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Cultivating Self-Confidence: Integrating Simulation into Hospital Nursing Orientation

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Cultivating Self-Confidence: Integrating Simulation into Hospital Nursing Orientation

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Chair: Dr. Leigh Ann Keith

Date of Submission: July 1, 2019
Dedication

This capstone project is dedicated to my family, whose love, support, and encouragement made this achievement a reality. To my dear husband, John, who has encouraged me from day one, listened to the daily celebrations and struggles, and constantly helped me to remain balanced during these last two years. Thank you for always believing in me, even when I doubted myself.
Acknowledgment

All praises to my Creator for providing me with the fortitude to complete this long and rigorous journey. The achievement of my terminal degree in nursing is the realization of a dream long postponed. The accomplishment of this goal in the Doctor of Nursing Practice (DNP) was well worth every sacrifice.

My deepest heartfelt appreciation goes to my Chair, Dr. Leigh Ann Keith, for her tireless role as a teacher, coach, and mentor. She listened patiently, advised gently, and insisted on the best work possible. Most importantly, Dr. Keith truly cared! Dr. Keith’s unwavering encouragement and support made all the difference in my determination and drive to successfully complete this mission.

Also, a special thanks to Dr. Kimberly Helms for her exceptional support, guidance, and assistance with the implementation of my DNP project. Her time and insightful recommendations were invaluable. The lessons learned will endure forever.

I would like to acknowledge and thank all the professors and staff of the DNP program for their commitment and dedication, giving their time, and sharing their expertise to help all the students succeed. To my inaugural cohort, I genuinely appreciated the opportunity to learn with you and benefit from your knowledge and support. Lastly, a special thanks to my family and friends who would not allow me to give up and provided just the right words of encouragement at just the right time!
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Abstract

Background: Simulation provides a safe environment for newly hired nurses at all levels to learn and practice new skills in a safe and structured approach. Simulation allows nurses the opportunity to increase self-confidence at the bedside without placing a patient at risk for harm.

Purpose: The purpose of this Doctor of Nursing Practice (DNP) project is to evaluate the effectiveness of implementing a simulation program during hospital orientation to increase self-confidence with newly hired nurses.

Design Method: A quasi-experimental design using a pre-test-post-test data collection method.

Conclusion: The rapidly changing healthcare environment requires that nurses are prepared to provide patient care with self-confidence and competence. This project provided an avenue for newly hired nurses to practice skills in an environment where it was safe to make mistakes.

Implications for Nursing: The use of simulation prepares nurses to manage patients in a safe, confidence-building, and competent approach.

Keywords: Simulation, newly hired nurses, self-confidence
Introduction

The nursing profession today consists of many challenges. As healthcare continuously changes and patient needs are at their highest, it is essential for nurses to exhibit self-confidence to ensure high-quality care will be provided. The orientation process at a healthcare facility can be a significant task for nurses. Adapting to new equipment, policies, and procedures can be taxing for novice and expert nurses. Current evidence indicates the use of simulation prepares nurses to manage patients in a safe, confidence-building, and competent approach. Simulation is defined as an experimental learning modality which closely resembles realistic clinical situations (Hommes, 2014).

In today’s healthcare arena, financial limitations and a shortage of qualified and experienced nurses to serve as preceptors may lead to newly hired nurses having a shorter orientation period leading to a lack of proper training. Without support, newly hired nurses are likely to develop a sense of helplessness and decreased confidence in their nursing skills. With the challenges in nursing orientation programs, it is vital to discover new ways to ensure quality nursing education and confidence at the bedside (Arias, Sander, & Siek, 2018). The goal of simulation during nursing orientation was to create an environment which enabled the participants to perform naturally and gain self-confidence when encountering the complexity of the actual clinical setting (Radhakrishnan, Balachandran, Venkatesaperumal, & D’Souza, 2013). It is essential for hospital orientation programs to modify orientation to meet the needs of newly hired nurses and accrediting standards in a constantly changing healthcare environment.

Background

Recent advances in the use of simulation allow nurse educators to facilitate realistic learning in ways unimaginable when the first patient simulator, “Mrs. Chase,” arrived at the
Hartford Hospital Training School for Nurses in 1911 (National League for Nursing, 2015). By 1960, another simulator, named Harvey, was developed to replicate heart and lung sounds. Simulators have been advancing steadily since 1980. Currently, some states are allowing up to 25% of undergraduate clinical education to occur in simulation labs (Radhakrishnan et al., 2013).

Research suggests that incorporating simulation into training methods increases self-confidence in nursing students, aviation trainees, medical students, physical therapy students, and military personnel, but more research is needed on the impact of simulation on self-confidence in hospital nurses (Wilmoth, 2016). With the current nursing shortage, nurses have an increased patient load. Preceptors may not have adequate time before administering patient care to thoroughly review policies and procedures. Therefore, simulation during orientation will aid in the transition of newly hired nurses to provide safe, quality care (Cooper, Prion, & Pauly-O’Neill, 2015).

**Problem Statement**

The clinical problem identified at a rural Alabama hospital was the need for a simulation program during orientation. Simulation supports learning through experimentation with the ability to practice without negative patient outcomes. Additionally, simulation meets the needs of diverse learners (Wilmoth, 2016). While simulation has been used in other disciplines and in nursing education for many years, it represents a progressive way of thinking for the practicing nurse. Studies on the use of simulation in hospital orientation are limited (Harper, Gilbert, Gilbert, Anderson, Markey, 2018; Wilmoth, 2016).

The purpose of this project was to explore whether the use of simulation in a hospital orientation program increased self-confidence in newly hired nurses. Finding the best possible evidence required this project planner to formulate a clinical question. To keep the project on
target, a project-focused question was formulated utilizing an evidence-based practice framework. A population, intervention, comparison and outcome question (PICO) is a method used in evidence-based nursing to frame and answer clinical questions (Echevarria & Walker, 2014). In newly hired nurses (P) will simulation (I) versus no simulation during hospital orientation (C) increase self-confidence (O)?

**Organizational Description of Project Site**

Now more than ever, changes in healthcare access, technology-based healthcare delivery, patient complexity, and the increasing shortage of preceptors for new nurses mandate that quality simulation experiences to be included in the learning program (National League for Nursing [NLN], 2015). The project, *Cultivating Self-Confidence: Integrating Simulation into Hospital Nursing Orientation*, was implemented in a rural Alabama hospital which currently does not integrate simulation into nursing orientation.

**Review of Literature**

A review of the literature was conducted using the Cumulative Index to Nursing and Allied Health Literature (CINAHL), PubMed, and the Cochrane Library databases. The combined search terms simulation, newly hired nurses, and self-confidence were entered. The search was narrowed to locate English-language articles published between 2013 and 2019 to evaluate the use of simulation to increase self-confidence in newly hired nurses.

**Simulation to Assist with Unit Placement**

Nursing demands high-level knowledge which expresses self-confidence and accuracy in performing nursing interventions. Across the United States, new nursing graduates are placed in positions based not on new nurses’ level of expertise but on facility needs (Arias et al., 2018). The education-practice gap is becoming more obvious as patient acuity rises, clinical demands
increase, and expectations of the bedside nurse become more complicated. According to Arias, et al. (2018), simulation is a technique to prepare new graduate nurses for their role as novice nurses. These authors reported that without proper transition, new nurses are often unable to perform as proficiently as their more experienced peers in care-giving situations. This study was conducted in a mid-western acute care rural hospital which focused on a residency program to accurately place new nurses on units and reduce the theory-practice gap. One technique the hospital used was a combination of critical thinking simulation scenarios. The chief goal was to produce a smoother transition into practice for new graduate nurses and help guide proper unit placement. The authors determined that adding simulation and including policies and procedures in the simulation scenarios eased the transition to units and decreased the preceptors’ role in attempting to cover all unit-specific content. Also, new nurses voiced an increased readiness for practice because they were previously exposed to critical situations and protocol-driven care in a safe learning environment. The new graduate nurses had an improved awareness of available resources and were more comfortable utilizing them. Employing simulation in this residency program enhanced the new nurses’ communication, critical thinking, and prioritization skill while boosting competency, self-confidence, and eagerness to practice independently at the bedside (Arias et al., 2018).

Simulation and Staff Nurse Education

New graduate nurses are confronted with increasingly complex patient needs and medical technology. Orientation for new nurses traditionally includes classroom instruction and assignment to a preceptor. During orientation, there is limited opportunity for practicing involved skills in a simulated, safe, and controlled environment which does not place patients or nurses at risk (Hommes, 2014). Hommes’ (2014) project implemented a simulation curriculum during
nursing orientation at a Midwestern, rural community hospital. Each cohort participated in four simulations at the end of the first week of orientation. The Orientation and Simulation Pre/Post Confidence and Competence Survey was used to assess presimulation and postsimulation confidence and competence. All participants had an increased perceived self-confidence and competence. At the project completion, the rural hospital decided to maintain the simulations in orientation as an intervention to improve self-confidence and competence; this decision ultimately lowered attrition rates in newly hired nurses (Hommes, 2014).

**Simulation and Self-Confidence in Nursing Students**

Initially, it is essential to consider the impact of simulation on self-confidence in the student nurse population, due to limited research on simulation with practicing nurses. Nursing is a practice-based discipline, and clinical education is a vital component of the nursing curriculum; however, how best to employ clinical education is a question still unanswered. Traditionally, clinical education is executed in clinics, hospitals, and community settings, but alternatives such as simulation are widely accepted. Due to the shortage of clinical instructors, there are recommendations to increase the use of simulation. Simulation provides a risk-free environment which allows learners to integrate theory and practice without risk of harming patients (Brady & Lopreiato, 2018). It can assist students in acquiring the critical thinking skills essential to providing competent, safe patient care. Self-confidence is considered a significant predictor of performance (Kimhi et al., 2016). Kimhi et al. (2016) suggest that simulation may result in improved confidence which will be carried over into practice. The results of this study demonstrated that simulation in the first-year nursing school increases students’ self-confidence/self-efficacy. Additionally, Kimhi et al. (2016) reported that clinical experience has a
robust effect, but simulation appears to be effective in enhancing self-confidence when implemented before or after a clinical experience.

**Simulation in Nursing Practice**

According to Aebersold and Tschannen (2013), simulation is well known for being used in the military, nuclear power, and aviation fields. In the past two decades, simulation has become increasingly integrated into the education of nurses and physicians but has been slower to integrate into the development of skills for practicing nurses. Simulation has been applied in various ways in the clinical setting. Massachusetts General Hospital developed a simulation program aimed at nurses and the interdisciplinary team. The program was so successful that the organization currently has seven simulation programs, five of which are targeted toward nurses with varying levels of experience. Georgetown University in Washington, D.C. created a simulation program for a cardiac surgery unit. A hospital in the United Kingdom started a program focused on improving the management of stroke patients. Obstetrics is another area where simulation has been significantly utilized with the main focus on teamwork skills in obstetric emergencies. Simulation has shown success in teaching practicing nurses new procedures, communication techniques, and skill-based and non-skill-based practices. Simulation can range from role play to high-fidelity manikins and virtual simulators. According to Aebersold and Tschannen (2013), simulation can be included in an orientation program. Newly hired employees can participate in a standardized simulation which is concentrated on issues experienced by a particular unit’s patient population. Numerous simulations can be performed without costly equipment. The purpose of the simulation must be identified and creativity applied (Aebersold & Tschannen, 2013).
Comparison of Student Events During Simulation and Acute Care Hospital Rotations

Cooper et al. (2015) specified the Institute of Medicine had termed education as a bridge leading to quality patient care. In keeping with this definition, it is essential for nurse educators to prepare nurses with real-life experiences. It is suggested that didactic courses, clinical rotations, and simulation are the three most common tactics for teaching students how real-life patient situations can change quickly. The overall objective in nursing education is to produce competent, safe, qualified nurses. Unfortunately, healthcare employers report that nursing graduates are not prepared to practice in a complex healthcare environment. This study concentrated on the ability of the new graduate to manage high-acuity patients, multiple admissions, and discharges, in addition to unscheduled procedures and deteriorating patients. The results were based on the students’ self-reported data, but they provided vital feedback according to the rank of importance to practicing nurses. The students indicated that most of their critical patient-care events were first experienced in the simulation laboratory. These findings give nurse educators valuable information for developing simulation scenarios to assist in narrowing the experience gaps (Cooper et al., 2015).

Utilization of Experiential Learning During Registered Nurse (RN) Orientation

Nursing orientation and transition to practice are growing problems for hospitals. Experiential learning, including simulation, provides an opportunity to improve the transition from theory to practice. Zigmont et al. (2015) used an experiential learning approach, including simulation and standardized patients, to increase registered nurse (RN) competency in a briefer period. The program was initiated in a large academic medical center. The successful design of the hospital orientation required changes in individuals, experiences, and the environment. Integrating experiential learning theory through the use of simulation resulted in better-prepared
nurses and improved communication among the administrative team, staff, and orientees. Also, a significant cost saving for the organization was noted. Due to the success of the initial orientation program, it is now implemented across the entire healthcare system which includes eleven hospitals. Estimated savings from the implementation of this orientation program is approximately $2.98 million annually (Zigmont et al., 2015).

**Theoretical Framework**

Patricia Benner’s novice-to-expert model is selected as the theoretical framework for this DNP project. Dr. Benner presented her theory in 1982 based on consideration of how nurses develop skills and understanding of patient care over time (Davis & Maisano, 2016). Benner believes nursing skills gained through experience are essential for becoming an expert nurse. This theory has application in numerous situations including evaluating simulation learning which is an exploding field in nursing education and practice (Butts & Rich, 2018). Successful hospital orientation programs seek to create an environment which emphasizes competencies which must be achieved to ensure that nurses progress through the process of becoming expert caregivers. Providing professional development grounded in Dr. Benner’s novice-to-expert model allows healthcare systems to build confident, capable leaders who increase staff retention and impact quality patient care (Davis & Maisano, 2016).

Dr. Benner’s theory describes five stages of proficiency: (1) novice, (2) advanced beginner, (3) competent, (4) proficient, and (5) expert (Benner, 2001; Davis & Maisano, 2016). New nurses begin practice as novice nurses and progress through each level until they reach the expert level. Newly hired experienced nurses will revert to using rules and theory to guide their actions; an example would be an expert medical/surgical nurse accepting a position as a cardiovascular intensive care staff nurse (Benner, 2001; Thomas & Kellgren, 2017).
A novice nurse is a beginner who does not have practical experience in applying new knowledge and skills in unique situations. These nurses use rules in a context-free, inflexible, linear approach. Novice nurses’ performance is limited because the need to follow linear rules hinders the ability to identify relevant tasks necessary in various situations (Benner, 2001; Thomas & Kellgren, 2017).

The advanced beginner level of performance begins as a nurse starts to use intuition, based on previous experience, to recognize patterns of unique situations. Advanced beginners use principles, checklists, experience, and intuition to apply learned rules which guide actions. Advanced beginners view situations as a list of tasks needing to be accomplished, but may have difficulty prioritizing them (Benner, 2001; Thomas & Kellgren, 2017).

The nurse in the competent stage of performance can prioritize and use relevant aspects of the situation. Thinking is more conscious, abstract, and analytic rather than rule and checklist based. The competent nurse feels more confident and efficient at this level. Also, the nurse will have a sense of responsibility and will recognize performance flaws (Benner, 2001; Thomas & Kellgren, 2017).

Proficient nurses look at situations holistically and recognize changing variables as situations unfold. Nurses at this level spend less time and energy thinking and planning; they know what needs doing. These nurses begin to know what to expect in certain situations and continuously adjust to changing circumstances (Benner, 2001; Thomas & Kellgren, 2017).

At the expert level, nurses have highly developed intuition and experience. Expert nurses combine theory and practice unconsciously. Performance at the expert level is fluid and almost seamless. Expert nurses utilize vision, confidence, and the ability to rationalize appropriate risks.
These nurses have the knowledge, experience, and conviction to act as moral agents despite adverse consequences (Benner, 2001; Thomas & Kellgren, 2017).

Since this model is situational based, the level of performance is not characteristic of an individual but is a function of a nurse’s familiarity with a particular situation (Alligood, 2014). Benner’s model provides a pedagogical foundation for planning and implementing a simulation facilitator program at various levels based on individual needs which allow flexibility to meet diverse educational scenarios (Thomas & Kellgren, 2017).

**Goals, Objectives and Expected Outcomes**

The goal of this project was to coordinate and develop a simulation program to be used during hospital orientation for newly hired nurses to increase their self-confidence. The objective of the one-day simulation program encompassed realistic scenarios using a low fidelity manikin. The C-Scale was used to measure the self-confidence level of newly hired nurses utilizing the pre-test and post-test format. The project planner administered a pre-test before participants started the simulation, and a post-test was given after the simulation experience. The expected outcome of the project was to increase self-confidence in all newly hired nurses participating in the hospital simulation program.

**Project Design**

A quasi-experimental design using a pre-test-post-test data collection method was utilized for this project to evaluate the intervention of employing simulation during hospital orientation for newly hired nurses. Data were collected utilizing the Confidence Scale (C-scale) developed by Dr. Susan Grundy. Dr. Grundy believes self-confidence is an important feature of delivering nursing care to others (Grundy, 1993). The pre-C-scale test was administered before beginning the one-day simulation session. The post-test of the C-scale was given at the end of the
debriefing session the same day of simulation. The scale evaluates the self-confidence level of the newly hired nurses. Realistic scenarios such as the recognition of a deteriorating patient, initiating intravenous access, notifying the primary physician, and initiating the code team were provided to allow the new nurses an opportunity to practice skills and critically think in a safe environment where patients cannot be harmed.

**Project Site and Population**

The project was implemented at a rural hospital in northeast Alabama. The hospital is a premier regional healthcare provider for a five-county service area. With a total of 323 inpatient beds located at its primary campus and numerous outpatient facilities, urgent care, and specialty clinics, this hospital is the region’s leading provider of choice for more than 13,500 inpatients, 57,000 outpatients, approximately 1,800 newborn deliveries, and 42,000 emergency room visits each year. The hospital has a full range of medical specialties including cardiac, women’s health, orthopedics, oncology, and emergency services. The hospital provides state-of-the-art healthcare to patients in the northeast Alabama area. The participants for this project included newly hired nurses, excluding nurses rehired in less than a year from termination. Nurses employed within the past twelve months are familiar with the organization’s policies, procedures, and most equipment. Approximately fifty new nurses in a six-month time frame were expected to attend the hospital’s monthly orientation program.

**Setting Facilitators and Barriers**

The designated education area within the hospital consists of five pods resembling a critical care unit. One pod was occupied with a low-fidelity manikin which is used for teaching skills and procedures. All participants in the simulation program for newly hired nurses had the opportunity to assess a deteriorating patient, insert Foley catheters, irrigate Foley catheters, insert
nal gastric tube with lavage, administer intramuscular (IM) and subcutaneous (SQ) injections, perform blood transfusion process, administer wound care, and operate diverse equipment such as intravenous pumps, computers, beds, and patient-controlled analgesia (PCA) pumps. The simulation team was comprised of two nurse educators, a wound care nurse specialist, a blood bank supervisor, a staff nurse from the medical/surgical unit, a critical care nurse, a chaplain, a pharmacist, and the infection control preventionist.

Due to current healthcare financial constraints, one barrier to implementing a simulation program for newly hired nurses during the hospital orientation process is the cost of a high-fidelity manikin. High-fidelity manikin-based simulators are manikins that breathe and have breath sounds, heart tones, and palpable pulses. A high-fidelity manikin has a monitor which can display an electrocardiogram (EKG), pulse oximeter, blood pressure, arterial wave forms, pulmonary artery wave forms, anesthetic gases, and other instrumentations. Procedures can be performed on the simulators such as bag-mask ventilation, intubation, defibrillation, chest tube placement, cricothyrotomy, and others (Johns Hopkins Medicine, n.d.) While working towards a high-fidelity manikin, this project utilized a low-fidelity manikin. Low-fidelity simulations reflect a realistic scenario but do not have the technology to represent a real-life situation (SimStaff, n.d.) High-fidelity simulation is not always the most beneficial for learning, but research has shown the selected fidelity simulation depends on the learning need. In the healthcare arena, the shorter, low-fidelity simulations are preferred initially to help new nurses increase their self-confidence by mastering individual tasks and avoiding becoming overwhelmed and frustrated (Pollard & Wild, 2014; SimStaff, n.d.). For this project, the low-fidelity simulation was selected to allow new nurses to improve their self-confidence and grasp basic through the use of realistic scenario. Due to the national, state, and local nursing shortage,
there is a substantial need for newly hired nurses to begin their orientation process in the practice area. Subsequently, there was a time limitation of only one day for simulation participation.

Implementation Plan/Procedures

The hospital Human Resource department provides a monthly list of newly hired nurses. Each nurse was informed of the project, and permission to participate in the project data collection was obtained on the day of training. The one-day simulation during orientation began with administering the pre-test, which is the C-Scale survey to assess each nurse’s confidence level. The newly hired nurses were divided into smaller groups, and each group received the same scenarios. After completing the simulation, each group had a debriefing session for additional learning. Debriefing is a dialogue between two or more people. The purpose of debriefing is to discuss the actions and thought processes included in a particular patient care situation or a simulation scenario and encourage reflection on these processes to improve future performance. Debriefing generally lasts approximately 30 minutes with the chief objective of identifying features of team performance that went well and those aspects needing improvement (U.S. Department of Health and Human Services, 2018). After the debriefing meeting, the newly hired nurses completed the post-test, which is the same C-Scale survey given before the simulation experience. Each participant’s pre-test and post-test were compared to determine if simulation during orientation improved the nurse’s self-confidence.

Measurement Instruments

The data collection device used was the C-scale, which measured the success of improving the confidence level of the newly hired nurses in a pre and post-test format. Grundy (1993) conducted a study to determine C-Scale validity. Students and experienced nurses participated in the study to determine the validity of the C-scale. There was a consistent
demonstration of high internal consistency reliability throughout the administration to both students and experienced nurses using the C-scale. There were significant increases in confidence in nursing students, which contributed to the validity of the C-scale. Additionally, validity was compared to two other scales which demonstrated high correlations with the C-scale. The C-scale is one-page paper-and-pencil instrument consisting of five statements answered by Likert scale including performance certainty, hesitation, competence, sureness, and satisfaction. The scale is based on the number range of one to five, one representing no confidence and five indicating extreme confidence (Grundy, 1993). The C-scale was administered to the newly hired nurses before simulation and again after simulation on the same day. See Appendix A for C-scale.

**Data Collection Procedures**

All participants were informed of the project, and consent was obtained. See Appendix B for the consent form. The Human Resource department provided a list of newly hired nurses to the Education Department where the project planner is employed. An education file was then generated. The files were locked in a filing cabinet. Employee education files could be accessed only by the four employees comprising the Education Department. There was no personally identifiable information on the pre-test and post-test which was used to collect data. Each orientation group’s data was numbered and entered into an Excel spreadsheet. The Excel document was accessible on the project planner’s office computer which has a required password to enter. The password is changed every 90 days in compliance with hospital policy.

**Data Analysis**

In order to assess the effectiveness of simulation during hospital orientation, a survey was given to ten newly hired employees asking them to gauge their certainty of being able to perform
a specific scenario. Nine respondents participated in a survey before training, and the same nine individuals took the survey again after a formal training session. One person chose not to participate in the survey. This orientation group consisted of mostly females (88.9%) with a majority reporting Caucasian as his or her ethnicity (66.7%). The average age of survey participants was 37.89 with a standard deviation of 7.54. The youngest participant was 24; the oldest was 48. Figure 1 illustrates the ethnicity of the participants in this project. Figure 2 illustrates the gender of the participants.

**Figure 1.** Pie chart indicating the ethnicity of the participants in the project.
Figure 2. Pie chart indicating the gender of the participants in the project.

Table 1 reports the average score for the nine participants for both the pre-test and post-test scores. A paired $t$-test was performed to test for differences in response scores for each survey question. All five analyses resulted in non-significant p-values indicating there was no evidence of any statistically significant differences in the average scores between the two time periods. Therefore, the training received by the orientation class had no impact on individuals’ confidence in performing the scenario.

Some respondents indicated a high level of certainty on the pre-test, which would cause there to be little or no change on the post-test. Due to the small sample size, a non-parametric test was performed to further verify the results obtained with the paired $t$-test. The Wilcoxon Signed Rank test is a statistical test which requires no distributional assumptions. The results of the Wilcoxon Signed Rank test for these survey results mimic the results seen previously. In other words, both types of analysis agree and both indicated no evidence of a significant change in the average differences from the pre-test to the post-test.
Table 1 Mean Scores of confidence to perform medical task for nurses enrolled in orientation for employment at the project site

<table>
<thead>
<tr>
<th>Survey Question</th>
<th>Mean Pre-Score</th>
<th>Mean Post-Score</th>
<th>Mean difference</th>
<th>T</th>
<th>df</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I am certain that my performance is correct:</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>0.00</td>
<td>8</td>
<td>1.000</td>
</tr>
<tr>
<td>2. I feel I perform the task without hesitation:</td>
<td>3.33</td>
<td>3.11</td>
<td>-0.22</td>
<td>-0.41</td>
<td>8</td>
<td>0.695</td>
</tr>
<tr>
<td>3. My performance would convince the observer(s) that I am competent:</td>
<td>3.00</td>
<td>3.22</td>
<td>0.22</td>
<td>0.39</td>
<td>8</td>
<td>0.708</td>
</tr>
<tr>
<td>4. I feel sure of myself as I perform the task:</td>
<td>3.00</td>
<td>3.33</td>
<td>0.33</td>
<td>0.76</td>
<td>8</td>
<td>0.471</td>
</tr>
<tr>
<td>5. I feel satisfied with my performance:</td>
<td>3.22</td>
<td>3.11</td>
<td>-0.22</td>
<td>-0.21</td>
<td>8</td>
<td>0.842</td>
</tr>
</tbody>
</table>

*Scores are based on a C-scale rating in which 1 = Not at all certain, 2 = certain for only a few steps, 3 = Fairly certain for a good number of steps, 4 = Certain for almost all steps, 5 =Absolutely certain for all steps.

**Budget**

The cost incurred for this project was minimal and was covered by the project planner. The only cost encountered was for the journal article, *The Confidence Scale Development and Psychometric Characteristics* by Dr. Susan Grundy and permission to use the C-Scale survey. No cost in the use of the skills environment located in the hospital setting. The hospital auxiliary purchased two new manikins for educating the staff; acquiring these manikins was critical in the implementation of this project. The benefits of this project exceed any cost incurred.

**Timeline**

This project was completed between January 2019 and March 2019. See Appendix C.

**Ethical Considerations/Protection of Human Subjects**

Approval from the Jacksonville State University Institutional Review Board (IRB) was obtained before initiating the project. All participants were protected by the Health Insurance
Portability and Accountability Act of 1996 (HIPAA) which, among other guarantees, protects the privacy of patients’ health information (Modifications to the HIPAA Privacy, Security, Enforcement, and Breach Notification Rules, 2013). Additionally, the project planner and practice personnel who carefully conducted this project followed the Standards of Care for practice in an acute care facility. All information collected as part of evaluating the impact of this project was aggregated from the project participants and did not include any potential personal identifiers. There was no risk to participants with the implementation of this project. The list of participants for this project was secured in a locked filing cabinet located in a private office and was accessible only to the project planner. All electronic files containing data collection were password protected to prevent access by unauthorized users, and only the project planner had access to the passwords.

The Institutional Review Board approved the project where the project was conducted. Before completing the pre-test and post-test, the newly hired nurses agreed to participate in the project, and informed consent was obtained. The informed consent detailed the purpose of the project and the benefits of participating in the project (Appendix B). At any time during the project, the participants had the right to decline participation. The form provided the participants with contact numbers of the project planner. There were no identified risks associated with this project.

**Limitations**

There were some limitations identified with this project. One limitation was the small sample size. Additionally, the organization experienced a hiring hold during the months of the project’s implementation which contributed to the smaller orientation groups. There were ten newly hired nurses between the months of January and March. Also, the project was
implemented in only one hospital. Also, during this same time period, there were significant financial constraints which hampered efforts to acquire adequate supplies to create a life-like scenario. Finally, the time constraint for this project may have played a significant role in the low number of participants.

If nurses’ years of experience were included in the demographics, there is a strong probability of an increased variation in significance of simulation utilization during orientation. There were no new graduate nurses, and one-third of the participants were travel nurses who would be expected to demonstrate increased self-confidence. According to Manighalam (2016), travel nurses have opportunities to learn unique skills at different hospitals, and this breadth of experience advances their knowledge. This extensive exposure to new situations provides travel nurses with an adaptability advantage staff nurses will seldom experience. Additionally, an alteration in data may have been seen if more than one scenario had been presented.

**Recommendations**

A larger sample size with an extended project period at an additional clinical site may be beneficial for newly hired nurses in hospital orientation. A twelve-month orientation period with multiple scenarios as opposed to three orientation sessions would almost certainly be more effective. An extended implementation period would allow more flexibility for hiring rates and allow the inclusion of new graduate nurses. Also, comparison of self-confidence levels between experienced nurses versus new graduate nurses and between those with versus those without prior simulation training would be valuable. Additionally, further training for the simulation team would be helpful.
Conclusion

The rapidly changing healthcare environment requires that nurses are prepared to provide patient care with self-confidence and competence. The stress experienced by nurses when entering a new place of employment may generate insecurity and a lack of confidence. Lack of self-confidence can affect one’s performance and, ultimately, patient care and safety. Therefore, it is essential for clinical educators to find innovative ways to provide education and support including creative learning tactics which supports nurses’ transition into a new role and work environment (Lamers, Janisse, Brown, Butler, & Watson, 2013). Simulation provides an environment for nursing skills to be validated in a controlled atmosphere. By using simulation to acquire new nursing skills and validate deep-rooted ones, nurses will demonstrate higher self-confidence at the bedside. Nurses will transition from novice to expert in their clinical setting (Wilmoth, 2016). As simulation has become a standard in some healthcare professions (Lavoie & Clarke, 2017), continued discussion and evaluation are essential as simulation finds its rightful place in assisting newly hired nurses during hospital orientation to acquire the knowledge and skills needed for safe nursing practice. This project provided an avenue for newly hired nurses to practice skills in an environment where it was safe to make, and learn from, mistakes. In summary, more research is needed on the impact of simulation on self-confidence in newly hired nurses in the hospital setting.
References


* Nursing2014 44(2), 18-19. doi: 10.1097/01.NURSE.0000442594.00242.f9*


https://doi.org/10.1097/01.NND.0000433144.66804.4c


https://www.nln.org

Pollard, C.L. & Wild, C. (2014). Nursing leadership competencies: Low-fidelity simulation as a
teaching strategy. Nurse Education in Practice.
https://doi.org/10.1016/j.nepr.2014.06.006

Simulation: A teaching strategy in nursing education for safe practice. International
Journal of Nursing Education. https://doi.org/10.5958/j.0974-9357.5.1.003

SimStaff (n.d.). What is the difference between low-fidelity and high-fidelity simulations?
Retrieved from https://www.simstaff.com

Thomas, C.M., & Kellgren, M. (2017). Benner’s novice to expert mode: An application for
simulation facilitators. Nursing Science Quarterly 30(3) 227-234.
https://doi.org/10.1177/0894318417708410

U.S. Department of Health and Human Services, Agency for Healthcare Research and Quality,
https://psnet.ahrq.gov

equipment, policies, and procedures. Nursing Theses and Capstone Projects. Retrieved from
http://www.digitalcommons.gardner-webb.edu/nursing_etd

Utilization of experiential learning, and the learning outcomes model reduces RN
orientation time by more than 35%. Clinical Simulation in Nursing, 11(2), 79-94.
https://dx.doi.org/10.1016/j.ecns.2014.11.001
Appendix A

Confidence Scale (C-Scale)

Directions: Circle the number that best describes how you think or feel regarding your current ability to participate in a “Code Blue.”

1. I am certain that my performance is correct:
   1. Not at all certain
   2. Certain for only a few steps
   3. Fairly certain for a good number of steps
   4. Certain for almost all steps
   5. Absolutely certain for all steps

2. I feel that I perform the task without hesitation:
   1. Not at all certain
   2. Certain for only a few steps
   3. Fairly certain for a good number of steps
   4. Certain for almost all steps
   5. Absolutely certain for all steps

3. My performance would convince the observer(s) that I am competent:
   1. Not at all certain
   2. Certain for only a few steps
   3. Fairly certain for a good number of steps
   4. Certain for almost all steps
   5. Absolutely certain for all steps

4. I feel sure of myself as I perform the task:
   1. Not at all certain
   2. Certain for only a few steps
   3. Fairly certain for a good number of steps
   4. Certain for almost all steps
   5. Absolutely certain for all steps

5. I feel satisfied with my performance:
   1. Not at all certain
   2. Certain for only a few steps
   3. Fairly certain for a good number of steps
   4. Certain for almost all steps
   5. Absolutely certain for all steps
Appendix B

Consent Form

Please read this consent agreement carefully before agreeing to participate in this project.

Title of project: Cultivating Self-Confidence: Integrating Simulation into Hospital Nursing Orientation

Purpose of the project: To evaluate the effectiveness of implementing a simulation program during hospital orientation to increase self-confidence with newly hired nurses.

Location of project: Northeast Alabama Regional Medical Center

What you will do in this project: You will complete a brief survey prior to participating in simulation during hospital nursing orientation. After the simulation experience, you will be asked to complete the same survey again.

Time Required: The simulation experience will be the day scheduled during orientation for basic nursing skills.

Risks: There are not any anticipated risks associated with participating in this project.

Benefits: You will acquire experience using real-life scenarios which may increase self-confidence and ease the transition to your assigned unit.

Confidentiality: Your participation in this project will remain confidential, and your identity will not be stored with data collected. Results will be reported in a group format only.

Participation and Withdrawal: Your participation in this project is completely voluntary, and you may withdraw from the project at any time without penalty.

Contact: If you have questions about this project, please contact Martha Richey, mrichey@stu.jsu.edu, or phone: 205-368-6724

Agreement: The purpose of this project has been sufficiently explained, and I agree to participate in this project. I understand I am free to withdraw at any time without incurring any penalty.

In signing this agreement, I also affirm that I am at least 18 years of age or older.

Signature: ___________________________ Date: __________

Name (print): ___________________________________________
Appendix C

Timeline

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