

## Nursing Education Research Conference 2018 (NERC18)

### Improving Clinical Competence and Skills Acquisition by Student Nurses: Bridging the Preparation to Practice Gap

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**Objective:** As the need for more nurses increases due to healthcare reform, nursing schools must train and graduate students to avoid the long term possibility of a nursing shortage. Changes in nursing education and training can help novice nurses (newly graduated with less than a year of clinical experience) understand and mitigate error rates (Hickerson, Taylor, & Terhaar, 2016). The implication is to improve patient care and reduce medical errors by improving the preparation of nursing students for their role in the clinical setting by formalizing the process of skills acquisition and to foster critical thinking.

Innovative simulation technology can be used to assess nursing students' competence and confidence in clinical skill acquisition and documentation of those skills on a skills checklist. Feedback on student performance is an important aspect of deliberate practice and facilitates the development of clinical practice habits. Nursing students who are exposed to a deliberate practice program in a simulation laboratory will be competent and confident in safely performing those skills in the patient care setting.

**Background:** Today's highly demanding healthcare environment requires effective use of critical thinking and motor skills in complex care situations to achieve optimum patient outcomes. A major practice implication is to advocate for a culture of patient safety as the third leading cause of death in hospitals is medical errors. Bridging the gap between nursing student and graduated nurse requires faculty to foster clinical competence and confidence to promote positive patient outcomes and avoid medical error. One method of evaluation that nursing faculty can use to assess student competency is simulation technology (Willhaus, Burluson, Palaganas, & Jeffries, 2014).

Baccalaureate nursing programs across the country have benchmarks established to ensure that programs are consistent in providing high-quality education and clinical experiences sufficient to produce competent and safe professional nurses. Novice nurses are involved in medical errors with poor patient outcomes. Patient falls, medication errors, and near-miss situations with adverse outcomes were identified as the primary types of errors committed by novice nurses (Hickerson et al., 2016). The function of nursing education is to develop knowledgeable nurses capable of providing safe, highly competent, and skilled patient care.

**Significance:** The third leading cause of death in the United States (U.S.) is preventable medical errors in hospitals with heart disease and cancer occupying the first and second positions respectively (Perez, 2016). In 1999, the Institute of Medicine (IOM) published *To Err is Human: Building a Safer Health System* that alerted healthcare professionals to the true scope of medical errors and quality problems. Since the IOM report on quality and medical errors, healthcare providers, the public, and federal and state governments are seeking answers as to why medical errors are so prevalent (Nickitas, Middaugh, & Aries, 2016). The impact of medical mistakes on segments of the U.S. patient population according to the Department of Health and Human Services report in 2010 estimated that 180,000 Medicare patients die every year from preventable adverse events that occur in hospitals (National Quality Forum, 2015).

A new paradigm in health care is focusing on clinical education to improve safe conditions with positive patient outcomes (Failla & McCauley, 2014). According to Clapper and Kardong-Edgren (2012) a national survey reported clinical faculty spends 69% of their valuable work time observing nursing students demonstrating clinical nursing skills. Nurse educators need to prepare students to enter the complex healthcare environment with the skills and knowledge required to provide safe patient care (Sparacino, 2015). Experienced nurse educators know that students who have not had enough practice experience in the simulation laboratory or real clinical setting will not be able to perform a specific skill competently and

proficiently every time (Clapper & Kardong-Edgren, 2012). In the seminal work by Benner, Sutphen, Leonard and Day (2010) they assert that transformation of nursing education is necessary in response to the changing needs of the patient population and complexities of nursing practice. Novice nurses must enter the profession qualified to provide safe and effective care applying nursing knowledge from natural physical and biological sciences as well as the social sciences and humanities.

**Methods:** The project framework will be a quality improvement pretest-posttest design using the Clinical Competency Questionnaire, educational sessions, faculty demonstrations of clinical skills, repeat demonstrations by nursing students using deliberate practice, and documentation of student demonstrations of skills on a skills checklist.

**Participants:** First semester junior baccalaureate nursing students.

**Results:** The project will result in improved student self-report of competence and confidence in clinical skill acquisition via deliberate practice and documentation of those skills on a checklist.

**Discussion:** The concept of deliberate practice is the process of practicing specific skills repetitively with immediate feedback resulting in improved skill performance in a controlled setting (Motola, Devine, Chung, Sullivan & Issenberg, 2013). Clinical skill acquisition requires nursing students to spend time in the simulation laboratory to practice clinical skills repetitively and receive immediate feedback from faculty to reflect upon (Oermann, 2011). Deliberate practice is a focused approach aimed at a well-defined goal not just mindless repetition of a task (Duvivier et al., 2011). Duvivier et al. (2011) as well as Oermann et al. (2011) agree that the practical implementations of deliberate practice principles are based on; repetitive performance of intended cognitive or psychomotor skills, rigorous skills assessment, specific feedback and improved skills performance. Deliberate practice is not only for novices, nor does it require the examiner to have more technical skills, but are keen observers and skilled at providing immediate feedback (Motola et al., 2013). Findings from this project will support the ongoing measurement of nursing students' clinical skills and their perceived competence and confidence in those skills. The project will demonstrate the use of simulation technology as an effective means of improving clinical competency and confidence, which will ultimately improve patient outcomes.

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**Title:**

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**Keywords:**

Clinical Competency, Patient Safety and Simulation Technology

**References:**

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### **Abstract Summary:**

The objective is to improve patient care and reduce medical errors by improving the preparation of nursing students for their role in the clinical setting by formalizing the process of skills acquisition and to foster critical thinking.

### **Content Outline:**

As the need for more nurses increases due to healthcare reform, nursing schools must train and graduate students to avoid the long term possibility of a nursing shortage. Changes in nursing education and training can help novice nurses understand and mitigate error rates (Hickerson, Taylor, & Terhaar, 2016). The implication is to improve patient care and reduce medical errors by improving the preparation of nursing students for their role in the clinical setting by formalizing the process of skills acquisition and to foster critical thinking.

Student nurses entering the clinical settings have many expectations placed upon them. Two areas, which are the focus of research, are the following. First is the proficiency in basic nursing clinical skills. The second is the ability to utilize critical thinking and decision-making. Both of these have been identified as areas wherein student nurses are suboptimally prepared for independent practice as novice nurses in the clinical arena. Using hands-on instruction in the simulation lab and via development of a clinical skills checklist, the program will ensure that nursing students achieve a basic level of competency in a prescribed list of basic nursing skills and acquisition and documentation of more advanced nursing skills, such as tracheostomy care, ventilator management, and thoracostomy tube management.

Today's highly demanding healthcare environment requires effective use of critical thinking and motor skills in complex care situations to achieve optimum patient outcomes. The literature review supports documenting improvement of clinical skill acquisition via deliberate practice. Deliberate practice encourages the repetitive practice of specific skills with immediate feedback, leading to better development of critical thinking and subsequent motor skill performance. Simulation technology was used to assess and document sophomore baccalaureate nursing students' competence in clinical skill acquisition. The project outcome will result in improved competence in clinical skills acquisition of nursing students' performance and documentation of those skills on a checklist.

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**Author Summary:** Llynne Kiernan graduated from the University of Vermont with a BSN in Professional Nursing, received a MSN degree from Drexel University, and received her DNP from Chatham University. Llynne's research focused on improving clinical competence and confidence in BSN nursing students using simulation and deliberate practice. Llynne is an Assistant Professor of Nursing and her teaching responsibilities include Health Assessment, Medical Surgical Nursing, and Evidence-Based Practice. Llynne is an instructor of 3-G simulation for Medical-Surgical.