermediate fidelity simulation training technology in undergraduate nursing education. *Journal of Advanced Nursing, 54*(3), 350-369.

Baillie, L., & Curzio, J. (2009). Students' and facilitators' perceptions of simulation in practice learning. *Nurse Education in Practice, 9*(5), 297-306. doi:http://dx.doi.org.ezp.waldenulibrary.org/10.1016/j.nepr.2008.08.007.

Butler, K., Veltre, E., & Brady, D. (2009). Implementation of active learning pedagogy comparing low-fidelity simulation versus high-fidelity simulation in pediatric nursing education. *Clinical Simulation in Nursin*g, *5*(4), 129–136.

Burns, N., & Grove, S.K. (2009*). The practice of nursing research: Appraisal, synthesis and generation of evidence,* (6th ed.) St. Louis, Missouri: Saunders Elsevier.

Burns, P., Rohrich, R., & Chung, K. (2011). The levels of evidence and their role in evidence-based medicine. *Plastic and reconstructive surgery*, *128*(1), 305-10.

Corbridge, S., Robinson, F., Tiffen, J., & Corbridge, T. (2010). Online learning versus simulation for teaching principles of mechanical ventilation to nurse practitioner students. *International Journal of Nursing Education Scholarship, 7*(1), 1–9.

Eaton, M. K., Floyd, K., & Brooks, S. (2011). Student perceptions of simulation's influence on home health and hospice practicum learning. *Clinical Simulation in*

Nursing, doi:10.1016 2010.11.003.

Guyatt, G., Oxman, A., Akl, E., Kunz, R., Vist, G., Brozek, J., & Schünemann, H. (2011). GRADE guidelines: Introduction GRADE evidence profiles and summary of findings. *Journal of Clinical Epidemiology, 64*(4), 383-394. Retrieved from the Walden Library using the Science Direct database.

Heye, M.L., & Stevens, K.R (2009). Using new resources to teach evidence-based practice. Journal of Nursing Education, 48, 334-339.

Howard, V., Englert, N., Kameg, K., & Perozzi, K. (2011). Integration of simulation across the undergraduate curriculum: student and faculty perspectives. *Clinical Simulation in Nursing, 7*(1), e1–e10.

Ironside, P., Jeffries, P., & Martin, A. (2009). Fostering patient safety competencies using multiple-patient simulation experiences. *Nursing Outlook, 57*(6), 332–337.

Jeffries, P. R. (Ed.). (2007). *Simulation in nursing education: From conceptualization to evaluation.* New York, NY: National League for Nursing.

Jeffries, P. R., & Rogers, K. J. (2009). Theoretical framework for simulation design. Simulation in Nursing Education (Jeffries P.R., ed.), National League for Nursing, New York, pp. 21–34.

Jeffries, P. R. (Ed.). (2012). Simulation in nursing education: From conceptualization to evaluation (2nd ed.). New York, NY: National League for Nursing.

Jeffries, P. R. (Ed.) (2016). The NLN Jeffries simulation theory. New York, NY: National League for Nursing.

Kardong-Edgren, S., Starkweather, A., & Ward, L. (2008). The integration of simulation

into a clinical foundations of nursing course: student and faculty perspectives. *International Journal of Nursing Education Scholarship, 5*, Article 26.

LaFond, C., & Van Hulle, C., Vincent, C. (2013). A critique of the National League for Nursing/Jeffries simulation framework. *Journal of Advanced Nursing, 69*(2), 465–480. doi: 10.1111/j.1365-2648. 2012.06048.x

Melnyk, B. M., & Fineout-Overholt, E. (2011). Evidence-based practice in nursing and healthcare: A guide to best practice. Philadelphia: Lippincott, Williams & Wilkins.

Omar, T., (2016). Nursing Students' Perceptions of Satisfaction and Self-Confidence with Clinical Simulation Experience. *Journal of Education and Practice*. Retrieved from http://files.eric.ed.gov/fulltext/EJ1092418.pdf

Reese, C. E., Jeffries, P. R., & Engum, S. A. (2010). Learning together: using simulations to develop nursing and medical student collaboration. *Nursing Education Perspectives, 31*(1), 33–37.

Reily, D. E., & Oerman, M. (2009). *Behavioral Objectives: Evaluation in Nursing* (3rd ed.). New York: National League for Nursing.

Rosen, M., Hunt, E., Pronovost, P., Federowicz, M., & Weaver, S. (2012). In situ simulation in continuing education for the health care professions: A systematic review. *Journal of Continuing Education in the Health Professions*. 32. 243-54. 10.1002/chp.21152.

Shepherd, I. A., Kelly, C. M., Skene, F. M., & White, K. T. (2007). Enhancing Graduate Nurses 'Health Assessment Knowledge and Skills Using Low-Fidelity Adult Human Simulation. *Simulation in Healthcare, 2*(1), 16-24.

Smith S. J., & Roehrs, C. J. (2009). High-fidelity simulation: factors correlated with nursing student satisfaction and self-confidence. *Nursing Education Perspectives, 30*(2), 74–78.

Tiffen, J., Corbridge, S., Shen, B. C., & Robinson, P. (2011). Patient simulator for teaching heart and lung assessment skills to advanced practice nursing students. *Clinical Simulation in Nursing, 7*(3), e91–e97.

Weaver, A. (2011). High-fidelity patient simulation in nursing education: an integrative review. *Nurse Educative Perspective*, *32*(1), 37-40. Review. PubMed PMID: 21473481.

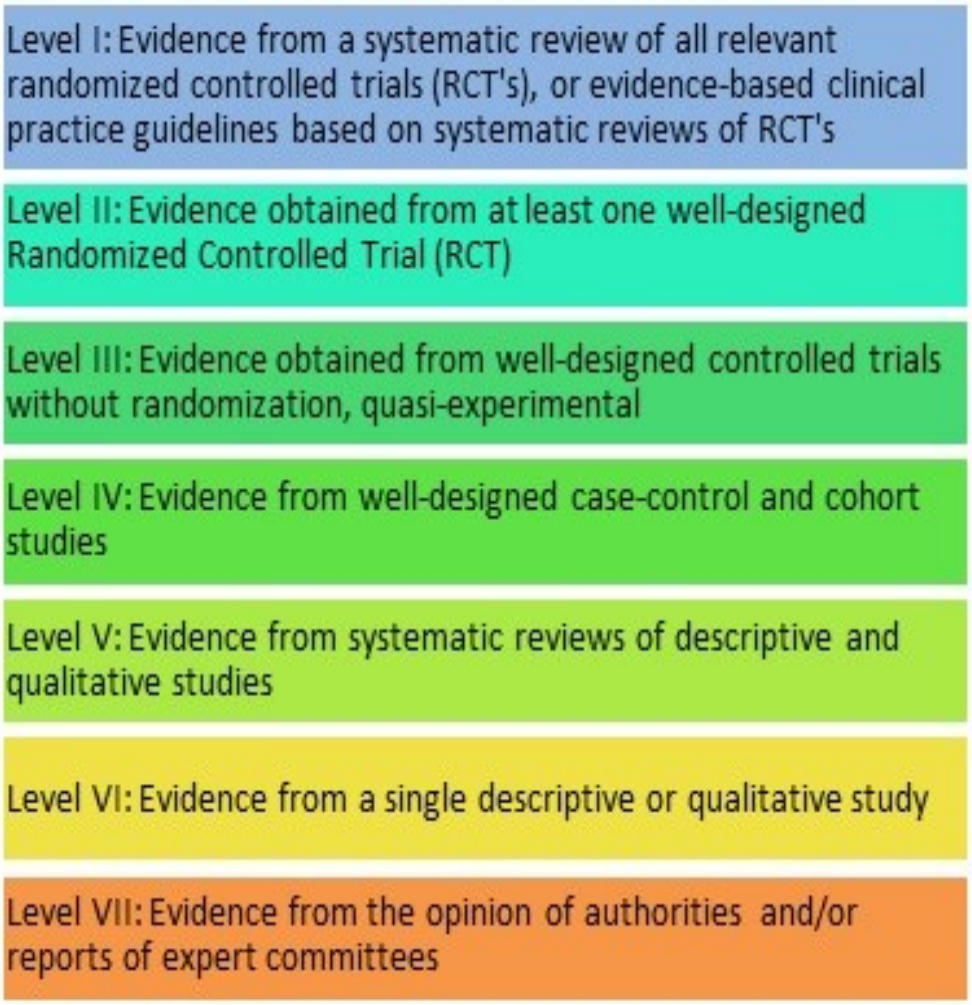
Wilson, R., & Hagler, D. (2012). Through the lens of instructional design: Appraisal of the Jeffries/National league for nursing simulation framework for use in acute care. *The Journal of Continuing Education in Nursing, 43*(9), 428-32. doi:http://dx.doi.org.ezp.waldenulibrary.org/10.3928/00220124-20120615-

Yung-Kim, Y., & Jung-Kim, E. (2015). Effects of simulation on nursing students' knowledge, clinical reasoning, and self-confidence: A quasi-experimental study. *Korean Journal of Adult Nursing*, *27*(5), 604-611.

Zulkosky, K. D. (2012). Simulation use in the classroom: Impact on knowledge acquisition, satisfaction and self-confidence. *Clinical Simulation in Nursing, 8*(1), e25–e33.

Appendix A: Level of Evidence Hierarchy

Table A1. Level of Evidence Hierarchy



Credit. Melnyk & Fineout-Overholt's (2011.

Appendix B: Research Analysis and Synthesis Matrix

Table B1. Research Analysis and Synthesis Matrix

Author (s)	Title	Purpose	Setting	Population	Design	Findings	Level of evidence
Baillie and Curzio (2009)	Students and Facilitators' Perceptions of Simulation in practice learning	The purpose of this study was to establish nursing students' clinical competence and determine whether simulation can enhance practice learning	Nursing School	Pre-registration nursing students (N = 267)	Researcher-developed questionnaires about the simulation program and applying learning in placements	Supports nurse-driven simulation activities using the NLN/JSF model. . High satisfaction, confidence and performance rates and influence on patient safety outcomes and skills following multiple simulation. This model supported the concept of teacher and student interaction of the	VI

						NLN/JSF model. Scores were high in simulations with teacher supervision in simulation High satisfaction with teacher feedback. Students wanted more time allotted for skills practice and facilitator feedback	
Butler et al. (2009)	Effect of High-Fidelity Simulation on Pediatric Nursing Students Anxiety	The purpose of this study was to establish the effect of practice with a high-fidelity infant simulator on anxiety among undergraduate student nurses before the first head-to-toe assessment of a hospitalized child.	Nursing School	Associate nursing students, completed the pediatric nursing course (n = 31	Educational Practices Questionnaire (EPQ), Satisfaction with Learning	Supports nurse-driven simulation activities using the NLN/JSF model showed significantly higher scores EPQ (active listening and best practices of	II

					Self-Confidence questionnaire SDF survey	learning) & SDF & self confidence on the high fidelity group. compared to low fidelity specifically active listening	
Corbridge et al. (2010)	Online learning versus simulation for teaching principles of mechanical ventilation to nurse practitioner students	The purpose of this study was to determine differences in knowledge acquisition and student satisfaction between two methods of teaching the principles of mechanical ventilation to advanced practice nursing (APN) students: high-fidelity patient simulation (including face-to-face instruction) versus an online, narrated PowerPoint presentation	Nursing School	Adult, geriatric and acute care APN students, prior to clinical practicum (N = 20)	Researcher-developed 12-item knowledge questionnaire and a 5-item satisfaction survey about mechanical ventilation	Supports nurse-driven simulation activities using the NLN/JSF model scored high compared to Online No significant improvement in post test scores between 2 groups Both groups scored high pre-test and post test scores. High	III

						satisfaction rates with the simulation learning compared to online group. Simulation preferred in survey compared to online group	
Eaton et al. (2011)	Student Perceptions of Simulation's Influence on Home Health and Hospice Practicum Learning	The purpose of this study was to begin to explore whether an end-of-life simulation enhances baccalaureate senior-level nursing student learning in a home health and hospice practicum setting.	Nursing Students	Baccalaureate nursing students, senior year (N = 30)	Written responses to open-ended questions	Supports nurse-driven simulation activities using the NLN/JSF model identified the theme of experiential learning, action, feedback, interaction, positive outcomes and family as client after participation in an end-of-life decision-making simulation.	VI

Eaton M.K., Floyd K. & Brooks S. (2011)	Student perceptions of simulation's influence on home health and hospice practicum learning. Clinical	The purpose of this study was to begin to explore whether an end-of-life simulation enhances baccalaureate senior-level nursing student learning in a home health and hospice practicum setting.	Nursing School	Baccalaureate nursing students, senior year (N = 30)	Written responses to open-ended questions	Supports nurse-driven simulation activities using the NLN/JSF model high scores in knowledge, preparation and outcomes Students reported improved knowledge after participation in an end-of- life decision making simulation. Theme	VI

						of positive outcomes, including positive experience and feeling prepared for actual nursing care after participation in an end-of-life decision-making simulation emerged.	
Howard V, Englert N., Kameg K.&Perozzi K. (2011)	Integration of Simulation Across the Undergraduate Curriculum: Student and Faculty Perspe	The purpose of this study was to implement and integrate the use of high-fidelity human simulation as a teaching and active learning strategy throughout the undergraduate nursing curriculum and evaluate the student and faculty perceptions related to this instructional	Nursing School	Baccalaureate nursing students (N = 151)	Simulation Evaluation Survey	Supports nurse-driven simulation activities using the NLN/JSF. High Simulation Evaluation Survey result related to the	III

	ctives	technology.				simulation positive Faculty scored high results related to the benefits and use of simulation and influence on the achievemen t of learning objectives and challenges related to the use of the technology This study supports the use of simulation in an undergradu ate nursing curriculum and offers suggestions for faculty faced with implementi ng simulation. Students strongly agreed that	

						they acquired a better understanding of the nursing concepts and that simulations throughout the curriculum is supported;	
Ironside et al. (2009)	Fostering Patient Safety Competencies Using Multiple-Patient Simulation Experiences.	The purpose of this study was to establish the impact of multiple patient simulation experiences on the development of nursing student's patient safety competencies by extending the Jeffries Simulation model and investigating how student factors of tolerance for ambiguity, self-reported GPA relate to the outcomes of simulation.	School of Nursing	Associate and baccalaureate nursing students, last semester (N = 67) 16 KSA criteria from the Quality and Safety in Education in Nursing	Demographic questionnaire and Tolerance for ambiguity (Multiple Stimulus Types Ambiguity Tolerance)	Supports Nurse-driven simulation activities using the NLN/JSF model. Significant improvement in patient safety competencies after the second simulation. The mean score was 11.48 (first) to 13.88 (second) after second simulation. No	II

						significant correlation or impact on patient safety outcomes related to student age, GPA and tolerance for ambiguity and achievement of patient safety competencies.	
Kardong-Edgren et al. (2008)	The Integration of Simulation into a Clinical Foundations of Nursing Course: Student and Faculty Perspectives.	The purpose of this study was to establish the effectiveness of integrating simulation into a clinical foundations nursing course by using the Jeffries Simulation Framework to guide the design and implementation of simulation.	Nursing School	Baccalaureate nursing students, first clinical course (N = 65)	Educational Practices Questionnaire (EPQ)	Supports nurse-driven simulation activities using the NLN/JSF model showed high scores from students participating in foundational clinical skills simulations. Students rated high scores EPQ for the presence	IV

						and importance of simulation design characteristics	
Leighton and Scholl (2009)	Simulated Codes: Understanding the Response of Undergraduate Nursing Students	The purpose of this study was to establish how well nursing students applied cardiopulmonary arrest principles and identified factors influencing ability to function in an emergency.	School of Nursing	Baccalaureate nursing students, junior year, third medical/surgical clinical course (N = 31)	Demographic questionnaire	Supports nurse-driven simulation activities using the NLN/JSF model. No significant correlations between student demographics (including prior healthcare experience). High confidence scores in performing CPR Decrease fear of encountering a code after the simulation experience	IV
Reese	Learni	The purpose of this	Nursi	Third-	SDS	Supports	VI

et al. (2010)	ng Together: Using Simulations to Develop Nursing and Medical Student Collaboration	study was to investigate the use of the framework for the collaborative medical and nursing management of a surgical patient with complications. Simulation design features, student satisfaction, and self-confidence were measured.	ng and Medical School	year medical students (N=15) Baccalaureate nursing students, senior year (N=13		nurse-driven simulation activities using the NLN/JSF scored high for both medical and nursing student groups related to SDF design, collaborative & learning environment. High scores for Feedback and guided reflection. High Satisfaction and Self-Confidence & Learning scores	
Smith and Roehrs (2009)	High Fidelity Simulation: Factors correlated with nursing	The purpose of this study was to establish the effects of a simulation experience on two outcomes (student satisfaction and self-confidence) as well as factors correlating with these outcomes.	Nursing School	Baccalaureate nursing students, junior year, first medical/surgical course	Demographic questionnaire Satisfa	Supports nurse-driven simulation activities using the NLN/JSF model concluded no	VI

	student satisfaction and self confidence			(N = 68)	ction Scale Confidence Scale	significant correlation between educational practices in the NLN/JSF and influence on satisfaction and self-confidence outcome scores. No correlation between student demographics and factors age, gender, previous degree, healthcare experience, simulation experience) No correlation with the outcomes (Student satisfaction and self-confidence) in caring for a patient with a	

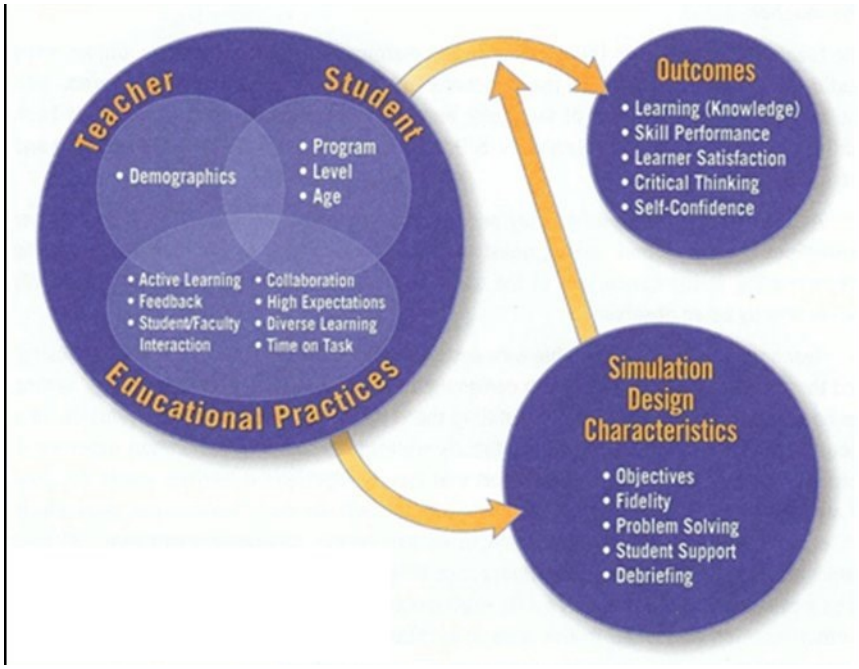
						respiratory disorder following simulation experience.	
Tiffen et al. (2011)	Patient Simulator for Teaching Heart and Lung Assessment Skills to Advanced Practice Nursing Students	The purpose of this study was to establish whether the use of an intermediate-fidelity manikin simulator could affect student confidence, knowledge, and satisfaction with physical assessment skills.	Nursing School	APN students (pre-practicum) in advanced health assessment course (N = 29	Demographic questionnaire	Supports nurse-driven simulation activities using the NLN/JSF model concluded increased/improved mean confidence scores for students with less nursing experience performing heart and lung assessment. Improved test scores for simulation group compared to control group. No improvement in confidence scores related to performanc	IV

						e of heart/lung assessment between the simulation and control group	
Wilson and Hagg ler, (2012)	The Educational Practices Construct of the NLN/Jeffries Simulation Framework: State of the Science	The purpose of this study was to evaluate Jeffries National League for Nursing Simulation Framework for external validation.	Academic medical center simulation environment	27 new graduate nurses within the first three months of hire, 3 nursing education specialists, researcher who was also the instructional designer.	Simulation Design Scale, and Student Satisfaction and Self-confidence in Learning Tool.	Supports nurse-driven simulation activities using the NLN/JSF model was supported. Scored high in objectives and helping SDS provides practical details related to learner preparation, cues and debrief. High satisfaction scores for high fidelity simulation and knowledge acquisition related to organizing data collection	III

						and assessment data communication to a provider based.	
Zulkosky (2012)	Simulation use in the classroom: impact on knowledge acquisition, satisfaction and self-confidence.	The purpose of the study was to determine whether fourth-semester associate of science in nursing students who participated in debriefing sessions after watching prerecorded high-fidelity simulation scenarios in a nursing class obtained higher examination scores than those who received the same content through traditional lecture format with case studies.	Nursing School	ASN students in their final semester (N = 63)	Student Satisfaction and Self-Confidence in Learning Scale	Nurse-driven simulation activities using the NLN/JSF model scored low scores compared to case study control group. No significant difference between two groups. Simulation recorded group with debriefing scored lower than case study Both groups scored high for satisfaction and self-confidence.	III

						No significant difference between group scores for hypoperfusion content.	

Appendix C: National League for Nursing/Jeffries Simulation Framework



The Nursing Education Simulation Framework from Simulation in Nursing Education: From Conceptualization to Evaluation (p. 23), by P. Jeffries, 2007, New York: National League for Nursing. Reprinted with permission

Appendix D: PRISMA Flow Diagram

Flowchart search results