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Use of Simulations to Improve Clinical Judgment in New Graduate Nurses

Aaliyah Sabreen Franks
Walden University

Walden University

College of Nursing

This is to certify that the doctoral study by

Aaliyah Franks

has been found to be complete and satisfactory in all respects,
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Review Committee
Dr. Carolyn Sipes, Committee Chairperson, Nursing Faculty
Dr. Geri Schmotzer, Committee Member, Nursing Faculty
Dr. Deborah Lewis, University Reviewer, Nursing Faculty

Chief Academic Officer and Provost
Sue Subocz, Ph.D.

Walden University
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Abstract

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MS, Walden University, 2013

BS, Hampton University 2007

Project Submitted in Partial Fulfillment

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Abstract

The goal of healthcare organizations across the world is to provide safe, efficient healthcare for patients and their families. The practice problem for this DNP Project, a staff education project, addressed simulation as a strategy to improve clinical judgment in new graduate nurses. Recent studies have shown that 23% of new nurses do not demonstrate entry-level competency and are not as effective as more experienced nurses when making clinical judgment decisions. This lack of efficacy poses a threat to patient safety. This was based on nurse's progression through Benner's five levels of competency and was designed to enhance new graduate nurses' clinical judgement, particularly related to their ability to care for patients when there is an acute change in their condition. The project's theoretical framework was based on Tanner's clinical judgment model and the Synergy model. Six new graduate nurses participated in the training and completed the 15-question pre- and posttest. The test included both multiple-choice and true-or-false questions. A quantitative approach was used to determine the learning gained from the project by using Brigham and Women's learning-gained tool. The data indicated the average learning gained from the training was 28.3%. The participants shared that the simulations helped them reflect on their strengths and weaknesses, and that they would be able to take the learning back to the bedside. A staff education manual was created so that new graduate nurses could follow a standardized method to identify changes in patient's acuity and provide appropriate care. Increases in clinical judgment contribute to positive social change efforts such as organizational-wide patient safety through high quality care.

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Dedication

I would like to first thank God for bringing me this far in life. He has tested me like I never thought I have never been tried before. I have learned the true definition of faith and what it means to trust God. I would like to dedicate this project to my family and friends who supported me through this journey. I would like to extend a special thank you to my husband, children, and mother, who have walked through this journey with me. Your love and support are not unnoticed. I am the first person in my family to obtain a doctoral degree, and I hope I inspire others to continue the legacy. I am my ancestor's wildest dreams.

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Section 1: Nature of the Project

To err is human: Building a Healthcare System is a report issued in 1999 to shed light on patient safety issues in United States healthcare (Honavar, 2019). The report is believed to have resulted in an increased awareness of medical errors in the United States. Healthcare providers do not intentionally try to harm patients (Honavar, 2019). However, they are not properly trained to identify rapid changes adequately. Teaching new graduate nurses how to identify patients' changes before they get too sick could decrease medical errors. Preventing medical errors could improve patient outcomes and save millions of dollars in healthcare costs, which would cause positive social change.

Problem Statement

Students are being denied entry into nursing schools at a crucial time when more nurses are needed. There were 78,000 applicants to bachelor and advanced-degree programs who were turned away due to a lack of qualified faculty (Robeznieks, 2015). The lack of qualified nurses has caused patient safety issues. Recent studies show that 23% of new nurses did not demonstrate entry-level competency and were not as effective as more experienced nurses when making clinical judgment decisions (Billings, 2019). The practice problem is that new graduate nurses are not being exposed to situations where patients have a change in status and nurses' critical thinking skills are needed to care for them.

The staff education project took place in a community hospital on a suburban campus in the eastern United States. The data suggest that much of the lack of clinical judgment is related to nurses not being prepared in their nursing programs (Blevins,

2018). Students are attending accelerated programs where skills such as critical thinking may not be emphasized (Blevins, 2018). Each step that the new graduate nurse takes gains her or him more independence. This transition from nursing student to registered nurse is a gradual process, and expertise in nursing takes time (Blevins, 2018). Unfortunately, many nurses are not given enough time to mature and grow into the role, and as a result, there is a problem with retention. Nurse leaders have stated that most new graduate nurses are unable to make clinical judgment decisions in their practice (Monagle, Lasater, Stoyles, & Dieckmann, 2018).

Patient safety events are a significant concern in modern medicine. The Institute of Medicine released a report in 1999 entitled, "*To Err is Human: Building a Safer Health System"*, and it created a pivotal moment, requiring changes in modern medicine (Honavar, 2019). The report asserted that the problem is not that there are immoral people in healthcare, but that the people who work in such systems (health care providers) need to make safer decisions to minimize medical errors (Honavar, 2019). This education project was inspired by the thought that the people who work in health care need to be educated systematically. If standardized processes were used to prepare them to quickly identify patient changes, these processes could improve their clinical judgment. The gap I addressed was as follows: Does the use of simulations improve the new graduate nurse's clinical judgment compared to standard education?

Purpose Statement

The clinical question guiding this project was: What is the effect of a simulation-based nursing education program on new graduate nurses' clinical judgment compared

to the standard education program? The purpose of the project was to provide simulation education for new graduate nurses' orientation. It is significant to the field of nursing because it addresses the new nurse's lack of clinical judgment and creates a standardized learning tool for them to follow. It is critical to address this issue because the lack of clinical judgment may be the root cause of many patient safety issues. Implementing simulation education programs may help improve the care provided at the bedside and could decrease patient safety events. This project could be transferred to similar practice areas.

The focus of the project was to improve the new graduate nurse's ability to recognize patient's change in conditions. A standard is needed to validate the new graduate nurse's knowledge. The synergy model is a tool that was developed by the American Association of Critical-Care Nurses' (AACN) as a conceptual framework for their critical care nurse certification program (Swickard, Reimer, Lindell, & Winkelman, 2014). The patient-centered model focuses on the needs of the patient, the nurses' competencies, and the synergy created when the needs and competencies match (Swickard et al., 2014). Using the synergy model as a framework for nursing practice could address that gap in practice because each nurse would be evaluated against the same standard (Swickard et al., 2014). Educators working at all levels of nursing preparation, including staff development, face the challenge of evaluating students to determine their clinical competence. The Creighton Competency Evaluation Instrument (C-CEI) was developed by the National Council of State Boards of Nursing (NCSBN; (Hayden, Keegan, Kardong-Edgren, & Smiley, 2014). The AACN core competencies,

which directly correlate to the synergy model, were used to develop the C-CEI tool (Hayden, et al., 2014). The model served as a skills assessment to detect whether the nurse can identify the changes and choose appropriate interventions.

Nature of the DNP Project

This DNP staff education project evaluated the new graduate nurse's understanding of specific scenarios using de-identified data. Health care educators teach students how to do things (skills), but they may not do a good job of explaining the knowledge and theory to support why things are done. Medical errors need to be shared with new graduate nurses to increase their awareness of patient safety, so that they understand when and where the breakdown in processes occurred.

Benner's novice to expert Model consists of five stages of proficiency: novice, advanced beginner, competent, proficient, and expert (Benner, 1982). The model was useful in assessing simulation educator knowledge, skills, and attitude for academic and practice settings (Thomas & Kellgren, 2017). This model allowed the simulations to start at the novice level before advancing to the competent level. The design of this project did not include assessing the expert level because, according to Benner's model, this level would require years of experience.

Six nurses were recruited into the project by the nursing graduate residency coordinator. Each nurse was a new graduate with the assessed skill level of a novice nurse. A pretest was administered by the staff to assess the baseline knowledge the day of the training; a posttest followed immediately after the didactic teaching and simulation. The project’s aim was to see if clinical judgment can be influenced by a

standardized staff education plan using simulation. Tanner's reputable model was used to validate the nurses' clinical judgment.

Significance

Stakeholders such as the new graduate nurses, and nurse educators are key players who will be impacted by the project. The local problem was a lack of clinical judgment among new nursing graduates. This staff education project allowed nurse educators to identify the baseline clinical judgment needed for nurse graduates and then taught them the key information needed to care for patients through by using simulation. With collaboration from an expert panel, the nurse educators helped develop a curriculum for teaching the new nursing grads how to assess these issues. Since the nursing educators were responsible for teaching the education program to the new graduate nurses, they needed to help address the problem of clinical judgment. Addressing the local problem could decrease unexpected clinical events, such as a patient's mental status change.

The local problem with the lack of clinical judgment supported the need for the staff education project, which could improve patient outcomes. One example is medication errors that could be attributed to new nurse's lack of education and skills (Honavar, 2019). Simulations could decrease medical errors, reducing the number of sentinel events, and thus save healthcare millions of dollars and improve health outcomes for patients and their families. A teach-back method was used to ensure that the nurse retained the information, and skills and was competent. The teach-back method would allow for problem identification and discussion of how the problem would align with changes in nursing practice. There is sufficient evidence throughout

this DNP paper to support that if new graduate nurses have the chance to synthesize patient conditions through scenarios that are focused on knowledge and skill development in a controlled environment, their clinical judgment may increase (Adib-Hajbaghery & Sharifi, 2017).

The population used for this project will be new nursing graduates. Using simulations to improve clinical judgment could also be used as a validation tool with experienced nurses. [[transition needed from previous to the following sentence] According to Benner, the proficient stage of performance is marked by less time and energy being spent in thinking and planning; nurses simply perform the tasks (1982). A staff nursing education manual could be developed with scenarios that a proficient nurse could easily understand.

Summary

This section discussed the purpose of the paper, the nature of the problem, and how it aligns with nursing practice change by addressing the causes of patient safety events. The DNP staff education project's purpose of increasing clinical judgment was described, and how it could be used to address the gaps in practice such as lack of exposure to situations requiring clinical judgment. The literature suggests that clinical judgment may be lacking amongst new graduate nurses (Blevins, 2018). There is sufficient evidence to support that providing scenarios focused on knowledge and skill development in a controlled environment could improve clinical judgment. Assessing the strength and quality of the research is essential to verify credibility.

Section 2 will provide the local background and context for the DNP project. The concepts, models, and theories used will be described and supported by the literature review. The DNP student/project team's role will be explored, and the relevance to nursing practice will be discussed.

Section 2: Background and Context

The practice problem is that new graduate nurses are not prepared to care for emergencies. The practice-focused question was as follows: What is the effect of a simulation-based nursing education program on new graduate nurse's clinical judgment when compared to the standard education program? The purpose of this DNP staff education project was to use a staff education module, using simulation, to improve critical thinking for new graduate nurses, which would improve patient outcomes. This section will discuss the following: the concept, model, theories, and relevance to nursing practice, local background and context, the role of the DNP student, and the role of the project team. The four models that were used to guide the project were Benner's novice to expert model (1982), Tanner's clinical judgment model (2006), The Creighton Simulation Evaluation Instrument (2008), and the Synergy model (1996). Benner's model and Tanner's model are often used together, with Benner's model focusing on the level of expertise and Tanner's model focusing on clinical judgment.

Concepts, Models, and Theories

This staff education project was comprised of concepts, models, and theories. It discussed the use of Benner's novice to expert model, the synergy model, and Tanner's clinical judgment model. Benner's model served as the framework for the project and was used to assess competence levels. The application of the model is useful for simulation educator knowledge, skills, and attitude for academic and clinical settings (Thomas & Kellgren, 2017). Benner's model provides a framework that lends structure to the role of the nurse. There is no standardized way, other than testing, to assess how the

teaching nurses received was effective. Nurses may be successful in traditional written tests, but most nurses are not tested on their competence with hands-on skills.

In Benner's model, some stages must be followed before developing to the next stage. Benner notes that nurses practicing at the bedside can advance to the competent stage in one-and-a-half years if they work full-time without other work responsibilities (Benner, 1982). Benner's model will allow the simulations to start at the beginner level before proceeding to a more challenging level (Thomas & Kellgren, 2017). Benner describes these stages as novice, beginner, competent, proficient, and expert. Definitions follow:

- *Novice:* At this level, nurses are inexperienced and are not able to judge the context of different situational variables which are needed to make decisions and guide actions. This level is where new graduate nurses begin.
- *Advanced beginner:* The advanced beginner realizes that patient care is more complex than they anticipated. The nurse has gained enough experience to start intuitively recognizing relevant situational elements; however, all the elements have equal relevance. Nurses who have gone through a traditional orientation process become advanced beginners.
- *Competent:* The third level is when the nurse has learned through experience and begins reasoning procedures to help prioritize an action plan. Nurses start to have "ah-ha" moments, and begin to see the big picture of patient care. They start to think of possible patient outcomes, which helps with decision making and interventions. They begin to have higher emotional involvement

with the actions that are chosen for the patient. This stage is when nurses begin to feel comfortable having a questionable attitude towards providers because they understand how the choices will affect their patients.

- *Proficient:* Proficiency is the level where technical tasks are mastered and, therefore, do not demand much attention. The nurse is now spending more time interpreting cues and assessments. Rather than collecting separate assessment findings, the proficient nurse has a practical understanding of the patient's current condition based on the patient's response over time. This nurse is confident in their thinking, and their actions will reflect it.
- *Expert:* The proficient nurse and the expert nurse have subtle differences. Expert nurses' responses become fluid and almost seamless. They have an "expanded peripheral vision" and can sense the needs of others and the capability of those involved. Charge nurses are traditionally considered the expert nurse on the floor. Their “expanded peripheral vision” allows them to monitor the other nurses and know when they are overwhelmed and how to intervene.

The project will use terms that may not have universal meaning in other institutions. The names and definitions are listed below.

- *Nurse residency program (NRP)*-This is the name of the 1-year program that new graduate nurses are enrolled in, which provides educational opportunities and meetings for professional development, critical thinking skills, and leadership growth.

- *Educators*- The organization has one educator for each specialty area, with some educators overlapping in the specialty. They also have educators who only teach in the nurse residency program. The project will define which educator is being used.
- *Simulation coordinator*- The organization has its own simulation coordinator who works with the NRP program to design education for the new graduate nurses.

Tanner's clinical judgement model will be used as a framework for the project. Tanner's model is based on over two hundred research studies that investigate the way nurses think in practice (Schoessler, 2013). Clinical judgment processes include noticing, interpreting, responding, and reflecting (Schoessler, 2013). The goal is to get the new graduate nurse to notice the change that is occurring and follow the other clinical judgment process steps such as interpreting and responding. The final step is the reflection, and it allows the nurse to make sense and learn from the experience (Schoessler, 2013).

The synergy model was developed by the American Association of Critical-Care Nurses'(AACN) as a conceptual framework for their critical care nurse certification program to determine or assess competence (Swickard, Reimer, Lindell, & Winkelman, 2014). According to the ACCN (as cited in Swickard et al., 2014), synergy is the result of the patient's needs, the clinical unit, or the system becomes matched with a nurse's competency (2014). The focus of the patient-centered model is to focus on the needs of the patient, competencies of the nurses, and the synergy created when the needs and

competencies match (Swickard et al., 2014). The adaptation of the Synergy model has been used in different forums. Its purpose in the DNP staff education project is to as a validation tool.

Relevance to Nursing Practice

The broader problem in nursing practice is patient safety. New graduate nurses may have a limited exposure to clinical settings and experiences, which leaves the nurses at a high risk of making errors and not recognizing deterioration, and prioritizing time management (Murray, Sundin, & Cope, 2019). Florence Nightingale's fundamental ethical principle of nursing is to do no harm, and that same principle is the focus of The World Health Organization (Murray et al., 2019). The new graduate nurses' intent is not to harm their patients, but their lack of experience makes the risk of error greater.

Kramer's theory of reality is an early theory used to describe new graduate nurses' reality shock that occurs during the transition of the new graduate nurse to a nurse in practice (Murray et al., 2019). Benner's Novice model was an extension of Kramer's theory and was developed to understand the stages of skill acquisition and the process of transition to practice (Murray et al., 2019). The project advances nursing practice because it ensures that educators are not just educating new graduate nurse's but also challenging them to become critical thinkers. Nursing educators are filling the gap of the "why" nurses are being educated to think critically. The simulations will allow nurses exposure to high-risk situations, so they are prepared to react when it happens with live patients. The DNP staff education project advances nursing practice by pre-exposing the new graduate nurse to situations that require more developed clinical judgment.

Local Background and Context

The current practice problem is when patient safety events occur; the current processes are reactive instead of proactive. The DNP staff education program will be implemented in a community hospital located in a suburban section of a Mid-Atlantic state. The organization is surrounded by Senior Living facilities and nursing homes with an aging community. This group of patients is known to have several comorbidities, which puts them at high risk for hospitalization and who will be cared for by the new nurses who may not have enough experience to detect changes in their status. The practicum site prides itself on its mission and vision of reducing harm and providing patients with the care that they would want for their own loved ones. The mission and vision cannot be achieved without having staff who are competent and skilled to care for their patients.

The simulations will be based on actual patient cases that were reported as patient safety events by the organization. Terms that will be used during the project:

Rapid Response: An emergency alert that is called when staff are concerned that a patient is rapidly declining.

Code blue: The emergency alert that is called when a patient is found not breathing or pulseless

Stroke alert: The emergency alert that is called when staff are concerned that a patient is experiencing acute stroke symptoms

Quantros: The organization's internal reporting system for actual patient events or near misses.

The DNP staff education project will focus on patient safety issues related to new graduate nurses. A larger problem may be the national nursing shortage. The nursing faculty consists of a mature workforce where almost 50 percent of nursing faculty are between the ages of 48-60 years and 22 percent 62 years or older (Johnson, Jarosinski, & Seldomridge, 2018). The lack of nursing faculty could become problematic when there is a mass exit of nurses leaving the workforce and not having a sufficient number of educated nurses to supplement. If this pattern continues, nursing programs may be accelerated, which could lead to new nurse graduates entering the workforce without adequate critical thinking experiences. The state where the project will be taking place has an urgent need for nurses. The lack of nursing faculty makes it difficult to educate and graduate students and may result in many qualified applicants who are turned away from nursing programs (Johnson et al., 2018).

Role of the DNP Student

I am the manager of a Joint Commission-certified program, which has allowed me to view nursing care from a regulatory perspective. When I review cases within our internal reporting system, I can assess areas for an opportunity with educational needs. Staff who are new to the institution and lack experience are usually a common reason for delays in the activation of emergency response systems. The information that is learned from the patient safety events are disseminated to the appropriate departments to be used as learning opportunities. My professional role is directly related to the doctoral project because I have experience in identifying gaps in practice and implementing staff education.

The participants will include new graduate nurses that work at the practicum location. My role as a program manager includes data collection and monitoring patient safety. The role differs from a unit manager because I do not have a direct relationship with the new graduate nurses. In preparation for the staff education project, I consulted with the new nursing graduate's manager to make sure my DNP project goals were aligned with the needs of the unit and patient population. After consulting with both the organization's quality team and the unit manager, it was discovered that the new nurse's needed improvement on high frequency and high-risk situations. Patient safety is essential, and this DNP staff education project will allow me to contribute to improvement.

Role of the Project Team

The development of a simulation education program requires a dedicated project team. The team will be used as an expert panel to assure that the appropriate stakeholders are involved in the development of staff education. The team will consist of nurse residency educators and the simulation educator. The DNP project will be presented to the team to ensure they are committed and supportive of the project. I plan to provide the team with background information, evidence-based literature, and other forms of information that may be necessary.

The nurse residency educators currently provide education for new nursing graduates. As experts in the field, I will seek recommended content for the current curriculum design and share strategies of how to implement it. In the occurrence that the

educators have evidence to provide, it will be discussed in Section 3 when the project is completed.

The timeline for the DNP staff education project will be about 11 weeks. The first week will be spent briefing the educators and simulations on the DNP staff education project. During week two, the scenarios to be used for simulation will be developed. The educators will implement the staff education project to the new graduate nurses in weeks three through eight. In week nine, the comprehensive exam will be given to the new graduate nurses. Weeks 10 and 11 will be used to synthesize the data that is obtained from the comprehensive exam.

Summary

Section 2 addressed the rationale for the project and the concepts and theories that will be used. Some terms are only recognized within the organization, and this section defined those terms and how they are used in the project. The project's relevance to nursing has been defined and was shown why it was important in the local area. The role of the DNP student is an essential part of the project, and this section identified any potential biases and how they will be addressed.

Section 3 will discuss the collection and analysis of the evidence and why the staff education project is appropriate for the DNP project’s problem.

Section 3: Collection and Analysis of Evidence

The problem derives from patient safety issues that occur due to a lack of experience in new graduate nurses. The purpose of the project was to see if the new graduate nurses' competency scores improve once they are educated [about what exactly?] with the use of simulations. The review of the concepts and models discussed in Section 2 suggested that new graduate nurses can improve their clinical judgment when they have a standardized educational method, for example, simulation training. In this section, the practice-focused question will continue to be discussed, the sources of evidence will be identified, and the data analysis will be addressed.

Practice-Focused Question

The local problem was a lack of clinical judgment in new nursing graduates. The practice-focused question was: What is the effect of a simulation-based nursing education program on new graduate nurse's clinical judgment when compared to the standard education program? The practice question aligns with the purpose of the project because it assesses how the intervention (simulation) improves clinical judgment. The staff education project and simulation scenarios were designed to meet the needs of the new graduate nurses at the practicum site.

Sources of Evidence

A literature review on clinical judgment and simulations was conducted to evaluate the evidence needed for the DNP staff education project. The sources of evidence used to support the practice-focused question were peer-reviewed articles. The following online databases were used: CINAHL Plus, PubMed, and Medline. The

following keywords were used: *simulation, critical thinking, clinical judgment, decision making, medical* or *surgical,* and *nursing.* The search yielded 894 articles for review. The most current information was used with most of the articles being published between 2013 and 2019. The search revealed the current evidence and the gaps in previous research. The goal of the literature review was to discover which theories were successful in supporting simulations with new graduate nurses, how the nurses perceived the education, and whether patient safety was improved as a result.

New Nursing Graduates

New graduate nurses are faced with the challenges of their new professional role in an increasingly complex health care environment, where the need for strong clinical judgment skills is essential to patients' health and safety (Lawrence, Messias, & Cason, 2018). There is little research literature on simulations for new graduate nurses. The authors discuss how the use of simulation enhances the transition into clinical practice, which shows the gap in practice that has been identified (Lawrence et al., 2018).

Benner's novice-to-expert model provided guidance on how the simulations need to gradually be introduced to the new graduate nurses (Thomas & Kellgren, 2017). The authors stated that each stage described in Benner's model needs to be met before advancing to the next level. This theory-based approach will guide the development of resources, educational programs, and infrastructure that is needed at various program levels (Thomas & Kellgren, 2017).

A quantitative study was performed to analyze how the use of reflection exercises could have a positive impact on new graduate nurses (Monagle, Lasater, Stoyles, &

Dieckmann, 2018). This information does not directly relate to simulation training, but it is important to the project because the new graduate nurse's perception of how the exercises help is essential to making changes in clinical practice.

Clinical Judgement

Tanner's model of clinical judgment has served as a theoretical framework in the Bachelor of Nursing program (Tanner, 2006). Simulations are one way to provide students with exposure to patient care scenarios to contribute to noticing and clinical judgment (Kelly et al., 2014). Nursing programs' desired outcome is to develop and enhance student's clinical decision-making to form judgments about patient's care needs, and simulations are used to help improve that judgment (Kelly et al., 2014).

Employers of new graduate nurses expect them to come into the workforce with developed clinical judgment skills (Bussard, 2015). However, there are a lot of newly employed nurses who are not skilled or experienced enough to make sound clinical nursing judgment decisions, and their actions pose a risk to patient safety (Billings, 2019). Billing's purpose was to see if the use of a clinical judgment model would help focus attention on the learner's development to clinical judgment skills. Clinical judgment is defined as “an interpretation or conclusion about a patient’s needs, concerns, or health problems, and/or the decision to act (or not), use or modify standard approaches, or improvise new ones as deemed appropriate by the patient’s response” (Bussard, 2015, p. 451).

Numerous studies define clinical judgment and the strategies that could be used to improve it. In addition to high fidelity scenarios and oral debriefings, individuals'

reflective thinking and journaling have also been identified in the literature as a strategy to assist prelicensure nursing students in the development of clinical judgment (Bussard, 2015). Bussard's research does not explore how the use of reflective thinking would work in new graduate nurses, but the research seems relevant enough to use.

The DNP staff education project was aimed to evaluate the new graduate nurse's clinical judgment. The professional development educators must assume the responsibility to ensure that all key players (i.e., educators, simulation coordinator) also can make accurate clinical judgments (Billings, 2019). The authors described the National Council of State Boards of Nursing (NCSBN) clinical judgment model and teaching strategies nurse educators can use to prepare nurses to make effective and safe clinical judgments. It was concluded that in addition to the new graduate nurses, the preceptors and educators could benefit from a nursing clinical judgment model that focuses on the learner's development of clinical judgment skills (Billings, 2019).

Evidence indicates that new graduate nurses believe their competency improved, but substantial evidence is lacking, showing that their self-evaluated improvement to influence patient outcomes. Tyndall, Firnhaber, and Scott (2018) linked participation in transition programs with positive patient outcomes and increased patient safety. The authors suggest the Systems Engineering Initiative for Patient Safety (SIEPS) model may be a useful tool in evaluating the many components that influence patient safety as new graduate nurses' transition to practice. The local problem is a lack of clinical judgment in new nursing graduates. It is important to measure what is in the nursing programs and how it is associated with positive patient outcomes.

Simulations

Some educators are hesitant to use simulations as a teaching strategy. A study was conducted to see which of the two teaching strategies; human simulations or case studies, were more effective. Simulations scored significantly higher in the following categories: stimulates critical thinking, valuable experience, ability to transfer to a clinical setting, and less nervous in clinical (Gibbs, Trotta, & Overbeck, 2014).

Simulations are often used in nursing programs. High-fidelity simulations (HFS) allow nursing students opportunities to practice psychomotor skills, apply clinical judgment skills, and gain experience in knowledge synthesis and application (Lawrence et al., 2018). There is a growing body of evidence that describes how HFS contributed to the student's development of clinical judgment. Although this information is promising, there continues to be a significant gap in the literature on how new nurses translate prior HFS experience to clinical practice and how these experiences contribute to their subsequent development of clinical judgment (Lawrence et al., 2018). This literature supports the need for the DNP project, which could decrease the gap and show how simulations can be used in clinical practice.

A systematic literature review was conducted to review the effect of simulation training in nurses and nursing students. The investigation of the effects of a simulation method in first-year graduate nursing student’s critical thinking showed that not only were the students satisfied with the program, but it could promote critical thinking scores so that the average score be a 4.45 on a scale of 1 to 5 (Adib-Hajbaghery, & Sharifi,

2017). This research supports the DNP project since it shows how several other papers support the use of simulation training to improve clinical judgment.

Evidence Generated for the Doctoral Project

Participant

The participants were new graduate nurses with less than a year of experience. The organization is a 342-bed community hospital on a suburban campus. Specialties include perinatal, stroke, oncology, and orthopedic services. Nursing graduates are bought into the organization in cohort groups of 10-20, and the goal was to have 20 participants. The purpose of the staff education project was to see if there is an increase in scores from the pre-education to the post-education that will affect their clinical judgment compared to those who do not undergo the designed education.

Procedures

The simulation coordinator assisted with the simulation lab, where the most frequent reasons for emergency room visits were used to create scenarios for the simulations. The scenarios were obtained from cases from the organization with de-identification to maintain confidentiality. The first step was to gather new nurse graduate nurses from the cohorts to conduct the project. Once the participants from the cohorts were selected, they were given a pretest the day of the training. The participants attended a 4-hour class focusing on important areas that were identified by the DNP project team. The group also attended a didactic class, followed by simulations related to the subject matter. All participants took a pre- and posttest to see how clinical judgment was affected.

Test administrators were responsible for de-identifying the data to maintain anonymity. The literature reviewed showed a common theme; nurse graduates are not prepared to care for patients when there is an acute change. The purpose of the project was to identify if the use of simulations improved their clinical judgment, and that should have been reflected in the increase from their pre-score to the post score.

Protections

The DNP project is to provide a staff education plan for new graduate nurses to see if the posttest scores improve related to clinical judgment. The strategies used for recruiting and developing working relationships with participants was networking with new graduate nurses. The participants demographics, such as names, will not be included in the data. Pre-existing education time slots that were used for the DNP project.

The DNP project included human subjects, which means that ethical concerns had be addressed. The pre- and post-surveys with de-identified data were kept anonymously on a G-drive file that is only accessible by the DNP investigator. The file will be kept secure and locked until the completion and acceptance of the DNP project. The demographic information was collected, but some information may have to be excluded depending on the enrolled participants.

The participants were informed that they will be deidentified by using assigned numbers instead of names. Deidentification of participants helped ensure that there were no ethical or legal considerations related to human rights violations in the project. The practicum site has an IRB and has indicated that it wished to serve as the IRB of the record for the project. The project was deemed exempt from IRB, and the curriculum was

presented to the organization's education department for future use in their nurse residency program.

Analysis and Synthesis

For the proposed simulation education program, nurses were evaluated by taking a pre- and post-knowledge test on the relevant topics (cardiac, neuro, others). The pre- and posttest scores were calculated and reported as percentage changed. The Creighton Competency Evaluation Instrument (C-CEI) tool was used to measure assessment skills, communication, clinical judgment, and patient safety (Hayden, et al., 2014). Permission to use tools was obtained (Appendix). The C-CEI tool was used to evaluate nurses' performance during the simulation. All assessments were administered to nurses on paper, then later entered electronically. Scores from the C-CEI and pre- and posttests were organized using codes for each participant (instead of names), then organized and uploaded to an Excel spreadsheet. A frequency distribution graph was used as a visual of the pre- and posttest scores, which showed a clear indication of how the scores were affected.

Assuring the integrity of the evidence is very important to the DNP project. The simulation center had cameras in the room to record the interactions of the simulations. The educators had the availability to review the recordings post-simulation to ensure that the staff education was taught by the standard, and there were not any breaches in the standard. The educators de-identified the data and the DNP investigator organized it into an Excel spreadsheet to ensure accuracy. There were no reports of missing data which

could have caused inaccuracies or skewing of data. My role was to analyze the de-identified data and make recommendations as needed.

For statistical analyses, Brigham and Women's Provider Unit Model–Level 2 was used to determine the learning gain from the training. The improvement between the pre- and posttest scores was calculated by using their formula, which will be further discussed in chapter four. The C-CEI scores were documented without comparisons.

Summary

The outcome of the DNP project was to create a staff education program that used simulations to improve clinical judgment in new graduate nurses. Approval was received from Walden University's IRB, and the curriculum was given to the organization's education department for future use in their nurse residency program. Section 4 will discuss the findings and implications for the project.

Section 4: Findings and Recommendations

Introduction

The local problem was a lack of clinical judgment in new graduate nurses due to their decreased exposure to situations that require clinical judgment. The practicum site needed to expose new graduate nurses to patient scenarios that needed clinical judgment. The practice-focused question that led the project was: What is the effect of a simulation-based nursing education program on new graduate nurse's clinical judgment when compared to the standard education program? The purpose of the project was to expose new graduate nurses to scenarios, via simulation, to see if they influenced their clinical judgment.

Clinical judgment is multifaceted, and researchers have tried various ways to quantify its relevance. Interventions have included measuring clinical judgment based on pre-/post-testing and participants' self-evaluations. There is a transition from new graduate nurses to the real world can be a culture shock. The limited exposure to clinical settings and experience poses a risk for the new graduate nurse to make errors. Time management and task completion become a competing priority over patient care and safety (Cope et al., 2019).

The literature revealed that, for new nursing graduates, simulation enhances the transition into clinical practice, which identifies the gap in practice (Lawrence et al., 2018). Prior to the implementation of this project, new graduate nurses at the practicum site? did not have a simulation program that measured clinical judgment. The staff education project was created with a didactic and a simulation component. The didactic

training was designed to review important processes that new graduate nurses need to succeed in the simulation. To prepare them for situations requiring clinical judgment, the project exposed the new graduate nurses to scenarios that frequently occur in their unit.

Findings and Implications

The project was conducted at a 382-bed community hospital that handles over 23,000 admissions and over 52,000 emergency room visits annually. Participants included six new graduate nurses who worked in the emergency department, all of whom had six months or less of nursing experience. Their demographics are listed in Table 1.

Table 1

Participant Demographics

Participant	Level of Education	Sex
1	MSN	Male
2	ADN	Female
3	BSN	Female
4	BSN	Female
5	ADN	Female
6	BSN	Female

ADN = Associate Degree; BSN = Bachelor's Degree; MSN = Master's Degree

On the day of training, each participant was given a pretest prior to undergoing the training. The class was set for 4 hours and included didactic, simulation, a posttest, and debriefing. All the education was conducted by R.N. Level 4, to provide evidence-based and standardized training. The simulation center provided a computer that allowed

the new graduate nurses to document in the play environment, which allowed for a more realistic workspace.

The six new graduate nurses took a 15-question test that included both multiple-choice and true or false questions. Once the pre- and posttest data was completed, Brigham and Women's Provider Unit Models _ (Level 2: Learning (pre- and post-testing) was used to analyze the data. The model was designed with the idea of organizations to have a meaningful evaluation of learning in the organization at four levels with recommended guidelines (Brigham and Women's, 2020). As a part of the analysis process, I calculated the learning gained from the training to show if there was an improvement between the pre- and post-learning assessment scores. The following shows the formula that was used:

$$\frac{\text{Post-learning score} - \text{pre-learning score}}{\text{maximum score} - \text{pre-learning score}} \times 100$$

The data indicated the average learning gained from the training was 28.3%. Participant number two had the exact same score for the pre- and posttest. Participant number three had a higher score for the pretest then they did in the posttest. The average learning gained for the four participants who had an increase in their posttest was 34.25%. These numbers show that there was an overall increase in learning gained.

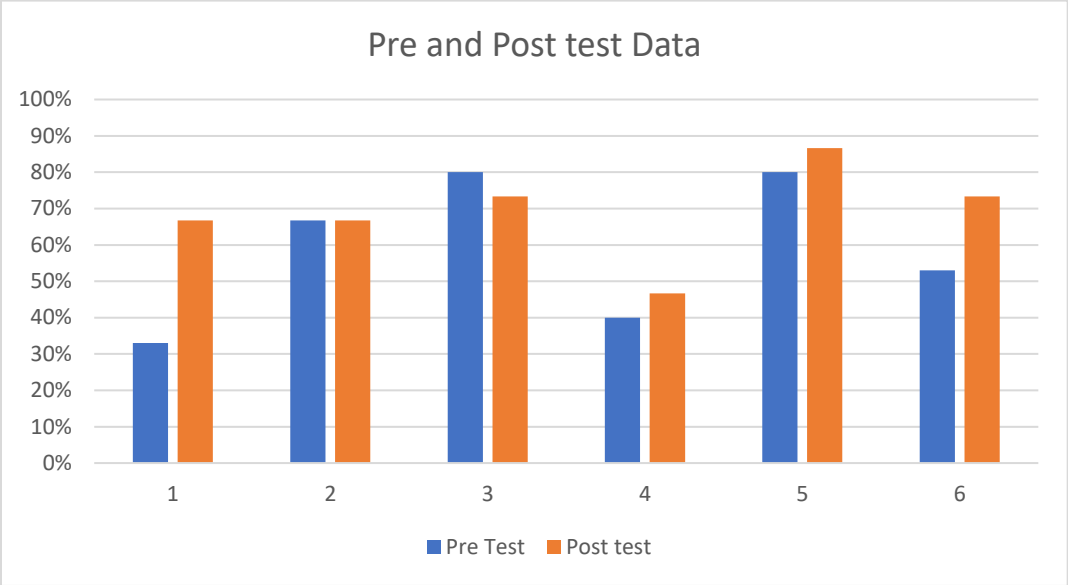

Figure 1. Pre- and posttest data.

One of the other outcomes of the project was to increase confidence for the new graduate nurses. A six-point Likert scale was used, with scores ranging from 1 disagree very much) to 5 (strongly agree). The questions that were asked were about the class environment, the simulations, and the facilitators. The results were unanimous as "strongly agree" for all the questions, and some of the free-text comments stated that the simulations helped increase their confidence. The new graduate nurse's simulations were evaluated in groups using the C-CEI tool. The groups results were higher in the STEMI simulations then the stroke simulations. Stroke is a very complex disease, and this may have been some of the reasons for the lower results in that category.

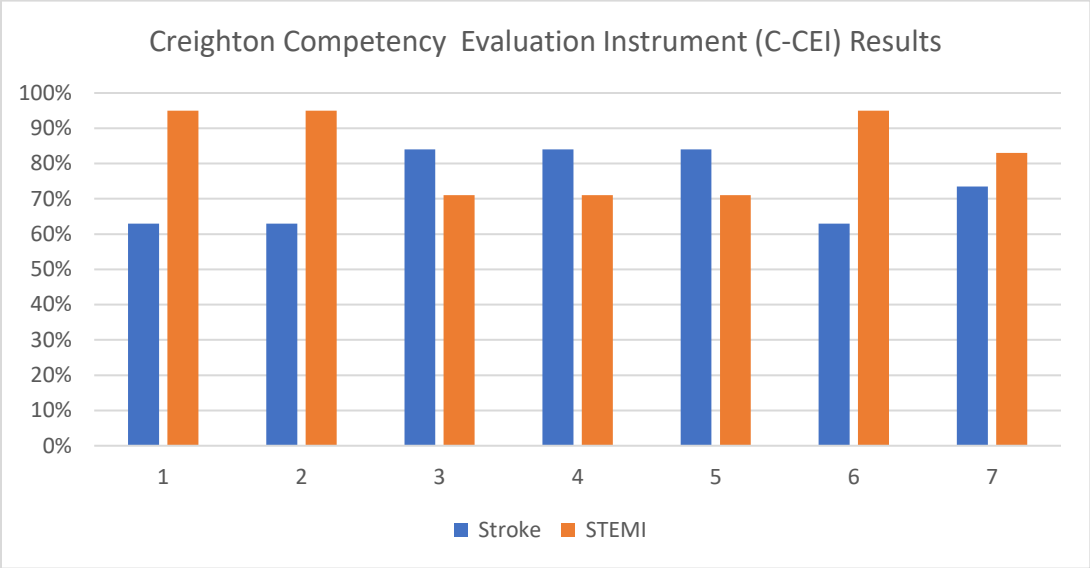

Figure 2. Stroke vs. STEMI simulation scores.

Unanticipated Limitations or Outcomes and Potential Impact on Findings

The study had several limitations. I did not have the opportunity to include new graduate nurses from other specialty areas. The study was conducted during the national COVID-19 pandemic, which had a substantial impact on different aspects of the project. COVID-19 limited the timing of when the new nursing graduates began at the organization, which created a smaller sample size. If the pandemic had not occurred, I could have potentially expanded the project to include new graduate nurses with more than six months but less than one year of experience. A larger group, with a variety of experience, could have given a wider range of experience.

The demographics of the group were very limited. The group did not have a diverse group in relation to gender and race. The limitations of gender may be related to the field of nursing being predominantly a female profession. The organization's local

community is predominately White, and the participants mirrored the community. It would be beneficial to repeat the study with a more diverse population.

Another unanticipated outcome was the lack of scheduling options at the organization's simulation center. If there were more options for time, I could have expanded the project to include a pre- and post-simulation test that could have shown both their knowledge and hands-on skill set.

Implications

The results of the project will have an effect on individuals, communities, institutions, and systems. The project site is a community hospital for many elderly patients who frequent the emergency department due to comorbidities. System changes involve the collaboration of the entire team to change practice. There was a need of support from leadership to execute the project. Some of the examples of leadership support were: the nurse manager had to ensure that staffing was covered for nurses who were teaching and the new nurse graduates, and the simulation coordinator agreed to the assisting with simulation development and provided the space needed for success.

Social Change

Social change includes improving both human and social conditions to work towards a better society. The Institute of Medicine emphasized a need to educate nurses who can meet the present and future demands of health care. When redesigning systems, it is important for leaders to prepare goals for the changes that need to be met (Read, Pino, D.M., & Morrison, 2016). This DNP staff project contributes to positive social change because the end goal is to improve patient outcomes, which has a direct

relationship with human conditions. Decreasing patient safety events aligns with the mission of Walden University to promote positive social change.

Recommendations

The staff education project was designed to address the gap in practice in new graduate nurses and their clinical judgment. The findings, as discussed above, indicated that the new graduate nurses believed the simulations included helped them self-reflect on their strengths and weaknesses, and most importantly, stated they would be able to take the learning back to the bedside.

My first recommendation was to have the new nursing graduates to begin the staff education project immediately after their 90-day orientation. The organization has a successful residency program that occurs over a year, but this staff education would allow the new graduates the opportunity to be exposed to these scenarios sooner. This will set a standard prior to entering the nursing profession, which could help prevent poor clinical practices from the start. The second recommendation would be for all new graduate nurses to review important protocols associated with the education (i.e., stroke alerts, sepsis alerts, etc.) prior to working independently to demonstrate a basic understanding of the process and rationale. The final recommendation would be to have other disciplines (i.e., nursing assistants, physicians, etc.) be a part of the simulations to make the team approach more realistic.

Contribution of the Doctoral Project Team

The project site's nursing department follows the Professional Excellence Model for advancement. The PEM starts at an entry-level of 1 and advances to Level 4. This

allows professional development with a set of criteria that must be met prior to advancing to the next level. This type of model aligns with Benner's novice to expert model, the theoretical framework that was used for the project.

In addition to the doctoral student, the project consisted of Level 4 registered nurses, the Unit Manager, and the Certified Simulation Coordinator. The registered nurses serve on quality committees within the organization. Level 4 registered nurses were responsible for identifying scenarios that the new graduate nurses would likely encounter daily. This allowed the content to be relevant to the participants. The certified simulation coordinator provided a simulation template that was prefilled so that the flow of the simulation was practical.

Strength and Limitations of the Project

There were several strengths and limitations/weaknesses that were associated with this project. The goal of the project was to increase clinical judgment in new graduate nurses and increase their confidence. The limited sample size was the most significant limiting factors that contributed to the descriptive research project. This limitation was caused by the worldwide pandemic known as COVID-19. COVID-19 prohibited some nursing students from graduating that current semester which did not allow organizations to bring in new graduate nurses. The project was supposed to have a minimum of 20 participants but only had six due to changes associated with COVID-19.

The project could have potentially gone on longer if there was a guarantee that more new graduate nurses would be hired at the organization. This would have allowed

for a larger number of participants and could have potentially shown a higher level of learning gains.

The strength of the study was the level of experience for new nursing graduates. Many of the new nursing graduates had just come off orientation, so it allowed a transparent view of the knowledge they are currently using with patients. Performing the pre- and posttest the same day allowed for each participant to take the exam based on their current knowledge and not due to preparation for the testing. The use of evidence-based guidelines for the topics provided a standard of care that needs to be met for patients and their outcomes.

Summary

The DNP staff education project was designed with patient safety and outcomes as the focus. This paper discussed the steps that were taken to create the staff education, and described the challenges that were faced. I am confident that this project will continue to be used for future new graduate nurses, and I hope to be able to expand to other specialty areas in the organization.

Section 5: Dissemination Plan

The objective and driving force to conduct a staff education project in a healthcare organization or institution is to discover new insights into a problem and use these insights to propose a needed practice change. The purpose of this staff education project was to see if the use of simulation would increase clinical judgment in new nursing graduates. There are three important phases in the DNP project: implementation, evaluation, and dissemination. It is important to understand the impact of translation and how the participatory approach can be referred to as learning evaluation. Evaluation of the project happens when project implementation is completed, and the protocols are established during the project planning phase (White, Dudley-Brown, & Terhaar, 2016).

Dissemination is important to the translation of evidence because if the translation is not properly disseminated, the change will not occur, and innovations will not be adopted (White, Dudley-Brown, & Terhaar, 2016). Dissemination of the project outcomes facilitates the sharing of the results to relevant stakeholders for the implementation of the proposed change in practice. The findings of the staff education project will be disseminated to nursing leadership at the DNP project site. The appropriate audiences for dissemination are new nursing graduates, nursing educators, and quality departments.

The three p's of dissemination are the poster, presentation, and publication (White et al., 2016). The presentation is very important because, as an advanced practice nurse, it is important to have professional speaking skills. The results of this DNP staff education project will be disseminated to the institution through a poster presentation.

The project site holds a monthly nursing leadership meeting where projects such as this can be shared. This group would benefit from the findings because the group is diverse and would allow an opportunity to get feedback from the bedside nurse's and nursing leadership perspective. Emphasis will be placed on a plan to expand the project to other areas in the organization.

The information obtained from the DNP project would have relevance to the broader nursing profession. The broader nursing profession would include professional nursing organizations such as the Maryland Nurses Association. Submission of an abstract for a poster presentation would allow local organizations to be informed of the information from the project. The dissemination of this type of project would have more of a benefit on the local level since many of the students are from the same region. This could also provide an opportunity for the local colleges to see a snapshot of how their students are doing post-graduation.

Analysis of Self

This DNP project has allowed an opportunity to self-analyze my role as a practitioner, scholar, and project manager. I came into the DNP program as an MSN prepared nurse, so I had experience as a scholar. However, I knew I had an opportunity for improvement as a researcher. The reason I chose the DNP program over the Ph.D. program was that I felt that I could help bridge the gap between research and practice. This program allowed me to take those issues that were found at the bedside, implement a change, and evaluate the work that was done.

The DNP essentials served as a guide for my goals as a scholar. DNP Essential VI discusses the Interprofessional Collaboration for Improving Patient and Population Health Outcomes. The health care environment that we work in is complex, multi-tiered, and requires knowledgeable individuals from multiple professions. (AACN, 2006). My direct report in my current position is a physician and a medical service line administrator. I knew that I would need an advanced degree so that I would be competent and have the confidence needed so that I could mirror the DNP essentials and function within a highly collaborative team (AACN, 2006). As a scholar, I can use my profound knowledge in healthcare to implement change that will have effects on outcomes in patients and organizations.

I felt confident in completing this project because my role allows me to function as a practitioner and project manager. This project allowed me to step out of my comfort zone and work with other healthcare professionals. In my role as a practitioner, I can problem solve, develop goals and objectives that are beneficial to the organization. The journey of developing and conducting this DNP staff education project challenged my existing professional and personal skills. The DNP project allowed me the opportunity to allow others to lead, which helped me understand the importance of transformational leadership. Transformational leadership style recognizes positive leadership qualities, which inspire followers by clearly communicating visions and expectations (Zawawi, & Nasurdin, 2015). The ability to analyze, synthesize, implement, and evaluate evidence to address patient needs cannot be achieved without taking on a leadership role. Project management is a skill that is used in many industries.

Challenges and Insights

Completing this scholarly DNP project has provided me the opportunity to experience nursing on a global level. There were many challenges experienced during the program that led me to believe I may not be able to complete the program. My preceptor left the organization, and I had to use my networking skills to obtain another preceptor in a very short time. There was some miscommunication during the transition of preceptors, and I had to revamp my practice project to meet new standards. The challenge allowed me to see how nurses can adapt to change.

The biggest challenge was the worldwide COVID-19 pandemic that shut the entire country down. Being an employee at the organization allowed me to continue with my clinical hours. Although the pandemic was and continues to be a challenge, it allowed me to see the importance of nursing as a profession. There was an overwhelming amount of support from other professions, and it made me very proud to be a nurse. My long-term professional goal is to obtain a director position within the quality program so that I can use my clinical, leadership, and educational skills to improve patient outcomes.

Summary

The DNP staff education project was designed with patient safety and outcomes as the focus. This paper discussed the steps that were taken to create the staff education, and described the challenges that were faced. I am confident that this project will continue to be used for future new graduate nurses, and I hope to be able to expand to other specialty areas in the organization.

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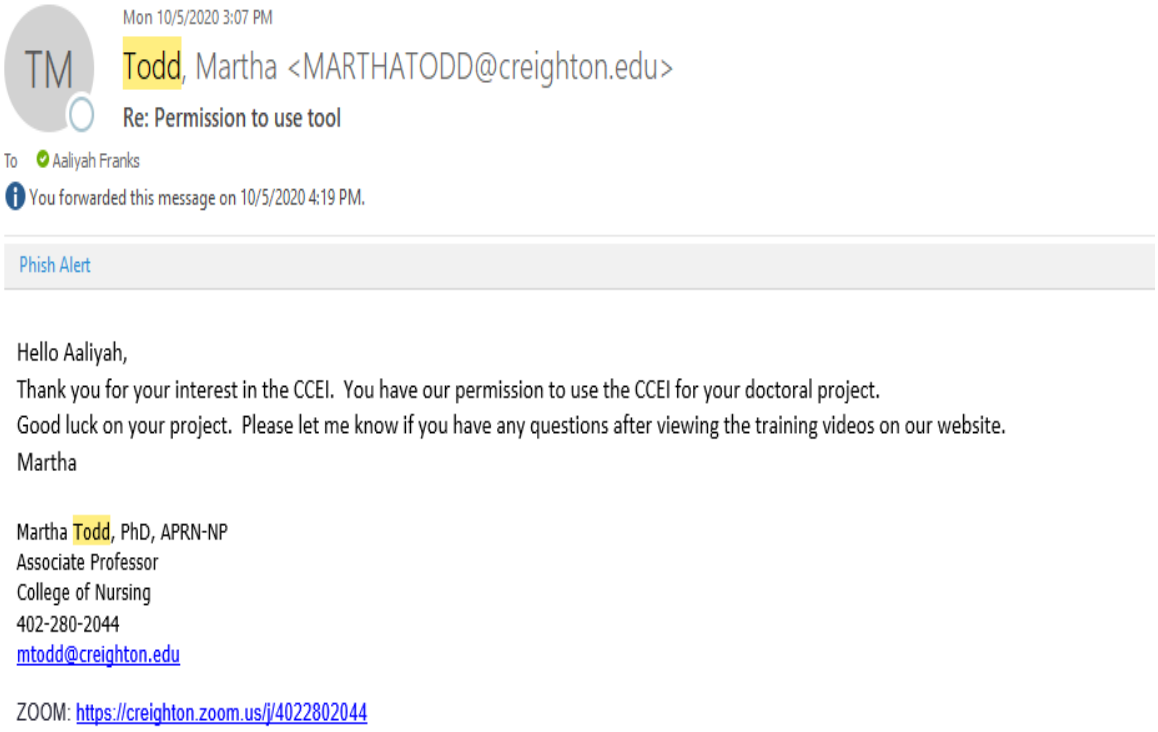
Appendix: Permission to Use C-CEI Tool



Mon 10/5/2020 3:07 PM

TM

Todd, Martha <MARTHATODD@creighton.edu>

Re: Permission to use tool

To Aaliyah Franks

You forwarded this message on 10/5/2020 4:19 PM.

Phish Alert

Hello Aaliyah,

Thank you for your interest in the CCEI. You have our permission to use the CCEI for your doctoral project.

Good luck on your project. Please let me know if you have any questions after viewing the training videos on our website.

Martha

Martha Todd, PhD, APRN-NP
Associate Professor
College of Nursing
402-280-2044
mtodd@creighton.edu

ZOOM: https://creighton.zoom.us/j/4022802044