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UNIVERSITY OF NORTHERN COLORADO

Greeley, Colorado

The Graduate School

PREPARATION OF CLINICAL NURSE EDUCATORS USING  
SIMULATION: DEVELOPING COMPETENCIES IN  
PROVIDING FEEDBACK

A Dissertation Submitted in Partial Fulfillment  
of the Requirements for the Degree of  
Doctor of Philosophy

Julie Susanne Fitzwater

College of Natural and Health Sciences  
School of Nursing  
Nursing Education

May 2020

This Dissertation by: Julie Susanne Fitzwater

Entitled: *Preparation of Clinical Nurse Educators Using Simulation: Developing Competencies in Providing Feedback.*

has been approved as meeting the requirement for the degree of Doctor of Philosophy in College of Natural and Health Sciences in School of Nursing, Nurse Education Program.

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## ABSTRACT

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Nursing students require a competent nurse educator to support and evaluate their performance in order to learn and grow. Frequently, nurses who enter into educator roles are not prepared to support and evaluate nursing students. An important competency for nurse educators is the ability to give effective formative feedback in a supportive learning environment. Nurse educators who are not prepared for the teaching role might negatively impact the educational experience and preparation of nursing students. Simulation could be an effective method for developing evidence-based teaching competencies in nurse educators but there is limited evidence about this topic in the literature.

The purpose of this study was to evaluate the effectiveness of simulation learning in the development of clinical teaching competencies in clinical nurse educators transitioning from the role of nurse clinician to nurse educator. The study intervention was a simulation learning experience for clinical nurse educators to learn effective formative feedback techniques.

Theoretical frameworks guiding the research study included Meleis' (2010) transitions theory and the National League for Nursing (NLN) Jeffries simulation theory (Jeffries, Rodgers, & Adamson, 2015). Transitions theory addresses the situational transition when a nurse clinician takes on the new role of nurse educator. Simulation

theory provides structure and background for the concepts included in developing a simulation learning experience.

Twenty nurses who worked with prelicensure nursing students were invited to participate. An online survey with demographic questions and the Clinical Nurse Educator Self Evaluation (CNESE) developed by the principal investigator—based on the Nurse Educator Self Evaluation tool with permission from the author and NLN—were completed before the simulation workshops. The simulation workshops focused on developing knowledge and skills to provide effective formative feedback to nursing students in clinical education. At the end of the workshop, participants repeated the CNESE and completed the Simulation Design Scale (NLN, 2018). A trained rater completed the Feedback Assessment for Clinical Education (FACE<sup>®</sup>) tool (Onello, Rudolf, & Simon, 2015b) during each simulation workshop scenario.

The median and mean scores of the CNESE increased from pretest to posttest but the increase was not statistically significant. No significant differences were found in the means of pretest and posttest results on the CNESE between active and observer participants in the live simulation or between participants' level of education in nursing. No significant differences were found in the means of pretest and posttest results on the CNESE between participants with less than three terms of experience and participants with four or more terms of experience. The design features for the simulation were rated positively by participants on the Simulation Design Scale (NLN, 2018) and there were no findings that indicated changes to the simulation design. The FACE tool (Onello et al., 2015b) ratings of active participants in simulation scenarios revealed the highest mean for

the element *Provokes an engaging conversation*. The element with the lowest mean rating was *Establishes an engaging learning environment*.

Despite a lack of statistical significance in the modified CNESE results, the participants in all five workshops indicated it was a good learning experience in group discussions. The CNEs of all levels of experience and clinical backgrounds were introduced to the NLN clinical nurse educator competencies and participated actively in their own skill development to provide effective formative feedback to students. Participants were introduced to the feedback conversation elements from the FACE tool (Onello et al., 2015b) and given opportunities to practice and receive feedback from their peers.

This study contributed to nursing education research by describing the development of clinical nurse educators using simulation and theoretical frameworks that provided a basis for further studies. Simulation learning provides an experiential opportunity for educators to explore their own practice receiving feedback from peers. By focusing on the published and validated competencies from the National League for Nursing, educators could develop simulation learning workshops that develop knowledge and skills for clinical nurse educators.

**Key words:** Clinical Nurse Educator, Formative Feedback, Simulation learning, Role Transition, Simulation Design

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## **CHAPTER I**

### **INTRODUCTION TO THE STUDY**

This study evaluated a method to develop teaching competencies specifically related to providing effective feedback in clinical nurse educators. Competencies related to using effective formative feedback to enhance nursing student learning in clinical settings were evaluated. The study intervention was a simulation learning experience for clinical nurse educators to learn effective, formative feedback techniques. This chapter presents the background of the study, definitions of the variables involved, and includes the research problem, significance, and theoretical framework.

#### **Background of the Study**

As the nation faces a shortage of registered nurses, in the 2018–2019 academic year, 75,000 qualified applicants to U.S. schools of nursing were denied admission (American Association of Colleges of Nursing [AACN], 2019). Schools of nursing cited lack of faculty and clinical preceptors as one of the barriers to enrolling more students (AACN, 2019). To address this faculty shortage, schools of nursing hired practicing nurses as adjunct faculty and clinical instructors to supervise nursing students in practice settings.

The AACN's (2018) annual report indicated a faculty vacancy rate of 7.3% with 27,240 part-time faculty compared to 20,264 full-time faculty in baccalaureate and graduate programs. Nurses hired as faculty from practice settings often lacked the educational preparation to succeed in an academic role (Dahlke, Baumbusch, Affleck, &

Kwon, 2012; Fritz, 2018; National Advisory Council on Nurse Education and Practice [NACNEP], 2010; Santisteban & Egues, 2014). Most of the 330 U.S. accredited master's degree programs do not include coursework in teaching nursing (AACN, 2018; Santisteban & Egues, 2014). In a study of 74 nursing faculty attending a faculty development conference, 31% reported receiving no preparation for teaching in clinical education roles (Suplee, Gardner, & Jerome-D'Emilia, 2014). Studies of the educational preparation of nursing faculty demonstrate a lack of preparation for the role of nurse educator even for those educators who obtained a terminal degree (McNelis, Dreifuerst, & Schwindt, 2019). Depending on state regulations, an instructor teaching in nursing education might be bachelor's prepared or graduate prepared. Specific training in teaching and learning strategies to support nursing students was not guaranteed based on degree acquisition. Nurse educators who are not prepared for the teaching role might negatively impact the educational experience and preparation of nursing students.

When clinical educators do have training opportunities, typical methods implemented are one-time workshops, print resources, online modules, or a formal didactic course (Kamolo, Vernon, & Toffoli, 2017; Suplee et al., 2014). These training methods emphasize the cognitive domain and lack the experiential learning with feedback essential to mastering new skills such as having difficult conversations with students. Simulation methods have the potential to provide the necessary training for nurses entering the clinical education role.

Although many programs provide orientation for new clinical educators, the focus has been on the organization of the clinical course and not specifically on the new role as an educator who needs guidance in teaching and learning strategies (Crocetti, 2014;

Krautscheid, Kaakinen, & Warner, 2008). In an integrated review of the role of clinical educator in nursing education for the interval 2000-2011, reviewers found a lack of consistent educational support and development of clinical instructors to support student learning (Dahlke et al., 2012).

The research literature showed substantial support for using simulation in nursing education programs, showing improved outcomes for student learning compared to traditional lecture and didactic teaching strategies (Cant & Cooper, 2010; Cook et al., 2011). The National Council of State Boards of Nursing (NCSBN, 2005) endorsed the use of simulation in nursing clinical education. Findings from studies included increased knowledge, critical thinking, satisfaction, and confidence after simulation learning compared to control groups (Aebersold & Tschannen, 2013; Cant & Cooper, 2010). Positive outcomes of using simulation in nurse education included providing a safe environment for learning, educator control over student exposure to clinical situations, providing experiences in clinical situations that are difficult to encounter, and permitting repeated practice and exposure with feedback on performance (Curl, Smith, Chisholm, McGee, & Das, 2016; Lee & Oh, 2015; Richardson & Claman, 2014). Placing clinical nurse educators in the learner role in simulation could provide the same benefits of increased knowledge, skills, attitudes, and experiences demonstrated in simulation education of nursing students.

Teaching and learning strategies for clinical education could be reinforced in simulation experiences for clinical educators. Simulation could be an effective method for developing evidence-based teaching competencies in nurse educators but there was limited evidence about this topic in the literature. This study described a method of

evidence-based, innovative clinical educator development using simulation to prepare educators to support nursing student learning.

### **Definitions**

The conceptual definition of *nurse educator* includes a range of descriptions of expert nurses guiding and assisting nursing students and new graduates. The population of nurse educators includes a variety of nurses who assist nursing students to learn the profession and gain experience in the nursing role. Nurse educators are defined as any registered nurse who engages in a teaching relationship with students or newly graduated students in a part-time or full-time capacity in any academic or healthcare institution (Shellenbarger, 2019). The teaching relationship might refer to the nurse educator as a preceptor, clinical instructor, adjunct faculty, clinical teaching associate, or faculty. This study referred to the clinical nurse educator (CNE) as the nurse overseeing the performance of a nursing student in any clinical setting.

A *competency* is an ability or skill (Merriam-Webster, Incorporated, 2019). As a CNE, competency is the knowledge, skills, and personal traits required to fulfill a role. In this context, competencies are the knowledge and skills in clinical teaching roles. This study used the National League for Nursing (NLN) academic clinical nurse educator competencies (Christensen & Simmons, 2020) as the basis for knowledge and skills related to providing formative feedback to students in clinical education.

*Experiential learning* is a process of creating knowledge by combining experience, perception, cognition, and behavior through continual adaptation and transformation (Kolb, 1984). Simulation learning uses experiential learning theory in the pursuit of learning through observation, reflection, and integrating what has occurred.



*Formative feedback* is information provided to a learner about progress in meeting outcomes to improve performance (Oermann & Gaberson, 2017). The manner in which the information is delivered and received could impact the learner's reaction and motivation. Generally formative feedback is an important part of learning in order to clarify where the learner is compared to performance standards.

*Simulation-based learning* in nursing education is defined as a patient care situation where the patient is represented by a manikin, actor, or standardized patient; learners participate in patient care activities while observed by faculty who afterward lead a reflection period with structured debriefing (Cato, 2012). Al Sabei and Lasater (2016) described simulation learning for healthcare students as having three phases: (a) pre briefing, (b) a scenario with real cases, and (c) debriefing that involves discussion of the performance. Using nurse educators as the learners in simulation-based learning would include the same elements as simulations for student learning. Young and Shellenbarger (2012) described how the NLN Jeffries framework could be used in human patient simulation with graduate students and new and developing faculty as the participant learners.

### **Significance**

The development of nurse clinicians into the role of CNE is an important part of improving and expanding nursing education. Without competent educators, less-prepared nurses will enter the workforce. Evidence supported the importance of the relationship between CNEs and the learning environment for nursing student outcomes (McClure & Black, 2013; O'Mara, McDonald, Gillespie, Brown, & Miles, 2014).

Simulation as a learning approach could bridge the gap between expert clinician and expert educator.

Addressing the development needs of nurse clinicians to become effective educators was the focus of this study. Role transition barriers have contributed to the problem of inadequate preparation of nurse educators. Using the positive effects of simulation learning methods for nurse educator development has the potential to increase teaching competencies and ease the transition of clinical experts into new roles as nurse educators.

### **Competencies for Clinical Nurse Educators**

The NLN (2018) has developed competencies for clinical nurse educators with task statements validated by an expert task group and extensive review of the literature concerning the role of the educator. The NLN academic clinical nurse educator competencies important to providing effective formative feedback are #2—Facilitate Learning in the Health Care Environment, #3—Demonstrate Effective Interpersonal Communication and Collaborative Interprofessional Relationships, #5—Facilitate Learner Development and Socialization, and #6—Implement Effective Clinical Assessment and Evaluation Strategies (Christensen & Simmons, 2020).

The selected competencies are essential items to provide effective formative feedback to nursing students. Creating a supportive environment that is welcoming and encourages learning were findings in studies about effective clinical faculty (Cusatis & Blust, 2009; Hayajneh, 2011). Aspects of interpersonal communication needed to provide effective feedback during clinical experiences included being clear, respectful, supportive, and encouraging. Clinical nurse educators need to provide useful and

constructive feedback for nursing students to achieve outcomes required to be competent nurses (Shellenbarger, 2019).

The aim of this study was to elicit information about how simulation education could provide experiential learning to train competent educators in teaching and learning strategies based on NLN academic clinical nurse educator competencies.

### **Importance of Clinical Nurse Educators**

Clinical nurse educators are vital for the development of nursing student learning. Similar to becoming a nurse, learning to be a CNE takes time, practice, and feedback to develop teaching competencies. A critical review of 35 studies published between 2000–2015 addressed the development of preceptors working with nursing students (Kamolo et al., 2017). The authors found traditional education methods of online modules and workshops increased the knowledge, skills, and attitudes of those working in clinical environments with students and affected student outcomes but preceptors needed time to develop skills with follow-up assistance by expert faculty (Kamolo et al., 2017). Kamolo et al. (2017) stated that many studies in the review lacked reporting of psychometric properties of measuring tools used for assessing clinical educator learning and effects on student outcomes. The study outcomes also relied on self-report. Overall, the critical review comparing outcomes of educational initiatives for nurses working with students found evidence of increased knowledge and skills to support nursing students but findings showed a lack of experiential learning to apply the skills and get feedback on the use of teaching strategies over time (Kamolo et al., 2017). Therefore, the findings of this study aimed to strengthen the evidence base of using simulation to develop knowledge and skills in new educators.

## **Role Transition from Clinician to Educator**

Using search terms such as *clinical learning environment*, *role transition*, *clinical educator*, *nurse educator* and *preceptor* in the databases CINAHL®Complete and PUBMED, articles in the last 10 years were reviewed for peer-reviewed research studies on the role transition from nurse clinician to nurse educator. Inclusion criteria were articles about faculty or preceptors at clinical sites with prelicensure nursing students, training for the role of nurse educator in this population, and the effects on teaching and learning outcomes. Four articles were reviewed for application to the current study: three literature reviews and one qualitative study. The results of these studies related to the competencies for clinical nurse educators applied in the current study.

*Communicate performance expectations to learners and agency staff* is a behavior task to meet the NLN academic clinical nurse educator competency #3—Demonstrate Effective Interpersonal Communication and Collaborative Interprofessional Relationships (Christensen & Simmons, 2020). O'Mara and colleagues (2014) conducted a qualitative study of 54 prelicensure nursing students. The results indicated challenging clinical environments were those where students did not understand faculty expectations. Not understanding expectations was a communication lapse in the student-faculty relationship.

Students also experienced challenging relationships with nursing faculty and preceptors in the clinical setting and gave examples such as faculty being overly critical, playing favorites, or being unavailable, which decreased learning opportunities (O'Mara et al., 2014). The NLN academic clinical nurse educator behavior to *Create a positive and caring learning environment* is under competency #2—Facilitate Learning in the

Health Care Environment (Christensen & Simmons, 2020). By not developing a safe learning environment as a clinical educator, student learning would be diminished. Nursing students would not obtain or use feedback to improve their performance in a clinical learning environment that did not support and encourage them with effective feedback.

Three literature reviews explored the role of nursing clinical educators teaching in patient care settings with findings that highlighted the barriers nurse clinicians faced when transitioning to the educator role. The first review conducted by Dahlke et al. (2012) evaluated 15 research articles between 2000–2011 that described clinical instructors' perception of their roles and the factors that facilitated or were barriers to teaching in undergraduate nursing programs. Findings included a lack of role definition for those who were teaching in the clinical settings and that clinical educators based their teaching strategies on their own experiences and not on formal evidence-based teaching methods (Dahlke et al., 2012).

The second review by McClure and Black (2013) evaluated articles published between 2002 and 2012 that addressed the role of the clinical preceptor, which was defined as a registered nurse providing guidance to the prelicensure nursing student during clinical learning experiences. Student, nurse clinician, and educator perspectives were collected. One major finding was the inconsistent use of orientation programs for clinical preceptors. Another major finding was nursing students valued the support and feedback of clinical educators; however, the educators admitted to a lack of training to provide quality feedback (McClure & Black, 2013). Specifically, preceptors identified a lack of preparation to provide quality feedback to nursing students and reported barriers

in the work setting to participate in training to improve their performance as educators (McClure & Black, 2013).

Based on these findings, McClure and Black (2013) recommended that clinical educators use interactive teaching and learning methods to train both educators and students to ensure successful outcomes. Simulation methods provide interactive experiential learning that provides practice in applying theoretical learning in a supportive environment with immediate formative feedback and could fill this gap.

The third literature review about clinical nurse role transition to educator was completed by Fritz (2018). The review evaluated 21 articles published between 2000 and 2017 with the aim of identifying factors that assisted or hindered clinical nurses' transition to the nurse educator role. Identified barriers to role transition were poor orientation, role ambiguity, lack of knowledge of educator skills, and unrealistic expectations (Fritz, 2018). Nurse educators reported needing comprehensive orientation to the role, ongoing mentoring, and educator skill development for successful role transition (Fritz, 2018). Based on this integrative review, Fritz recommended new nurse educators have opportunities to learn and practice educator skills with prompt feedback. Simulation methods for educator training that include debriefing could address this recommendation.

Many nursing programs assign part-time or adjunct faculty to teach a large part of nursing students' clinical education and most do not have teaching expertise for this role (Halstead, 2009). Therefore, new educators might not demonstrate proficiency in the vital nurse educator skill of effective formative feedback as described in NLN academic clinical nurse educator competency #6—Implement effective clinical assessment and

evaluation strategies with the task statement *Provides timely, objective, constructive, and fair feedback to learners* (Christensen & Simmons, 2020). Experiential learning in simulation has the potential to provide clinical nurse educators with the necessary skills and confidence to provide effective formative feedback to nursing students in the clinical setting.

### **Simulation for Nurse Educators**

The efficacy of simulation methods to develop new nurse educators in the United States has been explored in several studies and reported in the literature. Krautscheid et al. (2008) used high-fidelity simulation to provide immediate feedback to newly hired clinical educators. The participants practiced the teaching strategies of promoting client safety and student learning during two scenarios—a situation involving a medication error and one addressing cultural and spiritual awareness. The participants had debriefing sessions to discuss the experience, resulting in participant-reported increased knowledge of teaching strategies, awareness of verbal and nonverbal messages in teaching situations, and thoughtfulness regarding teaching behaviors. In another study using simulation scenarios in an orientation program for new clinical instructors, all participants agreed their confidence to guide student critical thinking increased (Hunt, Curtis, & Gore, 2015). Additionally, in the same study, 96% of participants agreed the simulation experience assisted them in providing feedback to students and 92% reported the simulation helped them learn to talk to students about clinical performance that needed improvement (Hunt et al., 2015). Crocetti (2014) described using simulation to orient six new clinical faculty and measured self-efficacy. Using the Self Efficacy Toward Teaching Inventory, Crocetti reported increases in self-efficacy in all areas of the

inventory after the simulation experience. Wilson, Acuna, Ast, and Bodas (2013) initiated a quality improvement project using simulation to assist nurse preceptors in a hospital setting to give constructive feedback to students. Based on evaluations of the simulation experience, the majority of participants responded that simulation learning was more helpful than lecture alone (Wilson et al., 2013).

The literature on using simulation for the professional development of CNEs primarily consisted of (a) small sample sizes; (b) mixed groups including clinicians, graduate students, and nursing faculty; and (c) one site. Study tools measuring outcomes were not described in terms of validity or reliability. More research is needed regarding evaluation of the development of clinical educators with validated measurement tools. This study added to the knowledge of how to develop clinical educators and provided psychometric information on a measurement instrument for NLN academic clinical nurse educator competencies.

### **Nursing Students in Clinical Education**

Data supported the link between educator competency and student clinical learning (Halstead, 2009; Kamolo et al., 2017; McClure & Black, 2013; O'Mara et al., 2014). Simulation training in evidence-based teaching strategies could improve the learning environment by providing educators with the knowledge and skills to deliver meaningful learning opportunities and feedback in the clinical setting. By providing these meaningful opportunities and feedback, nursing students are more likely to be successful in the workplace.

The significance of this study was based on the importance of preparing nurse educators to effectively assist nursing students in clinical education settings to transition



into practice-ready nurses. Simulation learning shows promise in developing nurse educator teaching competencies.

### **Purpose of the Study**

The purpose of this study was to evaluate the effectiveness of simulation learning in the development of clinical teaching competencies in CNEs transitioning from the role of nurse clinician to nurse educator. The specific competency focus in this study was providing effective formative feedback to nursing students using timely, constructive communication while preserving the relationship in a supportive learning environment. The NLN academic clinical nurse educator competencies number two, three, five, and six (Christensen & Simmons, 2020) address the behaviors necessary to provide effective formative feedback to nursing students in the clinical setting and were the focus of investigation.

### **Research Questions**

The following research questions guided this study:

- Q1 How does simulation learning affect knowledge and skills of clinical nurse educators in providing effective formative feedback to nursing students?
- Q2 How do clinical nurse educators rate the design of the simulation training?
- Q3 What is the quality and effectiveness of the feedback provided by clinical nurse educators during the simulation training?

### **Theoretical Frameworks**

The theoretical frameworks guiding this research study included Meleis' (Meleis, Sawyer, Im, Messias, & Schumacher, 2000) transitions theory and the NLN Jeffries simulation theory (Jeffries, Rodgers, & Adamson, 2015). Transitions theory addresses the situational transition when a nurse clinician takes on the new role of nurse educator.

Simulation theory provides structure and background for the concepts included in developing a simulation learning experience.

### **Transitions Theory**

Transitions theory is a middle-range theory defining the nature of transitions, the conditions of transitions, and the patterns of response in individuals (Meleis et al., 2000). The definition of a transition according to Meleis et al. (2000) is moving from one stable state to another stable state triggered by a change. In this study, the change leading to transition was the role transition from nurse clinician to nurse educator.

Role insufficiency is part of the transition as the person recognizes the change that is occurring and adjusts over time. The transition has specific points involving learning the role, taking on the role, rehearsing the role, and modeling the role manifested by communication and interaction with the group one is transitioning into (Meleis, 2010). The transition to nurse educator is a model of situation transition and can be assisted by learning and rehearsing the role through simulation experiences.

In Meleis' (2010) theory, transitions are personal and environmental and include the expectations of the people involved, knowledge and skill level, emotional and physical well-being, and the level of planning. With attentive mentoring and training, the transition experience could lead to role mastery. Role mastery indicates the successful navigating through the change of the transition. By contributing to the knowledge and skill level of a nurse educator undergoing this transition, simulation experiences could assist in overcoming the barriers for successful role mastery.

## Simulation Theory

The NLN Jeffries simulation theory was used to develop the simulation workshop scenarios and guide implementation and evaluation (Jeffries et al., 2015). The concepts of the theory are context, background, design, simulation experience, facilitator and educational strategies, participant, and outcomes (Jeffries et al., 2015). Each of these concepts is described and related to the study purpose, variables, and instruments.

The *context* of the simulation is the clinical learning environment where instruction and evaluation of knowledge and skills occur. The participants are aware of the context and setting of the simulation experiences based on the informed consent process. The *background* of a simulation includes its goals and resources. In the study, the background included the purpose of participants gaining skills and knowledge to provide feedback to nursing students and evaluation of the simulation experience.

The simulation *design* included learning objectives and roles for the experience. The learning objectives of the simulation were (a) demonstrate ability to identify and perform feedback behaviors that facilitate student learning in clinical situations, (b) demonstrate ability to identify feedback behaviors that limit student learning in clinical situations, and (c) demonstrate ability to evaluate self and peers giving formative feedback to facilitate learning and growth. The design included the various roles in the simulation setting such as simulations operations person, simulation expert faculty, an observer/rater taking notes in the control room, a simulated nursing student actor, participant observers, and participant in the simulated clinical setting with a high-fidelity manikin patient. The scenario scripts included a student performing medication administration in a hospital setting and a student performing a focused respiratory

assessment on a hospitalized adult while being observed by a clinical nurse educator providing support. Briefing strategies presented the objectives of the student in the scenario and how the educator was evaluating the performance. Participant observers have the objectives of the participant to take notes during the scenario. After each simulation scenario, structured debriefing occurred as a group with the participant, simulated nursing student actor, and participant observers to examine the performance, reflect on the performance, and reinforce learning.

The *simulation experience* should be experiential and collaborative focusing on the learner. The study utilized a simulated patient and a simulated nursing student to provide increased fidelity in the experience for the educator as the learner. Introduction and pre-briefing information focused on a supportive learning atmosphere where it was safe to make mistakes and ask questions. The *facilitator* used *educational strategies* to support the participant using cueing during the scenario and debriefing techniques after the scenario. The facilitator must be skilled and prepared to support the learners during the simulation experience. For this study, experienced simulation personnel finalized the scenarios, trained the simulated nursing student actor, and implemented the workshop based on the provided learning outcomes.

The *participant* in the simulation had individual attributes such as level of confidence, preparation, or anxiety that affected how the experience unfolded. The participants in the study volunteered to engage in the simulation in a direct role or as an observer of the simulation. In this study, the facilitator and principal investigator provided participants with preparation for the scenarios with online module examples and workshop discussions. Young and Shellenbarger (2012) described using the NLN

Jeffries Simulation theory to develop high fidelity human patient simulation scenarios for preparing nurse educators. Placing CNEs in the learner role in simulation could provide benefits of increased knowledge, skills, and attitudes as shown in simulation education of students.

The participant in the simulation might assume a direct role or an observer role in the simulation. A systematic review of observer roles in simulation reported that optimal learning occurred vicariously if observers were engaged in the process including debriefing activities (O'Regan, Molloy, Watterson, & Nestel, 2016). More recent research demonstrated learners in the observer role during simulation had similar learning results as active participants (Johnson, 2019). Participants in this study used active learner and observer learner roles in simulation.

*Outcomes* are the final concept in the theoretical model, which might be outcomes related to the participant, patient care, and systems. The study outcomes were measured using (a) Participant reported change in knowledge and skills of NLN academic clinical nurse educator competencies number two, three, five, and six before and after simulation experiences using the modified Clinical Nurse Educator Self Evaluation (CNESE; NLN, 2018; see Appendix A); (b) participant feedback about the simulation experience using the Simulation Design Scale (SDS; NLN, 2018; see Appendix B); and (c) the quality and effectiveness of the feedback provided to the student during the simulation experience using the Feedback Assessment for Clinical Education (FACE<sup>®</sup>) rating form (Onello, Rudolph, & Simon, 2015b; see Appendix C).

### **Limitations**

There were three major limitations to this study. One limitation was the use of convenience sampling. The first 20 participants who met study inclusion criteria were selected. Additionally, CNEs who had time to attend a workshop, enjoyed learning by simulation, and/or wanted to improve their teaching competencies were more likely to participate than those educators who were unable to attend, did not prefer learning by simulation, or were uncomfortable receiving teaching performance feedback. Therefore, the findings might not be generalizable to all new clinical nurse educators because of the nonrandomization of sampling and participant self-selection. The third limitation was using a self-evaluation survey, which could have inflated the evaluation of knowledge and skills as learners could have been subjective in assessment of their own teaching competencies.

### **Summary**

The CNE is a vital part of the learning environment for nursing students. Currently, there is a shortage of expert educators throughout the United States. To assist nurse clinicians in the transition to an educator role, innovative and effective training methods are needed. Simulation could provide the experiential learning component for effective development of CNEs. This study measured formative feedback knowledge and skills before and after a simulation workshop for nurse educators.

## CHAPTER II

### USING SIMULATION METHODS FOR NURSE EDUCATOR DEVELOPMENT: AN INTEGRATIVE REVIEW

#### Contribution of Authors and Co-Authors

Manuscript in Chapter II prepared using author guidelines for *Nurse Educator*.

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Contributions: Conceived the study topic, developed and implemented the study design. Wrote first draft of the manuscript.

Co-Author: Diane Monsivais

Contributions: Provided feedback on the study design. Provided feedback and comments on drafts of the manuscript.

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Contributions: Provided feedback and comments on early drafts of the manuscript.

## **USING SIMULATION METHODS FOR NURSE EDUCATOR DEVELOPMENT: AN INTEGRATIVE REVIEW**

### **Abstract**

#### **Background**

Nurse clinicians transitioning to the educator role require competency development to support student learning. Simulation is an experiential learning method reported to increase knowledge and skill development in participants.

#### **Purpose**

This integrative review evaluated articles describing simulation learning methods to develop teaching skills in nurse educators.

#### **Methods**

A search of the literature included simulation methods at any level of fidelity with nurse educators as learners. Nurses at any level of experience who worked with nursing students were included.

#### **Results**

The seven reviewed articles described measuring the variables of self-efficacy in teaching including evaluating clinical thinking and giving feedback. Other variables measured were knowledge gain, satisfaction with the training, and evaluation of the training for quality and effectiveness. The studies overall were limited by small sample sizes, represented a single healthcare or academic site, and used researcher-developed tools without psychometric reporting.

#### **Conclusion**



Future research should increase rigor in the research design by using pretest-posttest with a validated instrument to measure knowledge, skills, and design effectiveness of the simulation to prepare clinical educators.

*Keywords: nurse educator; nursing faculty development; professional development; simulation learning, education, training; nursing education*

## **Introduction**

In the 2018–2019 academic year, more than 75,000 qualified applicants to U.S. schools of nursing were denied admission (American Association of Colleges of Nursing [AACN], 2019), even as the nation faces a shortage of registered nurses. About two-thirds of schools of nursing cited lack of faculty and clinical preceptors as impediments to enrolling more students (AACN, 2019). To address this faculty shortage, schools of nursing hire practicing nurses as adjunct faculty and clinical instructors to supervise nursing students in practice settings. Despite practice experience, nurses working in patient care settings often lack the educational preparation to succeed in an academic role (Fritz, 2018; National Advisory Council on Nurse Education and Practice [NACNEP], 2010; Santisteban & Egues, 2014).

## **Background**

Even with a graduate degree in nursing from one of the 330 U.S. accredited master's degree programs, most graduates of these programs have not completed coursework in teaching nursing (AACN, 2018; Santisteban & Egues, 2014). In a study of 74 nursing faculty attending a faculty development conference, 31% reported receiving no preparation for teaching in clinical education roles (Suplee, Gardner, & Jerome-D'Emilia, 2014). Nurse educators who are not prepared for the teaching role might negatively impact the educational experience and preparation of nursing students.

When clinical educators have training opportunities, typical methods implemented are one-time workshops, print resources, online modules, or a formal didactic course (Kamolo, Vernon, & Toffoli, 2017; Suplee et al., 2014). These training methods emphasize the cognitive domain and lack the experiential learning with

feedback essential to mastering new skills. Simulation methods have the potential to provide the necessary training for nurses entering the clinical education role and, therefore, be prepared to provide a high level of education to prelicensure nursing students. Simulation could be an effective method for developing evidence-based teaching competencies in nurse educators but there is limited evidence about this topic in the literature.

Simulation-based learning in nursing education is defined as a patient care situation where the patient is represented by a manikin, actor, or standardized patient and learners participate in patient care activities while observed by a faculty member who afterward leads a reflection period with structured debriefing (Cato, 2012). Al Sabei and Lasater (2016) described simulation learning for healthcare students as having three phases including pre-briefing, a scenario with real cases, and debriefing that involved discussion of the performance. Using nurse educators as the learners in simulation-based learning would include the same elements.

Simulation education was evaluated in a systematic review and meta-analysis showing improved outcomes for student learning compared to traditional lecture and didactic teaching strategies (Cook et al., 2011). Findings from studies includes increased knowledge, critical thinking, satisfaction, and confidence after simulation learning compared to control groups (Aebersold & Tschannen, 2013; Cant & Cooper, 2010). Positive outcomes of using simulation in nurse education included providing a safe environment for learning, educator control over student exposure to clinical situations, providing experiences in clinical situations that were difficult to encounter, and permitting repeated practice and exposure with feedback on performance (Curl, Smith,

Chisholm, McGee, & Das, 2016; Lee & Oh, 2015; Richardson & Claman, 2014). Placing clinical nurse educators in the learner role in simulation could provide the same benefits of increased knowledge, skills, attitudes, and experiences that have been demonstrated in simulation education of nursing students. Young and Shellenbarger (2012) provided examples of using the NLN Jeffries framework to develop high fidelity human patient simulation scenarios for preparing nurse educators. Placing clinical nurse educators in the learner role in simulation could provide benefits of increased knowledge, skills, and attitudes as shown in simulation education of students.

### **Purpose**

The purpose of this integrative review was to determine the existing data about using simulation learning methods to develop teaching skills in nurse educators. The research questions included: *What is known about using simulation to prepare nurse educators? What are the outcomes measured in using simulation to prepare nurse educators?*

### **Methods**

Using an integrative review method allows for inclusion of experimental and non-experimental reports about the chosen topic to analyze existing knowledge and synthesize the findings (Whittemore & Knafl, 2005). This review included all types of published reports that met inclusion criteria regardless of design.

For this review of articles, the conceptual definition of nurse educator included all descriptions of expert nurses guiding and assisting nursing students and new graduates. The population of nurse educators incorporated a variety of nurses who assist nursing students to learn the profession and gain experience in the nursing role. This review

defined nurse educators as any registered nurse who engaged in a teaching relationship with students or newly graduated students in a part-time or full-time capacity in any academic or healthcare institution. The teaching relationship might refer to the nurse educator as a preceptor, clinical instructor, adjunct faculty, clinical teaching associate, or faculty.

Inclusion criteria included information about using simulation methods at any level of fidelity to train nurse educators. Nurse educators at any level of experience in teaching were included. The use of simulation could be combined with other teaching and learning strategies as long as a simulation component was included and described. The results could be descriptive or research-based. The search included the years 1990–2019 of peer-reviewed, English-language published articles.

The search method included the key words *nurse educator*, *nursing faculty development*, *professional development*, *simulation learning*, *simulation education*, *simulation training*, and *nursing education* in various combinations. The databases searched included CINAHL®Complete, PUB MED, and ERIC. Search results yielded articles about teaching educators how to use simulations for teaching but few articles reported on the the use of simulation to prepare nurse educators. Abstracts were reviewed for relevancy to the research questions. Articles were excluded if they focused on using simulation as a teaching tool for nursing student development or clinical skill development for nurses. One article was excluded as it was a preliminary report of a study published with complete results in a later article. After searching through the initial results to differentiate the reports related to the topic and hand-searching reference lists, seven articles met inclusion criteria.

## Results

All seven reviewed articles describing simulation training of nurse educators were settings located in the United States. Four reports described locations and faculty populations at undergraduate schools of nursing. One report described healthcare institution training of clinical preceptors and two reports described graduate schools of nursing using simulation for nurse educator preparation. Data were extracted from the reports using the following headings: purpose, design, sample, setting, variables/measures, and findings (see Table 2.1).

### Sample and Setting

Four of the published reports describing the use of simulation to train nurse educators were set in pre-licensure nursing programs in the U.S. states of Oregon, Pennsylvania, Alabama, and Maryland (Crocetti, 2014; Hinderer, Jarosinski, Seldomridge, & Reid, 2016; Hunt, Curtis, & Gore, 2015; Krautscheid, Kaakinen, & Warner, 2008). The report describing simulation training in a healthcare institution was in Arizona (Wilson, Acuna, Ast, & Bodas, 2013) and the graduate nursing programs were in North Carolina and Pennsylvania (Forcina Hill, Woodley, & Goodwin, 2019; Shellenbarger & Edwards, 2012).

Overall, the simulation training participant samples ranged from 6 to 36 but not all reports gave sample sizes. Thirty of the participants from all reports were identified as new educators, while other participant samples had a mix of levels of experience in teaching. Two reports included demographic data. One report included all female participants (Hunt et al., 2015) and one included 30 female participants, two male participants, a mean age of 38.8 years, and a range of ethnicities (Hinderer et al., 2016).

## **Purpose**

Five of the seven reports had a purpose of training educators with simulation learning to improve teaching skills. Hinderer et al. (2016) reported additional purposes of increasing diversity in nurse educators and recruiting educators who were experts in needed specialties such as mental health. The study by Shellenbarger and Edwards (2012) had a purpose of providing ideas about using simulation methods for training nursing graduate students in teaching skills to become nurse educators. Forcina Hill et al. (2019) aimed to supplement learning about clinical teaching practices.

## **Design**

Three of the reports used a pretest/posttest design to measure variables. Four of the reports used a posttest design to measure variables.

## **Variables and Measures**

**Dependent variables.** The reports used different measures for each of the dependent variables. All measures but one were self-report by participants. One measure was a survey of nursing preceptor behaviors observed by preceptees three months after the training (Wilson et al., 2013). Krautscheid et al. (2008) measured themes of participant reflections about how the simulation workshop affected teaching abilities and how well it recreated the clinical teaching experience.

Three articles used outcome measurements of self-efficacy or confidence after the training of clinical faculty with a simulation component (Crocetti, 2014; Forcina Hill et al., 2019; Hunt et al., 2015). Crocetti (2014) used a previously validated tool, Self-Efficacy Toward Teaching Inventory, to measure before and after self-efficacy of six faculty who had differing levels of experience teaching in clinical settings. Hunt and

colleagues (2015) used a posttest online survey of 13 new and 13 returning clinical instructors after an orientation program of lecture and simulation learning. Hunt et al. and Wilson et al. (2013) both used measures of participant satisfaction and skills in providing feedback after the simulation learning. Wilson et al. also measured knowledge gained after the intervention. Similarly, Shellenbarger and Edwards (2012) and Forcina Hill et al. (2019) had participants evaluate meeting simulation session objectives with a Likert rating scale and open-ended questions.

The report by Hinderer et al. (2016) measured demographic data, number of participants who entered advanced education programs, and teaching roles after the training with questions about quality and effectiveness of the training program via an online survey. The survey had four open-ended questions and 16 multiple choice Likert-style questions from strongly agree to strongly disagree with space for comments (Hinderer et al., 2016). Psychometric information of the online survey was not described and appeared to be specific to the training program.

**Independent variables.** All included reports used simulation training alone or in conjunction with other training methods as the intervention. Below are the descriptions of the trainings from each report.

Krautscheid et al. (2008) used a three-hour program that included viewing and discussing two prerecorded scenarios focused on medication administration and providing spiritual and cultural care. Best teaching practices and poor teaching practices were demonstrated in the recordings and pointed out in discussion prior to participating in the simulation. The simulation scenario topic was faculty interaction with a nursing student placing a urinary catheter. A standardized patient was used for the nursing



student role and immediately after the scenario; an expert faculty and the nursing student actor gave feedback to the participant followed by debriefing as a group reflection on the experience.

Shellenbarger and Edwards (2012) provided a simulation design template and details with suggestions of how to design and implement simulation scenarios to teach nurse educators. The use of focus groups was described to learn what situations commonly occurred in clinical teaching to use as simulation scenarios. The three themes identified to use for simulation were medication administration, safety issues, and communication. Actors were used to play the role of student in the scenarios and the graduate students took on other roles to participate as educators. Suggestions to increase fidelity in the simulation and debriefing methods were described. The simulation scenarios were streamed live to a room where fellow graduate students observed, followed by all members of the group participating in a debriefing session.

Forcina Hill et al. (2019) used a low fidelity manikin as the patient, a faculty member played the nursing student, and graduate students were the clinical faculty in 20-minute scenarios including the debriefing time. The scenarios were meant to simulate complex situations that might occur with nursing students so graduate students could demonstrate knowledge and critical thinking in the moment.

The six-hour preceptor training program described by Wilson et al. (2013) included a classroom presentation about the preceptor role, pertinent behaviors, providing feedback, and standardized evaluation of learners followed by simulation scenarios. Scenarios required using a teaching plan and providing feedback while observers kept notes about how the simulation unfolded to give written evaluation to the participant.

The program used three nursing education specialists, a simulation technologist, and volunteers to act as patients and family members. Faculty members took turns prebriefing, acting the preceptee role, and debriefing scenarios. Participants volunteered to be in a scenario and everyone else observed and participated in the debriefing.

Crocetti (2014) described a four-hour orientation that included a simulation with prebriefing, task trainers and mannikins to practice clinical skills and demonstrate teaching strategies, and a debriefing session. The simulation had expert faculty presenting teaching strategies but only the clinical skills the participants would be teaching to students were performed by them.

The orientation program for clinical instructors described by Hunt et al. (2015) began with a presentation of curriculum and policies followed by prerecorded student scenarios as exemplars of effective and ineffective teaching strategies. The clinical evaluation tool was integrated into the recordings, showing how the instructor linked student behaviors with learning outcomes on the tool. The scenarios were discussed as a group to analyze and reflect on the actions observed. After this preparation, participants completed simulation scenarios with a focus on safety with a nursing student volunteer playing the student role. Prebriefing was completed, all participants went through a simulation experience, and debriefing occurred as a group.

The Eastern Shore Faculty Academy and Mentorship Initiative described by Hinderer et al. (2016) included a four-hour session in person, an online learning curriculum of eight modules to be completed over two weeks, and a four-hour simulation session. The online module activities included materials to read, posting in discussion boards, case study analyses, and self-assessments. The simulation portion involved

reviewing and evaluating recorded videos of clinical mistakes made by students followed by participants making their own videos of challenging clinical situations with students, which were reviewed and discussed as a group. The focus was teaching strategies to use in different situations.

## **Findings**

### **Confidence**

Participants had increased confidence in teaching clinical skills to students or being with students in clinical situations in several studies (Crocetti, 2014; Forcina Hill et al., 2019; Hunt et al., 2015). Confidence specifically in giving feedback on clinical performance and guiding students in critical thinking was reported (Hunt et al., 2015).

### **Knowledge about Teaching Strategies**

Krautscheid et al. (2008) published the earliest article about using simulation to train clinical faculty in a descriptive report about the process used. Participants reported the following outcome themes: (a) increased knowledge of teaching strategies, (b) awareness of verbal and nonverbal messages in teaching situations, and (c) thoughtfulness regarding teaching behaviors (Krautscheid et al., 2008). Other reports showed knowledge gained by graduate students (Forcina Hill et al., 2019) and by nurse preceptors (Wilson et al., 2013).

### **Teaching Skills Development**

Graduate student evaluations from a simulation experience included meeting the learning outcomes of (a) understanding issues faced by educators, (b) developing evaluation skills, and (c) developing debriefing skills (Shellenbarger & Edwards, 2012).

The highest scores on one learner survey rated the simulation training as helpful and the online modules applicable to the faculty role (Hinderer et al., 2016).

### **Satisfaction**

Forcina Hill et al. (2019) reported graduate students increased satisfaction with the simulation experience. Wilson et al. (2013) also reported satisfaction with the simulation experience with 76% of participants preferring simulation over lecture format for learning.

### **Discussion**

The following research questions for this integrative review are addressed in this discussion: *What is known about using simulation to train nurse educators?*

*What are the outcomes measured in using simulation to train nurse educators?*

### **Methods**

The reviewed articles provided data for using simulation learning for nurse educator development. The articles had small sample sizes when reported (6 to 36 participants), six out of seven articles represented a single healthcare or academic site, and six out of seven articles used researcher-developed tools without psychometric reporting. Variables measured after simulation learning experiences included descriptions of confidence in teaching including evaluating clinical thinking and giving feedback. Other variables were knowledge gain, satisfaction with the training, and evaluation of the training for quality and effectiveness.

Half of the reports used prerecorded simulation scenarios to evaluate and reflect on effective teaching strategies before participating in the simulation followed by group debriefing (Hinderer et al., 2016; Hunt et al., 2015; Krautscheid et al., 2008). This

method supported learning in the simulation scenarios by reinforcing the content needed to learn teaching competencies and could be used in future nurse educator trainings. All of the articles followed the basic elements of simulation using the steps of prebriefing, scenario, and debriefing, although a simulation theoretical model was not referenced.

Continuing to evaluate the simulation trainings, no variables measured were more persuasive than others about the teaching method of simulation and its effectiveness. Comparing the methods used in the reported simulation trainings revealed a variety of approaches. Shellenbarger and Edwards (2012) provided the most details of the simulation design to allow replication of the method. Krautscheid et al. (2008) reported the scenarios used and behaviors of educators the training was promoting. Providing a list of preceptor behaviors, Wilson et al. (2013) also identified the objectives the training was to accomplish. These three articles provided a discussion of why simulation was chosen for the training as a pedagogy and the goals of the nurse educator training.

In comparison, three articles reporting simulation methods did not discuss a reason or background for the choice. Additionally, all articles lacked a discussion of a simulation theoretical framework or type of simulation debriefing model applied to the simulation training. Shellenbarger and Edwards (2012) used the simulation training to expose graduate students to different kinds of debriefing techniques.

Exploring models for simulation training would support why and how simulation was chosen as experiential learning for nurse educators and allow comparison of studies and outcomes. Clear identification of a theoretical framework, the type of debriefing used, and standardized measurement tools could provide greater replication of future studies to generate evidence-based best practices.

## **Outcomes**

Increase in confidence or self efficacy was an attitude change reported in previous studies after educational interventions for educators and preceptors. In a review of preceptor development for undergraduate nursing students, Kamolo et al. (2017) reported that interventions with video presentations of student-preceptor interactions were more likely to increase confidence. Self efficacy could influence behavior of clinical nurse educators. Self efficacy might be developed by observing the behavior of others live and by video and getting feedback about one's own performance (Zulkosky, 2009).

Two studies described participants over time. Hinderer et al. (2016) did follow-up surveys of participants for demographic information about seeking graduate education and clinical teaching. Wilson et al. (2013) sent a survey three months after the training to collect information about the use of effective preceptor behaviors. Since learning teaching skills and strategies might take time and experience, longitudinal studies that measure the participant's development as an educator might provide more data about effective length of trainings and content delivery.

Research with quantifiable results is necessary to support the findings about using simulation to train nurse educators. Using validated instruments and reported reliability results, larger sample sizes, and more than one nursing program or institution, a rigorous research model could provide the groundwork for a program of simulation to train nurse clinicians in the nurse educator role effectively.

## **Limitations**

This integrative review had several limitations. One limitation was only published articles were included in the search of the literature. Schools of nursing and

healthcare institutions might be using simulation training for preceptors and faculty but have not completed research studies and published the results. Another limitation was the search focused on nurse educators and did not expand the scope to include other disciplines educating healthcare providers. Information about using simulation to train educators in other disciplines might exist to inform nurse education.

### **Conclusion**

Answering the research questions for this integrative review led to the recommendation that future research using simulation to develop nurse educators should increase rigor in the research design by using a validated instrument to measure knowledge, skills, and design effectiveness of the simulation. In addition, researchers should define the simulation methods using frameworks and models that would allow comparison of outcome variables across studies.

The use of simulation for training clinical nurse educators to support student learning in the current healthcare environment of fast-paced and highly acute patient care settings requires more research and development. Simulation learning has the potential to support the clinical nurse educator in understanding their role and increasing confidence in their skills and knowledge.

Table 2.1

*Studies Using Simulation Methods for Nurse Educator Development*

Study & Year	Specific Aims	Design	Sample	Setting	Variables/Measures	Major Results
Krautscheid et al., 2008	To practice teaching and receive immediate feedback from student volunteers and master teachers	Faculty development using didactic material, pre-recorded teaching simulations, and simulation experience	Size not reported, newly hired faculty	BSN program in Portland, Oregon	1. Contributed to ability to teach 2. Replicated experience of teaching in clinical setting 3. has value	1. Enhanced teaching strategies 2. Importance of verbal and nonverbal messages 3. Thoughtfulness in teaching behaviors
Shellenbarger & Edwards, 2012	To provide ideas for using simulation to train nurse educators for clinical teaching	Focus groups to find top 3 problems to address in simulation scenarios, plan and evaluate scenarios	Size not reported, graduate students in a nurse educator program	Master's in Nursing Education program in Pennsylvania	Learning objectives met	Understood issues, developed evaluation skills, learned debriefing skills
Wilson et al., 2013	QI project to improve feedback skills using simulation	Pretest, posttest of learning outcomes after lecture and simulation learning formats	Novices and advanced beginners in the preceptor role, at least 19, not reported	Mayo Clinic, Phoenix, Arizona	Participant satisfaction, knowledge gain, and preceptor behaviors after training	Significantly better performance on posttest of knowledge gain
Crocetti, 2014	To orient new faculty using simulation	Pretest-Posttest, Simulation of clinical skills commonly taught to nursing students	6 adjunct faculty of various levels of experience	Prelicensure nursing program in Pennsylvania	Modified SETTI measuring self-efficacy	Increased confidence in skills
Hunt et al., 2015	To use simulation to prepare clinical instructor for clinical teaching and increase confidence in the role	Posttest, online survey after orientation workshop including simulation	26 Clinical instructors over 2 semesters, 13 were new instructors and 13 returning	BSN program in Auburn, Alabama	Confidence, behaviors of guiding critical thinking, handling unsafe situations, provide feedback	Increased confidence, provide feedback to students



Table 2.1, continued

Study & Year	Specific Aims	Design	Sample	Setting	Variables/Measures	Major Results
Hinderer et al., 2016	To train expert clinicians from diverse backgrounds in needed specialties as part-time clinical faculty using structured collaborative program	Posttest online survey face to face, online, and simulation components	32 expert nurse clinicians, 25/32 clinicians completed online surveys over 3 years	3 under-graduate nursing programs in rural Eastern Maryland	Quality and effectiveness of training program	Highest rating was applicability of online modules to the faculty role (4.76/5) and second highest was the simulation experience as helpful to learning (4.64/5)
Forcina Hill et al., 2019	To supplement learning about best clinical teaching practices in a graduate nursing course	Simulation scenarios over 20 minutes each, Post-simulation survey	Over 2 years, 6 sessions, 31 surveys returned	Graduate course on clinical teaching at UNC Chapel Hill	Knowledge, performance, self-confidence, critical thinking, and satisfaction.	15/31 responses indicated most helpful part was the feedback and discussion after the simulation

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## **CHAPTER III**

### **RESEARCH DESIGN AND METHODOLOGY**

#### **Introduction**

The purpose of this study was to evaluate the effectiveness of simulation learning to develop teaching competencies in clinical nurse educators transitioning from the role of nurse clinician to nurse educator. The specific competency focus in this study was providing effective formative feedback to nursing students using skillful, timely communication and preservation of the relationship in a supportive learning environment.

The following research questions guided this study:

- Q1 How does simulation learning affect knowledge and skills of clinical nurse educators in providing effective formative feedback to nursing students?
- Q2 How do clinical nurse educators rate the design of the simulation training?
- Q3 What is the quality and effectiveness of the feedback provided by clinical nurse educators during the simulation training?

#### **Study Design**

This study employed a pretest and posttest design with a quantitative analysis of the dependent variables. The Clinical Nurse Educator Self Evaluation (CNESE) developed by the principal investigator—based on the Nurse Educator Self Evaluation tool with permission from the NLN (2018)—was used to measure clinical nurse educators' knowledge and skills in competencies related to effective formative feedback in a clinical learning environment. Wilcoxon Signed Rank test was performed for data analysis. The SDS (NLN, 2018) was completed by participants after the simulation

training. The quality and effectiveness of the feedback provided to students in the simulation training was reported using the FACE rating form (Onello et al., 2015b). Descriptive statistics were used on the demographic data, the simulation design data, and the FACE rating form. Reliability testing of all instruments was completed using Cronbach's alpha.

### **Sample**

The participants were adults aged 18 years or older, had earned at least a Bachelor of Science in Nursing (BSN) degree, had a valid registered nurse license, and were employed or planned to be employed as clinical educator or on-site preceptor for prelicensure nursing students. Using the G\*power calculator for an *a priori* calculation of a two-tailed paired *t* test set at an alpha level of 0.05, power of 0.95, and a calculated effect size from mean differences of 17.72727 based on the pilot study of NESE (NLN, 2018) survey results, the minimum sample size was calculated at 16 participants (Buchner, Erdfelder, Faul, & Lang, 2017; Faul, Erdfelder, Buchner, & Lang, 2009). A minimum of 30 pairs of measures was needed if the data were not exactly normally distributed in matched pair *t* tests (Plichta & Kelvin, 2013). Wilcoxon matched pairs were used as the assumptions were not met for *t* tests. Convenience sampling was used.

### **Procedure**

Institutional Review Board approval was obtained (see Appendix D). Upon approval, participants were recruited by emailing educators employed by undergraduate nursing programs and clinical sites, placing recruitment posters on nursing program campuses, emailing nurse managers at clinical partner sites, and word of mouth. Recruitment lasted for three months.

Participants read and agreed to an informed consent letter (see Appendix E) after receiving study information. Following informed consent, participants completed an online demographic information survey with six questions and a survey to self-evaluate knowledge and skills based on NLN academic clinical nurse educator competencies numbers two, three, five, and six. The CNESE (see Appendix A) was placed online with survey software (Qualtrics). Permission was granted from NLN (2018) to use the competencies and from the author of the NESE (NLN, 2018) to use the format of the tool to create the CNESE (see Appendix F).

Next, a link to an online module to prepare for the simulation workshop was emailed to participants to complete before the simulation workshop date (YouTube, San Bruno, California). The online module introduced the NLN academic clinical nurse educator competencies and task statements and presented specific educator behaviors for providing meaningful formative feedback to nursing students while caring for patients in the clinical setting. The presented behaviors were based on the FACE rating form (Onello et al., 2015b; see Appendix C).

The participants attended a four-hour simulation group learning workshop held at the simulation center at a school of nursing. Multiple workshop dates were planned to accommodate participant schedules. Five workshops were scheduled.

The simulation workshops were each approximately four hours including the elements of prebriefing, simulation experience, and debriefing as a learning group. Expert simulation faculty and simulation operations technicians led the simulation workshop. Prebriefing, simulation scenario, and debriefing were led by the simulation faculty. The simulation scenarios were developed using the NLN Jeffries simulation



theory (Jeffries et al., 2015; Jeffries & Rogers, 2012) as a model and the teaching competencies from NLN academic clinical nurse educator competencies numbers two, three, five, and six (Christensen & Simmons, 2020) as the content base. The two simulation scenarios used in the workshop are provided in Appendix G.

During the simulation scenarios, a trained rater evaluated the quality and effectiveness of the feedback provided by clinical nurse educators during the simulation training using the FACE rating form (Onello et al., 2015b). After the workshop, participants completed post-surveys on paper of the CNESE and the SDS (NLN, 2018). After completing the workshop, participants received a \$10 gift card and a certificate of completion of professional development continuing education contact hours. The contact hours were approved through an accredited approver of the American Nurses Credentialing Center.

### **Variables**

The study variables included two independent variables and three dependent variables. The independent variables were the online recorded education module and the simulation workshop using NLN academic clinical nurse educator competencies focused on providing formative feedback to nursing students. The purpose of the online education module was to familiarize participants with the NLN academic clinical teaching competencies and introduce the behaviors of an educator in providing formative feedback.

The dependent variables were knowledge and skills in clinical education as measured by the CNESE and observed quality and effectiveness of feedback using the FACE rater form (Onello et al., 2015b). Additionally, another dependent variable was

participant evaluation of the simulation design using the SDS (NLN, 2018). The SDS data helped to evaluate the simulation scenario design.

### **Data Collection and Methods**

One instrument used in this study was the CNESE, which evaluated knowledge and skills completed by participants before and after the educational intervention. Participants completed the SDS (NLN, 2018) at the end of the simulation workshop and a trained rater completed the FACE (Onello et al., 2015b) tool during the simulation scenarios.

### **Clinical Education Knowledge and Skills**

The principal investigator created the CNESE survey using the four NLN academic clinical nurse educator competencies important to formative feedback was completed online (Qualtrics) before viewing the online module. After the simulation workshop, the CNESE was completed at the workshop using paper surveys. The survey derived its content validity from the NLN core competencies based on systematic review of evidence by nursing education experts (Shellenbarger, 2019). A 4-point Likert scale was used to self-evaluate knowledge and skills for each task statement of the clinical teaching competency. The survey was based on the format of the NESE (NLN, 2018) survey that measures knowledge and skills of the NLN academic nurse educator competencies.

When the NESE was used in a faculty development training, reliability was reported as a Cronbach's alpha of .80 (Wilson, 2010). Another study of 137 students at the beginning and end of a master's program in nursing education resulted in Cronbach's alpha values ranging from .75 to .94 (Kalb & Skay, 2016). The complete eight-

competency NESE takes less than or equal to 20 minutes to complete (Kalb & Skay, 2016; Wilson, 2010). This study used four competencies and the completion time for the instrument was about 10 minutes.

In a pilot study of the modified NESE with 11 clinical nurse educator participants in a simulation workshop with online modules, Cronbach's alpha was .982 (Fitzwater, 2020). The subscale reliability of the competencies calculated as Cronbach's alphas was as follows: Facilitate Learning was .97, Facilitate Learner Development and Socialization was .93, and Use Assessment and Evaluation Strategies was .96, all which were strong reliability measures (Kline, 1999). The Wilcoxon Signed Rank test revealed a statistically significant increase in knowledge and skills following participation in the educational intervention,  $p < .008$ , with a large effect size of 0.569. The median score of the modified NESE increased from pretest (median = 154) to posttest (median = 166; Fitzwater, 2020).

In a pilot by the principal investigator of the CNESE with 11 clinical nurse preceptor participants in a simulation workshop without the online modules, Cronbach's alpha was .989 (Fitzwater, 2020). A Wilcoxon Signed Rank test revealed a statistically significant increase in the knowledge and skills following participation in the educational intervention,  $p < .006$ , with a small effect size of 0.213. The median score of the CNESE increased from pretest (median = 273) to posttest (median = 300).

The competencies used in the CNESE for this study were numbers two, three, five, and six. These competencies encompassed behaviors important to providing effective formative feedback in clinical education. Competency 2 was *Facilitate Learning in the Health Care Environment*, which had eight task statements. The task

statements described the development of a learning environment by the CNE that was supportive, open, included learner needs and desired outcomes, and showed enthusiasm for teaching and learning. The CNE had to use knowledge and skills to provide the environment conducive to opportunities to provide feedback that would be accepted by the learner.

Competency 3 was *Demonstrate Effective Interpersonal Communication and Collaborative Interprofessional Relationships*, which had 14 task statements. The competency encompassed using frequent and respectful communication to role model approachability and nonjudgmental listening with all contacts. Providing effective formative feedback is an important element of good communication in teaching and learning strategies.

Competency 5 was *Facilitate Learner Development and Socialization* with 13 task statements, which was important for the CNE to assist learners in providing professional feedback to others and how to conduct self-assessment as a nurse. As a role model for formative feedback, CNEs assist learners to apply feedback to themselves and others professionally.

Competency 6 was *Implement Effective Clinical and Assessment Evaluation Strategies*, which had 11 task statements. The CNE should provide timely and effective feedback based on expected outcomes to help the learner grow in the nursing role.

Altogether, these four clinical nurse educator competencies provided guidelines for the support of nursing students in order to set an environment for learning, use communication effectively, be open to using feedback, and use feedback based on the

clear and timely evaluation of performance. All of these elements supported effective formative feedback for nursing student development.

### **Simulation Design Evaluation**

The SDS (NLN, 2018) was completed on paper after the simulation. The survey required 10 minutes to complete. The SDS is a 20-item, 5-point Likert scale survey to evaluate five features of a human patient simulation assessing the presence of the features and how important each feature is to the learner (NLN, 2018). The features included objectives/information, support, problem-solving, feedback, and fidelity (NLN, 2018). Content validity of the instrument was established by 10 content experts in simulation development and testing (NLN, 2018). Reliability of the SDS was tested using Cronbach's alpha with .92 for presence of the five features and .96 for importance of the five features (NLN, 2018). The NLN (2018) gave permission for download and use of this instrument in non-commercial projects with the copyright information on the form. If the results of this study are published, a copyright permission letter must then be requested (NLN, 2018). In a pilot study by the principal investigator of the simulation workshop with 11 clinical nurse educators, reliability of the SDS was tested using Cronbach's alpha with .507 for presence of the five features and .985 for importance of the five features.

### **Feedback Assessment**

The FACE consists of items identified in health education literature as important for effective formative feedback for students (Miller, Sawatzky, & Chernomas, 2018; Onello et al., 2015b). The tool has the rater choose based on the instructor interaction with the learner how to rate the performance from 1 (extremely ineffective/detrimental)

to 7 (extremely effective/outstanding; see Appendix C). The psychometric properties of FACE are not reported in the literature and this study contributes to information about the instrument.

The behaviors of high quality and effective feedback are elements included in the knowledge and skills of the four NLN academic clinical nurse educator competencies (Christensen & Simmons, 2020). Feedback behaviors include (a) uses questioning techniques, gets student perspectives on the situation, encourages self-reflection; (b) reinforces strengths of student performance using specific examples; (c) identifies areas that need improvement based on evidence and objective measures; (d) timely, sensitive, respectful, supportive, and caring in how communicates feedback to student; (e) uses objective language with specific examples focused on student behavior; and (f) assists student with plan for improvement, reassessing, and monitoring.

For this study, demographic data were collected using the online survey before the simulation workshops. Online surveys were completed using Qualtrics by the participants before the intervention and by paper and pen after the intervention. The online surveys consisted of demographic questions and the CNESE before attending the simulation workshop and the CNESE and SDS (NLN, 2018) at the workshop site. The trained rater completed FACE (Onello et al., 2015b) during each simulation workshop observation.

### **Data Analysis and Management Plan**

All data were entered into SPSS statistics software version 23.0 to perform statistical analyses. The study hypothesis was tested using a Wilcoxon Signed Rank test. Alpha was set at .05. In addition, two other analyses were performed. The reliability of

the CNESE and SDS (NLN, 2018) was determined using Cronbach's alpha. Frequency distribution was reported for the demographic data and the FACE (Onello et al., 2015b) tool results. Data were stored on a password-protected computer. No identifiers were placed on the instruments and tools as all participants had an assigned number and all data were aggregated.

### **Alternative Approaches**

Some alternative approaches for this study included data analysis testing to see if there were any differences in CNESE (NLN, 2018) results related to demographics. Differences were tested between participant results in active and observer roles in the simulation, between years of experience as educators, and between levels of nursing degree.

**CHAPTER IV**  
**USING SIMULATION EXPERIENCES TO DEVELOP FEEDBACK  
COMPETENCIES IN CLINICAL NURSE EDUCATORS**

**Contribution of Authors and Co-Authors**

Manuscript in Chapter IV prepared by author guidelines for  
*Nursing Education Perspectives*

Author: Julie Fitzwater

Contributions: Conceived the study topic, developed and implemented the study design.  
Generated and analyzed data. Wrote first draft of the manuscript.

Co-Author: Kathleen Dunemmn

Contributions: Provided feedback on the study design. Provided statistical advice and  
comments on the manuscript.

Co-Author: Jeanette McNeill

Contributions: Helped conceive the study design. Provided feedback on statistical  
analyses and early drafts of the manuscript.



## **USING SIMULATION EXPERIENCES TO DEVELOP FEEDBACK COMPETENCIES IN CLINICAL NURSE EDUCATORS**

### **Abstract**

#### **Background**

Formative feedback is an important part of learning to determine the learner's performance in relation to standards. Clinical educators are not always prepared to support student learning.

#### **Aim**

To evaluate the effectiveness of simulation learning for clinical nurse educators to develop competencies in providing effective formative feedback to nursing students.

#### **Method**

Pretest-posttest design using simulation workshops to prepare clinical educators. The workshop included role play, recorded scenarios, and high-fidelity simulation scenarios to practice providing meaningful formative feedback.

#### **Results**

The median and mean scores of knowledge and skills in providing effective formative feedback increased from pretest to posttest but the difference was not statistically significant.

#### **Conclusion**

Simulation provides an innovative and effective method to facilitate clinical nurse educator development of knowledge and skills in providing formative feedback.

**Key Words:** Clinical Education–Formative Feedback– Simulation Learning–Clinical Nurse Educators

## **Introduction**

The development of nurse clinicians into the role of clinical nurse educator (CNE) is an important part of improving and expanding nursing education. Without competent educators, less-prepared nurses and fewer nurses will enter the workforce. Being a clinical expert as a nurse does not guarantee a nurse is educationally prepared to be successful as a CNE (Fritz, 2018; National Advisory Council on Nurse Education and Practice [NACNEP], 2010; Santisteban & Egues, 2014). Simulation as a learning approach could bridge the gap between expert clinician and expert educator.

The focus of this study was the development needs of nurse clinicians and instructors to become effective CNEs. Role transition barriers contribute to the problem of inadequate preparation of CNEs. Using the positive effects of simulation learning methods for CNE development has the potential of increasing teaching competencies and ease the transition of clinical experts into new roles as nurse educators.

## **Background**

### **Preparation to be a Nurse Educator**

Studies of the educational preparation of nursing faculty demonstrated a lack of preparation for the role of nurse educator even for those educators who obtained a terminal degree (McNelis, Dreifuerst, & Schwindt, 2019). Of the accredited graduate programs in the United States, most do not include coursework in teaching nursing students (American Association of Colleges of Nursing [AACN], 2018; McNelis et al., 2019; Santisteban & Egues, 2014). At a faculty development conference, 31% of 74 nursing faculty reported having no preparation for teaching in clinical education roles (Suplee, Gardner, & Jerome-D'Emilia, 2014). In clinical education, the instructor might

be bachelor's prepared or have a graduate degree depending on state regulations.

Specific training in teaching and learning strategies to support nursing students is not guaranteed based on degree acquisition.

Although many programs provide orientation for new clinical educators, the focus might be on the organization of the clinical course and not specifically on the new role as an educator who needs guidance in teaching and learning strategies (Crocetti, 2014; Krautscheid, Kaakinen, & Warner, 2008). In an integrated review of the role of clinical educator in nursing education, reviewers found a lack of consistent educational support and development of clinical instructors to support student learning (Dahlke, Baumbusch, Affleck, & Kwon, 2012).

### **Feedback Competency**

The National League for Nursing (NLN) academic clinical nurse educator competencies and certification examination provide educators with a framework of knowledge and skills specific for teaching in clinical education as a specialty (Christensen & Simmons, 2020). Competencies for clinical nurse educators included effective learning environments, communication, evaluation, and student development as the building blocks for providing formative feedback to nursing students.

Formative feedback is an important part of learning in order to clarify where the learner is compared to performance standards. In nursing clinical education, feedback is an important element in student learning. Formative feedback is information provided to a learner about progress in meeting outcomes to improve performance (Oermann & Gaberson, 2017). The manner in which faculty deliver information and how it is received by a nursing student could impact the learner's reaction and motivation.

## **Simulation Learning for Educators**

The literature provides examples of using simulation for educator and preceptor training, resulting in increased self-confidence and knowledge in the role (Crocetti, 2014; Hinderer, Jarosinski, Seldomridge, & Reid, 2016; Hunt, Curtis, & Gore, 2015; Krautscheid et al., 2008; Wilson, Acuna, Ast, & Bodas, 2013). Using simulation to develop graduate students to work with nursing students in Master of Nursing Education programs reported positive outcomes for future educators (Forcina Hill, Woodley, & Goodwin, 2019; Shellenbarger & Edwards, 2012).

### **Purpose**

The purpose of this study was to evaluate the effectiveness of simulation learning for CNEs to develop competencies in providing effective formative feedback to nursing students. The research questions included (a) How does simulation learning affect knowledge and skills of clinical nurse educators in providing effective formative feedback to nursing students?, (b) How do clinical nurse educators rate the design of the simulation training?, and (c) What is the quality and effectiveness of the feedback provided by clinical nurse educators during the simulation training?

### **Theoretical Frameworks**

Theoretical frameworks that guided the research study included Meleis' (2010) transitions theory and the National League for Nursing (NLN) Jeffries simulation theory (Jeffries, Rodgers, & Adamson, 2015). Transitions theory is a middle-range theory defining the nature of transitions, the conditions of transitions, and the patterns of response in individuals (Meleis, Sawyer, Im, Messias, & Schumacher, 2000). According to Meleis et al. (2000), the definition of a transition is moving from one stable state to

another stable state triggered by a change. In this study, the change leading to transition was the role transition from nurse clinician to nurse educator. With attentive mentoring and training, the transition experience could lead to role mastery.

The NLN Jeffries simulation theory was used in this study to develop the simulation training workshop scenarios and guide the implementation and evaluation (Jeffries et al., 2015). The concepts of the theory are context, background, design, simulation experience, facilitator and educational strategies, participant, and outcomes (Jeffries et al., 2015). The theoretical elements were used to develop the simulation learning workshops.

Participants in the simulation assumed a direct role or an observer role in the simulation. A systematic review of observer roles in simulation reported that optimal learning occurs vicariously if observers are engaged in the process including debriefing activities (O'Regan, Molloy, Watterson, & Nestel, 2016). More recent research demonstrated learners in the observer role during simulation had similar learning results as active participants (Johnson, 2019). This study used active learner and observer learner roles as the participants in the simulated conceptual theory.

### **Method**

This study employed a pretest and posttest design with a quantitative analysis of the dependent variables. Posttest analysis of simulation design and quality of instructor feedback was collected. Institutional Review Board approval was obtained.

## **Procedure**

Participants were recruited from academic and healthcare institutions through email and word of mouth. Instructions were communicated through email with the principal investigator. Participants were assigned a study number to complete surveys anonymously.

Following informed consent, participants completed an online survey including demographic questions and the Clinical Nurse Educator Self Evaluation (CNESE) developed by the principal investigator—based on the Nurse Educator Self Evaluation tool with permission from the author and NLN— to self-evaluate knowledge and skills based on NLN academic clinical nurse educator competencies numbers two, three, five, and six (Christensen & Simmons, 2020). Participants reported any change in knowledge and skills of NLN academic clinical nurse educator competencies after simulation experiences by completing the CNESE.

Next, a link to an online module to prepare for the simulation workshop was emailed to participants to complete. The online module introduced the NLN academic clinical nurse educator competencies and task statements (Christensen & Simmons, 2020) and presented specific educator behaviors for providing effective formative feedback to nursing students while caring for patients in the clinical setting. The presented behaviors were based on the elements of the Feedback Assessment for Clinical Education (FACE)<sup>®</sup> rating form (Onello, Rudolph, & Simon, 2015b).

The participants attended a four-hour simulation group learning workshop held at a simulation center and classrooms on the campus of a school of nursing. Five workshop dates were held to accommodate participant schedules. The workshop included role play,

recorded scenarios, and high-fidelity simulation scenarios to practice using the educator behaviors for providing effective formative feedback. During the high-fidelity simulations, a trained rater completed the FACE rating form (Onello et al., 2015b).

The scenario scripts included a student performing medication administration in a hospital setting and a student performing a focused respiratory assessment on a hospitalized adult while being observed by a clinical nurse educator providing support. Participant observers took notes during the scenario. After each simulation scenario, the simulation faculty led a structured debriefing as a group with the participant, simulated nursing student actor, and participant observers.

The study outcomes were measured using (a) participant reported change in knowledge and skills of NLN academic clinical nurse educator competencies number two, three, five, and six before and after simulation experiences using the CNESE; (b) participant feedback about the simulation experience using the Simulation Design Scale (SDS; NLN, 2018); and (c) the quality and effectiveness of the feedback provided to the student by the participant during the simulation experience using the FACE rating form (Onello et al., 2015b).

After completing the workshop, participants received a gift card and a certificate of completion of professional development continuing education contact hours. The contact hours were approved through an accredited approver of the American Nurses Credentialing Center.

### **Data Collection**

**Sample.** The participants were adults 18 years or older, had earned at least a Bachelor of Science in Nursing (BSN) degree, had a valid registered nurse license, and

were employed or planned to be employed as clinical educator or on-site preceptor for prelicensure nursing students. Convenience sampling was used and 20 participants enrolled in the study.

### **Instruments.**

*Clinical nurse educator self evaluation.* The online pretest was the CNESE, which was developed by the principal investigator based on NLN academic clinical nurse educator competencies. The online survey began with six demographic questions. The CNESE served as the posttest, which was administered in paper form. The survey derived its content validity from NLN core competencies based on systematic review of evidence by nursing education experts (Shellenbarger, 2019). The CNESE has a four-point Likert scale to self-evaluate knowledge and skills for each task statement of the clinical teaching competency. The survey was based on the format of the Nurse Educator Self Evaluation (NESE) survey, which measures knowledge and skills of the NLN academic nurse educator competencies (Kalb & Skay, 2016). The survey took 10 minutes for participants to complete.

The principal investigator completed a pilot study using the CNESE with 11 clinical nurse preceptor participants in a simulation workshop without the online modules. In this pilot study, Cronbach's alpha was .989, showing good internal reliability (Kline, 1999). The Related-Samples Wilcoxon Signed Rank Test revealed a statistically significant increase ( $p < .006$ ) in the knowledge and skills following participation in the educational intervention. There was a small effect size. The median score of the CNESE increased from pretest (median of 273) to posttest (median of 300).



***Simulation design scale.*** The participants completed the SDS (NLN, 2018) by paper survey after the simulation workshop. The survey took about 10 minutes to complete. The SDS is a 20-item, 5-point Likert scale survey to evaluate five features of a human patient simulation assessing the presence of the features and how important each feature was to the learner (NLN, 2018). The features included (a) objectives/information, (b) support, (c) problem-solving, (d) feedback, and (e) fidelity (NLN, 2018). Content validity of the instrument was established by 10 content experts in simulation development and testing (NLN, 2018). Reliability of the SDS was tested in a previous study using Cronbach's alpha with .92 for presence of the five features and .96 for importance of the five features (NLN, 2018). A pilot study of the simulation scenarios used in the study had a Cronbach's alpha of .507 for presence of the features and .985 for importance of the features (Fitzwater, 2020).

***Feedback assessment for clinical education.*** The FACE tool consists of items identified in health education literature as important for effective formative feedback for students (Miller, Sawatzky, & Chernomas, 2018; Onello et al., 2015b). The tool has the rater describe the performance from 1 (extremely ineffective/detrimental) to 7 (extremely effective/outstanding) on six elements. The psychometric properties of FACE were not reported in the literature and this study contributed to information about the instrument.

A rater used the FACE tool (Onello et al., 2015b) to score the participants during the high-fidelity scenarios. The raters used the handbook from The Center for Medical Simulation to guide use of the tool (Onello et al., 2015a). Training for the raters included watching videotaped scenarios and rating the clinical instructor in the video using the tool and then comparing and discussing results. The participants learned about the elements

of a feedback conversation from the online module and during role play and recorded simulation scenarios at the workshop before practicing in the live simulation experience.

## **Results**

### **Data Analysis**

All data were entered into SPSS statistics software, version 23.0, which performed statistical analyses of variables in the research questions.

### **Demographics**

Demographic information is presented in Table 4.1. All 20 participants were female with 50% under 46 years old and 50% 46 years or older. Three participants had doctoral degrees in nursing, 10 had master's level degrees, and seven had bachelor's degrees. Forty percent of participants had 0–3 terms of teaching experience and 60% had four or more terms of teaching experience. Most participants were currently employed at an academic institution. Previous orientation or training to teach nursing students included in-person shadowing, readings, and workshops. Participants were clinicians and/or educators representing eight different hospitals and three different academic institutions in the Pacific Northwest region of the United States.

Table 4.1

*Demographics*

		No. of participants	%
Age (years)	26–45	10	50
	46–65+	10	50
Gender	Female	20	100
	Male	0	0
	Non-binary	0	0
Highest degree earned	Bachelor	7	35
	Master	10	50
	Doctoral	3	15
Terms of teaching experience	0–3	8	40
	3 or more	12	60
Previous training	Workshops	10	50
	Online Information	7	35
	Readings	11	55
	In-Person Shadowing	12	60
Current employment	Academic Institution	11	55
	Healthcare Institution	5	25
	Both	4	20

$N = 20$

**Knowledge and Skills**

Internal reliability of the CNESE was measured using Cronbach's alpha of pretest (.986) and posttest (.984), showing good reliability (Kline, 1999). The Related-Samples Wilcoxon Signed Rank Test did not reveal a statistically significant increase in knowledge and skills following participation in the educational intervention. The  $p$ -value was .147 (alpha level 0.05) with a small effect size using Cohen's  $d$  ( $r = .229$ ; Cohen, 1988). The median and mean scores of the CNESE increased from pretest to posttest but not with statistical significance (see Table 4.2).

Table 4.2

*Pretest and Posttest Results for Modified Clinical Nurse Educator  
Self Evaluation\**

	Pretest	Posttest
Mean	308.10	319.75
Standard deviation	40.30	30.087
Median	311.50	324.50
Minimum	215	266
Maximum	368	368

\* $p > .05$ ,  $N = 20$

In the pretest results before participants watched the online module and attended the workshop, 11 competencies demonstrated low means. The means were less than 3 out of 4 on the scale, scored as Not knowledgeable or Somewhat knowledgeable and No skills or Limited skills. Below are the five lowest means of scored teaching competencies in the CNESE pretest.

- Uses technology (e.g., simulation, learning management systems, EHRs) skillfully to support the teaching-learning process (Knowledge 2.60, Skills 2.75).
- Assists learners to develop the ability to engage in constructive peer feedback (Skills 2.8).
- Implements both formative and summative evaluation that is appropriate to the learner and learning outcomes (Knowledge 2.85).

- Grounds teaching strategies in educational theory and evidence-based teaching practices (Knowledge 2.85, Skills 2.90).
- Creates opportunities for learners to develop critical thinking and clinical reasoning skills (Skills 2.90).

In the posttest results after watching the online module and participating in a four-hour simulation workshop, all competencies were rated at Knowledgeable and Some skills or above. Below are the five lowest means of scored teaching competencies in the CNESE posttest.

- Grounds teaching strategies in educational theory and evidence-based teaching practices (Knowledge 3.00, Skills 3.20).
- Uses technology (e.g., simulation, learning management systems, EHRs) skillfully to support the teaching-learning process (Knowledge 3.10, Skills 3.10).
- Uses a variety of strategies to determine achievement of learning outcomes (Skills 3.15).
- Effectively manages conflict (Knowledge 3.20, Skills 3.20).
- Assists learners to develop the ability to engage in constructive peer feedback (Skills, 3.25).

The highest scoring competency task statement in the pretest was Knowledge 3.80: Acts as a role model showing respect for all members of the healthcare team, professional colleagues, clients, family members, as well as learners). The highest scoring competency task statement in posttest was Knowledge 3.90: Maintains professional boundaries.

### **Simulation Design**

The results of SDS (NLN, 2018) for presence of the five features of objectives/information, support, problem-solving, feedback, and fidelity had means between 4 and 5 (agree to strongly agree) for all but three areas. The areas learners rated lowest (between 3 and 4, undecided to agree) were the need for help being recognized, opportunity to prioritize nursing assessments and care, and the opportunity to goal set for the patient.

The item means for importance of design elements were all between 4 and 5 (agree to strongly agree). The survey results did not indicate any need for altering the simulation scenarios. The Cronbach alpha was .896 for the presence of the five features and .929 for the importance of the five features showing good reliability (Kline, 1999).

### **Feedback Assessment**

There were ten active participants in the live simulation scenarios who were rated using the FACE tool by a trained rater (Onello et al., 2015b). The active participants were chosen at random from the workshop participants. Of the six elements in the tool for evaluating the feedback conversation, the scores ranged from 1 to 7. Table 4.3 shows the mean, median and standard deviation for each of the six elements in the scoring tool. Cronbach's alpha for internal reliability was .539, which was a low result (Kline, 1999).

Table 4.3

*Results of Feedback Assessment for Clinical Education*

Elements	<i>M</i>	Median	<i>SD</i>
1. Establishes an engaging learning environment	3.6	5.0	3.2
2. Maintains an engaging learning environment	6.3	6.0	.675
3. Structures the feedback conversation	5.8	6.0	.789
4. Provokes an engaging conversation	6.4	6.5	.699
5. Identifies and explores performance gaps	5.7	6.0	1.252
6. Helps the learner achieve or sustain good future performance	5.9	6.0	.568

*Note.* The score range for each element is 1–7. *N* = 10

**Additional Analysis**

The Mann Whitney U test was performed to see if any significant differences were found in CNESE results between active versus observer participants and between level of nursing degree. No significant differences were found in the means of pretest and posttest results on the CNESE between active and observer participants in the live simulation or between participant levels of nursing degree.

The Mann Whitney U test was also performed to determine if any significant differences were found in CNESE results between participants with zero to three terms of experience as a CNE and participants with four or more terms of experiences as a CNE. No significant differences were found in the means of pretest and posttest results on the

CNESE between participants with less than three terms of experience and participants with four or more terms of experience.

## **Discussion**

### **Knowledge and Skills**

The results of the CNESE answered research question 1: How does simulation learning affect knowledge and skills of clinical nurse educators in providing effective formative feedback to nursing students? The mean and median scores on the CNESE increased between pretest and posttest for participants overall. Despite a lack of statistical significance in the CNESE results, the participants in all five workshops indicated it was a good learning experience in group discussions. Clinical nurse educators of all levels of experience and clinical backgrounds were introduced to the NLN academic clinical nurse educator competencies and participated actively in their own skill development to provide effective formative feedback to students (Christensen & Simmons, 2020). Participants were also introduced to the feedback conversation elements from the FACE tool (Onello et al., 2015b) and given opportunities to practice and receive feedback from their peers.

The roles of active and observer participant in the high-fidelity simulations did not show any differences in the knowledge and skills results of the CNESE. The findings in this study that active roles and engaged observer roles had similar learning outcomes in simulation reinforced the findings of Johnson (2019) and O'Regan et al. (2016).

The differing amounts of time each participant had as a CNE could have affected how much of a change occurred from before and after the simulation workshop. Eight of the participants had a negative difference in pretest-posttest results, which could have



been the effect of exposure to the teaching competencies at the workshop. With more exposure to the task statements in the competencies, the participants could have become aware there was more to learn to add to their knowledge and skills than realized before the simulation workshop. In addition, the CNESE survey was a self-evaluation form and therefore could have been variable depending on the person's reflection about their knowledge and skills at the time.

Information about the teaching competencies that scored the lowest could be used to develop more simulation workshops to support CNE learning. The lower-scoring elements in the CNESE of using technology and helping students to learn to use constructive peer feedback are additional workshop topics for the future. Obtaining needs assessment of the clinical faculty at an institution could help focus on the learning needs of the group. Miller et al. (2018) introduced a survey for confidence in providing positive and negative feedback to nursing students including a self-rating on personal development as an educator from novice to expert. Surveys of needs based on the CNESE and other tools could assist in determining areas of focus for educational interventions.

### **Simulation Elements**

The second research question 2 asked: How do clinical nurse educators rate the design of the simulation training? The simulation design received strong positive ratings from participants. The team involved in each workshop met each day to debrief and plan for the next simulation. The participants rated the design features for the simulation high on the scale and no findings indicated changes in the simulation design.

The SDS (NLN, 2018) could have been explained more clearly to the participants when they were completing the survey. Participants who were unfamiliar with the simulation model of prebrief, scenario, and debrief might not have realized the expectations in each segment of the simulation experience that related to the student as the focus of the participant.

### **Feedback Conversation Ratings**

The third research question 3 asked: What is the quality and effectiveness of the feedback provided by clinical nurse educators during the simulation training? This question was answered by the ratings of the feedback conversation by participants scored on the FACE tool (Onello et al., 2015b). The lowest mean scoring element was Element 1—Establishes an engaging learning environment (mean was 3.6), which was rated primarily based on the following bullet points:

- Establishes roles and expectations for the learning process
- Collaboratively establishes goals and objectives for learning
- Optimizes the physical environment for reflective dialogue

The workshop situation could have hampered the ability of the participant to begin the experience by establishing expectations and objectives. The student actor was a stranger to the instructor who had been oriented to the physical environment earlier in the workshop. It took confidence and experience to develop the engaging learning environment in the moment.

The highest mean scoring element was Element 4—Provokes an engaging discussion (mean was 6.4), which was rated based primarily on the following bullet points:

- Uses observed performance as basis for discussion
- Reveals own reasoning and judgments
- Facilitates discussion through a dialogue of reciprocal reflection

The quality and effectiveness of the feedback was highest on this element as the participants used objective elements of the performance to discuss the scenario with the student actor. Participants used “I” statements to show their thinking and encouraged the student actor to share their own reflections. From the results using this tool, the participants appeared to have incorporated this element well into their learning.

Overall, the results of the FACE tool (Onello et al., 2015b) provided information on the elements of the feedback conversation that could be highlighted or practiced more in the workshop. Despite doing well in the feedback conversations, repeated practice is needed to feel confident in using the techniques with students. Additionally, the student in these simulated scenarios was pleasant and open to feedback. Adding an element of a student with a defensive reaction to feedback could provide more information to the workshop learning objectives with participants who were confident in their knowledge and skills working with students open to feedback.

### **Relationship to Theoretical Frameworks**

**Transitions theory.** By providing an experiential learning workshop that addressed knowledge and skill in the role of CNE, barriers to role transition could be addressed. Traditional barriers to role transition such as lack of confidence and experience could be overcome with educational interventions that facilitated positive outcomes. Outcome indicators for transitions theory are the mastery of new skills to manage the transition and developing a new identity that integrates the changes (Meleis,

2010). Developing methods of competency development for CNEs could assist people in achieving role mastery and identifying as a CNE with knowledge and skills to be successful.

Previous reports of using simulation for preceptor and instructor development measured self-efficacy or confidence as increased after the intervention (Crocetti, 2014; Forcina Hill et al., 2019; Hunt et al., 2015). Confidence in knowledge and skills could help a CNE in overcoming barriers to role mastery within the transitions theory model.

**National League for Nursing Jeffries simulation theory.** Using a simulation workshop contributed to the knowledge about the use of the NLN Jeffries simulation theory (Jeffries et al., 2015). The innovative element added to the theoretical model was using the CNE as the learner in the simulation scenario. This element of using human patient simulation scenarios for educational development of instructors was described previously as a beneficial use of the theory elements by Young and Shellenbarger (2012). Waxman and Delucas (2014) described using simulation to develop leadership competencies in nursing leaders with scenarios such as communication and lateral violence. The simulation theory could incorporate development of knowledge and skills for nurse leaders, nurse educators, and nursing students.

Additionally, the learners were evenly divided between active and observer roles and this method showed no significant differences in results of knowledge and skills in providing effective formative feedback. The use of outcomes for knowledge and skills measured on two instruments in this study contributed to the nurse education knowledge base and reinforced the use of validated simulation design elements.

### **Recommendations**

The competency elements for CNEs from the NLN could be incorporated into simulation workshops so educators at all levels of experience could practice with feedback from others. Using the NLN Jeffries simulation theory (Jeffries et al., 2015) as a model for developing simulation scenarios and the NLN academic clinical nurse educator competencies (Christensen & Simmons, 2010) as the content, educational needs of CNEs could be addressed. By supporting the development of competencies in CNEs who work with prelicensure nursing students, student outcomes could be improved in clinical education.

Using simulation to develop the competencies in CNEs could start in graduate schools of nursing or be used in schools of nursing with educators new to teaching. Becoming familiar with knowledge and skills for the specialty of nursing education could lead to a focus on those areas that need improvement.

### **Study Limitations**

A convenience sample was used whose participants were at various levels of experience and exposure to NLN competencies (Christensen & Simmons, 2010). The CNESE is a newly created self-evaluation tool that could skew results when participants over or under-estimate their own knowledge and skills; as such, it has been relatively untested. Some participants were unfamiliar with high fidelity simulation systems and that could be a barrier to comfort with the workshop due to increased anxiety due to the unknown. Two people participated as FACE tool (Onello et al., 2015b) raters. Despite training together to rate the tool, interrater reliability could be an issue.

Additionally, some participants worked in academic-focused positions and were familiar with the NLN competencies while others worked in clinical-focused positions and this information was new to them. Introducing the pedagogy of effective feedback conversations involves many elements of the student-educator relationship that might not be easy to address in one workshop.

### **Conclusion**

This study contributed to nursing education research by describing the development of CNEs using simulation and theoretical frameworks that provide a basis for further studies. Simulation learning is an experiential opportunity for educators to explore their own practice and receive feedback from peers. By focusing on the published and validated competencies from the NLN, educators can develop simulation learning workshops that develop knowledge and skills for CNEs. Nursing students will be more effectively taught by competent educators who are confident in their abilities and able to support student learning.

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## **CHAPTER V**

### **SUMMARY AND DISCUSSION**

This research study was conducted to determine if any changes in knowledge and skills related to formative feedback occurred after an educational intervention using simulation learning for clinical nurse educators. This final chapter reiterates the research questions and reviews the methods used in the study. The results of the study are summarized, limitations discussed, and implications of the results presented.

#### **Review of the Study Purpose**

The significance of this study was based on the importance of preparing nurse educators to effectively assist nursing students in clinical education settings to transition into practice-ready nurses. Simulation learning shows promise in developing nurse educator teaching competencies.

The purpose of this study was to evaluate the effectiveness of simulation learning in the development of clinical teaching competencies in CNEs transitioning from the role of nurse clinician to nurse educator. The specific competency focus in this study was providing effective formative feedback to nursing students using timely, constructive communication while preserving the relationship in a supportive learning environment. The NLN academic clinical nurse educator competencies number two, three, five, and six (Christensen & Simmons, 2020) address the behaviors necessary to provide effective formative feedback to nursing students in the clinical setting and were the focus of investigation.

### **Review of the Methodology**

This study employed a pretest and posttest design with a quantitative analysis of the dependent variables. Posttest analysis of simulation design and quality of instructor feedback was collected. The educational intervention was a workshop with a pre-workshop online module to learn about formative feedback behaviors and teaching competencies related to feedback for nursing students. The workshop was facilitated by experienced simulation faculty who showed videos of positive and negative feedback from a clinical nurse educator to a nursing student and supervised role play of feedback behaviors among the participants. Debriefing followed each activity. Then two different participants were chosen at random to be the active learner in a high fidelity simulation scenario with a student actor while observer learners watched on a screen in the classroom. Debriefing as a group with the student actor followed.

Three instruments were used for data collection in the study. The CNESE survey was completed by participants before and after the simulation education intervention. The CNESE measured knowledge and skills of teaching competencies for clinical nurse educators from the NLN academic clinical nurse educator competencies. The competencies included those important for effective feedback conversations.

The second instrument was the SDS (NLN, 2018), which was completed by participants after the simulation workshop. This instrument measured the presence and importance of five simulation features to inform the designers of the educational experience.

The third instrument was the FACE tool (Onello et al., 2015b) from the Center for Medical Simulation. A trained rater completed the tool for each active participant in the simulation based on the six elements of a feedback conversation.

The research study's theoretical frameworks included Meleis' (2010) transitions theory and the NLN Jeffries simulation theory (Jeffries et al., 2015). The concepts of transitions theory were used to frame the outcomes of knowledge and skills for clinical educators to master the role. The concepts of the simulation theory were used to develop the simulation scenarios of the study.

### **Summary of the Results**

Overall, participants indicated positive learning experiences from the simulation workshops and expressed appreciation for the opportunity to participate.

Demographically, most participants ( $n = 20$ ) were primarily employed at academic institutions and 60% had four or more terms of teaching experience with nursing students. All participants were female; half were ages 45 years and younger and half were older than 45 years. Ten participants had a master's in nursing degree, seven were BSN-prepared, and three had doctoral degrees.

The scores of the CNESE in this sample increased in mean and median from pretest to posttest. The increase was not statistically significant. Internal reliability of the CNESE and SDS (NLN, 2018) indicated acceptable reliability based on Cronbach's alpha. The SDS results were high on the Likert scale for feature presence and importance. The FACE tool (Onello et al., 2015b) indicated the lowest mean score was Element 1—*Establishes an engaging learning environment* and the highest mean scoring element was Element 4—*Provokes an engaging discussion*.

Additional analyses of demographic features and pretest/posttest results indicated no significant difference in participants related to age group, level of nursing degree, or active versus observer role in simulation.

## **Discussion of the Results**

### **Interpretation of Findings**

Results using the CNESE (NLN, 2018) in this study showed an increase in scores but failed to indicate a significant increase. Previous pilot studies of the NESE (NLN, 2018) and CNESE using the same simulation scenarios did show significant results. However, participants' feedback during debriefing discussions indicated learning occurred and new ideas were shared.

The SDS (NLN, 2018) did not show any need for design modification but results suggested participants might benefit from more deliberate orientation to the instrument. Features of a simulation scenario were not clear to participants who had no experience with simulation. A question regarding experience with simulation could be added in the demographics to ascertain familiarity with the method and how that might impact the experience.

Previous orientation or training of participants for the educator role included workshops, readings, in-person shadowing, and online information. Additional background information could include asking if the participant had any education courses in their degree programs. This information would help characterize the group more accurately.

The FACE tool (Onello et al., 2015b) during the simulation scenarios provided information about those areas where participants performed well or needed improvement

in the conversation with the nursing student. Overall, the participants scored well, although repeated practice was needed to feel confident in using the techniques with students. Additionally, the student in these simulated scenarios was pleasant and open to feedback. Participants who are confident in their knowledge and skills working with students open to feedback could have a simulation experience with a student who has a defensive reaction to feedback. Alterations in the simulation scenario to match the level of experience in the participant could lead to reinforcement of the feedback conversation elements and improvements in knowledge and skill.

### **Relation to Previous Research**

Previously published articles on using simulation to develop competencies in preceptors and educators were described in the review of literature. Posttest results of increased knowledge, skills, confidence, and satisfaction were reported in several studies using simulation methods to develop educators (Crocetti, 2014; Forcina Hill, Woodley, & Goodwin, 2019; Hinderer, Jarosinski, Seldomridge, & Reid, 2016; Hunt et al., 2015; Krautscheid et al., 2008; Shellenbarger & Edwards, 2012; Wilson et al., 2013). This study incorporated ideas from previous studies such as using a video-taped scenario in the workshop and debriefing as a group before asking participants to perform in live simulation scenarios.

Using simulation for nurses to develop leadership skills was described by Waxman and Delucas (2014). This use of simulation scenarios to learn soft skill development such as communication methods and addressing lateral violence for emerging and established nurse leaders was similar in the approach of this research study to develop feedback competencies in educators. Using simulation for all kinds of



competencies needed for students, healthcare professionals, and administrative leaders is a step toward positive results in experiential learning. More research is needed in this area.

Only one of the previous studies used a longitudinal approach with the educators and followed their development over three years (Hinderer et al., 2016). With clinical faculty at one school of nursing, using the CNESE over time could show development of knowledge and skills with experience and more professional development activities. Some Master of Nursing Education programs use the NESE (NLN, 2018) for outcomes of their students over time. Using the CNESE to track the professional development of clinical nurse educators could familiarize them with the competencies while providing information about what activities could serve them in their development.

### **Theoretical Implications of the Study**

This study used the frameworks of Meleis' (2010) transitions theory and the NLN Jeffries simulation theory (Jeffries et al., 2015) to anchor the methods and measure the outcomes. Transitions theory addressed barriers and support for role transition of clinical nurse educators. Simulation theory provided an outline for design elements for the simulation scenarios.

### **Transitions Theory**

This research study added to the studies providing knowledge about transitions theory. The clinical nurse educator is facing a transition from clinician to educator with many barriers to role mastery and confidence in the role. Experiential learning through simulation methods could assist the nurse in developing competencies that would increase knowledge, skills, and attitudes to succeed in the role.

Traditional barriers to role transition such as lack of confidence and experience could be overcome with educational interventions that facilitate positive outcomes. Outcome indicators for transitions theory are the mastery of new skills to manage the transition and developing a new identity that integrates the changes (Meleis, 2010). Developing methods of competency development for CNEs could assist people in achieving role mastery and identifying as a CNE with knowledge and skills to be successful.

Previous reports of using simulation for preceptor and instructor development indicated self-efficacy or confidence increased after the intervention (Crocetti, 2014; Forcina Hill et al., 2019; Hunt et al., 2015). Confidence in knowledge and skills could help a CNE in overcoming barriers to role mastery within the transitions theory model.

### **National League for Nursing Jeffries Simulation Theory**

Using a simulation workshop contributed to the knowledge about the use of the NLN Jeffries simulation theory (Jeffries et al., 2015). The innovative element added to the theoretical model was using the CNE as the learner in the simulation scenario. This element of using human patient simulation scenarios for educational development of instructors was described previously as a beneficial use of the theory elements by Young and Shellenbarger (2012). Waxman and Delucas (2014) described using simulation to develop leadership competencies in nursing leaders with scenarios such as communication and lateral violence. Simulation theory could incorporate development of knowledge and skills for nurse leaders, nurse educators, and nursing students.

In addition to having the educator as the learner in the simulation, the simulation scenario incorporated face-to-face feedback conversation of the nurse educator and the

nursing student after a clinical scenario caring for a patient. A tool to measure the elements of the feedback conversation was used to rate the educator. Similar scenarios could be developed to provide professional development of soft skills such as communication under pressure, education of patients about their care, and other important concepts.

Additionally, the learners were evenly divided between active and observer roles and this method showed no significant differences in results of knowledge and skills in providing effective formative feedback. The use of outcomes for knowledge and skills measured on two instruments in this study contributed to the nurse education knowledge base and reinforced the use of validated simulation design elements.

### **Recommendations for Research and Education**

Simulation approaches to clinical nurse educator development could provide a method to overcome educational deficits in U.S. graduate programs. Providing strategies that prepare educators could enhance the nurse faculty workforce and, by extension, improve nursing student outcomes.

Additional research is indicated to determine the best method to professionally develop clinical nurse educators. The problem of nursing faculty vacancies and specific education to prepare nurse educators for success are well established. Through using simulation to develop clinical educators, nursing students in patient care settings could be taught with evidence-based strategies to meet program outcomes. Simulation methods could provide a supportive learning environment to develop teaching competencies within the NLN core competencies. Development of these competencies could overcome barriers to role mastery and keep educators in the profession and confident in their work.

Well-prepared educators would translate into well-prepared nursing students.

Specifically, being able to have effective feedback conversations with students, clinical nurse educators could assist students to be successful in identifying what they need to work on to meet performance standards.

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**APPENDIX A**  
**CLINICAL NURSE EDUCATOR SELF-EVALUATION**  
**TEMPLATE**

### Clinical Nurse Educator Self-Evaluation (CNESE)

(modified to NLN clinical nurse educator competencies #2, #3, #5, #6 only)

Please evaluate your knowledge and ability to perform these competencies as a Clinical Nurse Educator (CNE) by selecting the response that most accurately describes your knowledge related to each task statement *and* the response that most accurately describes your ability to perform each task statement.

Please use the following scale.

Knowledge	Skills/Abilities
<ul style="list-style-type: none"> <li>● Not knowledgeable</li> <li>● Somewhat knowledgeable</li> <li>● Knowledgeable</li> <li>● Very knowledgeable</li> </ul>	<ul style="list-style-type: none"> <li>● No skills</li> <li>● Limited skills</li> <li>● Some skills</li> <li>● Fully skilled</li> </ul>

**NLN CNE Competency #\_\_:**

Task Statement	Knowledge	Skills/Abilities
1.____	<input type="checkbox"/> Not knowledgeable <input type="checkbox"/> Somewhat knowledgeable <input type="checkbox"/> Knowledgeable <input type="checkbox"/> Very knowledgeable	<input type="checkbox"/> No skills <input type="checkbox"/> Limited skills <input type="checkbox"/> Some skills <input type="checkbox"/> Fully skilled
2.____	<input type="checkbox"/> Not knowledgeable <input type="checkbox"/> Somewhat knowledgeable <input type="checkbox"/> Knowledgeable <input type="checkbox"/> Very knowledgeable	<input type="checkbox"/> No skills <input type="checkbox"/> Limited skills <input type="checkbox"/> Some skills <input type="checkbox"/> Fully skilled

Used with permission of the National League for Nursing and Dr. Kalb of St. Catherine University.

**APPENDIX B**  
**SIMULATION DESIGN SCALE DESIGN**  
**FEATURES RATED**

Design features rated on a scale of 1 to 5, or Not Applicable:

1. Objectives/Information
2. Support
3. Problem-solving
4. Feedback
5. Fidelity



**APPENDIX C**

**FEEDBACK ASSESSMENT FOR CLINICAL EDUCATION  
RATING FORM ELEMENTS ASSESSED**

Elements rated on a scale of 1 to 7:

1. Establishes an engaging learning environment
2. Maintains an engaging learning environment
3. Structures the feedback conversation
4. Provokes an engaging conversation
5. Identifies and explores performance gaps
6. Helps the learner achieve or sustain good future performance

**APPENDIX D**  
**INSTITUTIONAL REVIEW BOARD APPROVAL**



*Institutional Review Board*

DATE: September 10, 2019

TO: Julie Fitzwater, MNE, BA  
FROM: University of Northern Colorado (UNCO) IRB

PROJECT TITLE: [1469438-1] Preparation of Clinical Nurse Educators Using Simulation:  
Developing Competencies in Providing Feedback

SUBMISSION TYPE: New Project

ACTION: APPROVAL/VERIFICATION OF EXEMPT STATUS

DECISION DATE: September 10, 2019

EXPIRATION DATE: September 10, 2023

Thank you for your submission of New Project materials for this project. The University of Northern Colorado (UNCO) IRB approves this project and verifies its status as EXEMPT according to federal IRB regulations.

We will retain a copy of this correspondence within our records for a duration of 4 years.

If you have any questions, please contact Nicole Morse at 970-351-1910 or [nicole.morse@unco.edu](mailto:nicole.morse@unco.edu). Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within University of Northern Colorado (UNCO) IRB's records.

**APPENDIX E**  
**CONSENT FORM**



UNIVERSITY OF  
NORTHERN COLORADO

CONSENT FORM FOR HUMAN PARTICIPANTS IN RESEARCH  
UNIVERSITY OF NORTHERN COLORADO

**Project Title:** Preparation of Clinical Nurse Educators Using Simulation: Developing Competencies in Providing Feedback  
**Researcher:** Julie Fitzwater, MNE, RN, CNRN, CNE Phone Number: 503-887-2637 e-mail: fitz6622@bears.unco.edu

The purpose of this study is to evaluate the use of simulation for clinical nurse educators as they learn effective formative feedback techniques. We will ask participants to complete an online survey (about 10 minutes) and watch an online presentation to learn about feedback in clinical education (about 20 minutes). Then we ask these nurses to participate in a 4-hour simulation workshop which includes the completion of 2 surveys at the end. With the help of simulation operations specialists, standardized patient actors, and simulation nursing faculty, simulation scenarios have been developed to practice and learn to provide effective formative feedback to prelicensure nursing students. For the surveys, you will not provide your name. Six questions will be asked on the first survey about your age, gender, education, experience teaching students, category of main employment, and any previous preparation for teaching. All information from surveys will be analyzed as group data so that no participant can be identified. During the workshop, participants will be observed, and a rating tool completed about behaviors. This information will all be reported as group data. All information will be kept in a password-protected computer and locked file cabinets of the researcher. None of this information will connect participants to their answers on surveys.

Risks to you are minimal. The risks inherent in this study are no greater than those normally encountered in regular continuing education classroom experiences. The educational intervention involves role plays and simulated scenarios. Participating in these exercises can produce mild anxiety or uncomfortable feelings. Simulation faculty and others aim to create a safe environment in the simulation milieu to focus on learning in a supportive atmosphere. Participants can choose whether to be in the simulation experience or observing the scenarios.

It is possible that participants will benefit directly from their participation by gaining knowledge or skills in providing formative feedback to prelicensure nursing students. Participants are contributing to knowledge development in the nursing discipline related to clinical education.

Compensation is provided for participation. Parking arrangements are provided to participants who drive to the workshop location. Additionally, coffee, tea, and light refreshments are provided at the workshop classroom.

After completing the workshop, participants will receive a \$10 gift card. This activity has been submitted to Oregon Nurses Association for approval to award 4.5 contact hours. Oregon Nurses Association is accredited as an approver of continuing nursing education by the American Nurses Credentialing Center's Commission on Accreditation. Participants will be awarded contact hours if they choose once the workshop activity has been approved and complete an evaluation of the workshop.

Participation is voluntary. You may decide not to participate in this study and if you begin participation you may still decide to stop and withdraw at any time. Your decision will be respected and will not result in loss of benefits to which you are otherwise entitled. Please take your time to read and thoroughly review this document and decide whether you would like to participate in this research study. If you decide to participate, completion of the research procedures indicates your consent.

Please keep or print this form for your records. If you have any concerns about your selection or treatment as a research participant, please **contact Nicole Morse, Office of Research, Kepner Hall, University of Northern Colorado Greeley, CO 80639; 970-351-1910.**

**APPENDIX F**  
**PERMISSIONS**

**Permission to use the NLN clinical nurse educator competencies in a survey:**

April 15, 2019

Dear Julie:

Your request to use the NLN's Clinical Nurse Educator Competencies and Task Statements within a research study for your dissertation project at the University of Northern Colorado has been reviewed. I am pleased to give you permission to use any or all of the clinical nurse educator competencies and task statements from the following book in the manner requested, provided the assumptions and caveats listed below will be respected.

Shellenbarger, T. (Ed.) (2019). *Clinical Nurse Educator Competencies: Creating an Evidence-Based Practice for Academic Clinical Nurse Educators*. Washington, D.C: National League for Nursing.

- Any and/or all competencies and task statements used within the pretest-posttest will be included verbatim, without changes or modifications.
- The competencies and task statements will be used only within the pretest-posttest and will not be published, given to others, or sold to any other party.
- The pretest-posttest will note the source\* of the competencies and task statements and acknowledge that they are being used with the permission of the National League for Nursing, Washington, DC.
- The National League for Nursing is the sole owner of the copyright on this book, including the competencies and task statements.
- No fees are being charged for permission to use these competencies (and task statements, if appropriate) as requested.

\* Please note that while the competencies should be referenced to the Shellenbarger book at this time, the NLN will be updating the official "nurse educator competencies book" and it will become the official source once it is released in late 2019.

Respectfully,

Janice Brewington PhD, RN, FAAN

Chief Program Officer



**Permission from the NLN to use the Simulation Design Scale:**

Dear Julie,

The NLN is pleased to grant you permission to publish your results from using NLN's tool in your manuscript. In granting permission to include your findings for publication, it is understood that the following caveats will be respected:

- Any research findings produced using an NLN survey/instrument must be properly cited; the NLN must be cited as the owner of the survey/instrument;
- If the content of the NLN survey/instrument was modified in any way, this must also be clearly indicated in the text, footnotes and endnotes; and
- Permission is being granted exclusively for the purpose of publishing your results/data in a peer reviewed journal article.

Regards, NLN Copyright Permissions

**Permission to use the FACE instrument:****Copyright Notice**

Center for Medical Simulation, Boston, MA 02129, <https://harvardmedsim.org>.  
Permission is granted for you to use the Feedback Assessment for Clinical Education (FACE) instrument in your clinical education program. As a condition of granting permission to use the FACE, we request that you provide CMS copies of articles, abstracts or reports you publish using the FACE so that we may keep others up to date on how the FACE is being used. Please send citation and a copy of the article to [FACE@harvardmedsim.org](mailto:FACE@harvardmedsim.org).

**APPENDIX G**  
**SIMULATION WORKSHOP SCENARIOS**

### **Simulation Scenario Overview #1**

**Title:** Clinical Nurse/Faculty Providing Feedback to Nursing Student–*Medication Administration*

**Learner level:** Novice-competent (Clinical Nurse or Clinical Faculty)

**Estimated scenario time:** 10

**Estimated debriefing time:** 30 minutes

**Target group:** Developing clinical nurse educators supporting nursing students in clinical learning environments

**Clinical Nurse Educator competencies:** NLN Clinical nurse educator competencies 2, 3, 5, & 6

(selected task statements)

- Creates opportunities for learners to develop critical thinking and clinical reasoning skills.
- Bridge the gap between theory and practice by helping learners to apply classroom learning in the clinical setting
- Create a positive and caring learning environment.
- Promote a culture of safety and quality in the health care environment.
- Demonstrate enthusiasm for teaching, learning, and nursing to help inspire and motivate learners.
- Support an environment of frequent, respectful, civil, and open communication with all members of the healthcare team.
- Use clear and effective communication in all interactions.
- Listen to learner concerns, needs, or questions in a non-threatening way.
- Display a calm, empathetic, and supportive demeanor in all communications.
- Balance client care needs and student learning needs within a culture of safety.
- Promote a learning climate of respect for all.
- Provide timely, constructive, and fair feedback to learners.

**Brief summary of case:**

A nursing student is administering oral medications to a client with bacterial pneumonia and a history of CHF. The clinical nurse/faculty is observing the nursing student in the client room and then debriefs with the student outside the room.

**Scenario Learning Objectives**

Learning Objectives

1. Demonstrate caring and support of the student learner.
2. Facilitate learning using teaching and learning strategies.
3. Provide constructive feedback to the student learner.
4. Create a positive learning environment with a student learner.
5. Assist the student learner to self-reflect and set goals.

Critical Learner Actions

1. Uses questioning techniques, gets the student perspective on the situation, and encourages self-reflection.

2. Timely, sensitive, respectful, supportive, and caring in how communicates feedback to student.
3. Identify areas that need improvement based on evidence and objective measures.
4. Reinforce strengths of student performance, using specific examples.
5. Uses objective language with specific examples focused on student behavior.
6. Assists student with plan for improvement, reassessing, and monitoring.

Case summary:

The nursing student is administering medication to a patient while being observed by the clinical nurse/faculty. The student makes some mistakes, one of which the clinical nurse/faculty must interrupt for patient safety. The student and clinical nurse/faculty discuss the experience outside the patient's room.

Key contextual details

The nursing student is administering an oral antibiotic and an antihypertensive medication. The student does not check the patient's ID bracelet when completing the rights of med administration, although all the other rights were completed. The student, after checking the rights of medication administration, fails to split the antihypertensive medication in half for the correct dose.

EB/references in APA format

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Characters:

**Natasha, nursing student:** In clinical uniform with report sheet, pen, watch, stethoscope. The student is a senior and has been at this facility for a couple of weeks.

**Mr. Black, client:** sitting up in bed in gown. 2 liters of O<sub>2</sub> by nasal cannula in place. ID band in place to match chart MAR. Allergy to iodine (70-year-old male).

**Participant, clinical nurse/faculty** In scrubs with lab coat, pen, report sheet, watch, stethoscope

**Scene:** 0900 hospital room and bed; client with oxygen therapy on. Water bottle and incentive spirometer on bedside table. The patient chart with the MAR is with the student. On the counter in the room is a pill splitter.

Outside of the room the student and clinical nurse/faculty are making a plan to enter the room to give medications to the client.

**Natasha:** *(A little nervous but wants to prove she can do this med admin; has the MAR in a notebook with the packaged pills in a pill cup.)* I have Mr. Black's meds, Cipro and metoprolol. Here is the MAR showing what is due at 0900. I took the vital signs before getting the meds. The blood pressure was 142/78 and the pulse 75, so they meet the parameters for the metoprolol.

*[clinical nurse/faculty may answer, have questions, or give directions; Natasha should answer appropriately and lead into entering the room.]*

*(The student enters the room first, knocking, followed by the clinical nurse/faculty)*

*[The student can hesitate when in the room and allow the clinical nurse/faculty to choose to take over or allow the student to lead.]*

**Natasha:** Hello, Mr. Black, I am Natasha, the nursing student working with you today. We met earlier this morning.

**Mr. Black:** Oh, yes. Hi Natasha.

**Natasha:** I am working with [say clinical nurse/faculty name] today.

*[clinical nurse/faculty may answer and Mr. Black may answer appropriately]*

*[Mr. Black can keep talking to the clinical nurse/faculty if appropriate and the student and client can follow the lead if they choose to talk more or give the client information.]*

**Mr. Black:** Can I take my pills now?

**Natasha:** Mr. Black, I just need to check your chart and I will give them to you.

**Mr. Black:** Okay.

**Natasha:** (opens the chart and begins completing the rights of med admin. Natasha does not ask the patient name and DOB or look at the patient ID band. Says medication name, dose, route, time, and reason to patient comparing to the MAR).

Here is 25mg of oral metoprolol due at 0900 for hypertension; I need to split this 50 mg pill in half (the package is 50 mg of metoprolol). Your BP when we checked was 142/78. And I have your 750 mg oral Cipro due at 0900 for the pneumonia infection.

*[Natasha pops the pills into the pill cup without splitting the metoprolol tablet and hands them to Mr. Black to take holding the cup where Mr. Black can see the pills].*

Here are your pills Mr. Black, metoprolol and Cipro.

*[If the clinical nurse/faculty does not stop the student to check the ID band or ask the patient to state name and DOB, then the student continues on. If the clinical nurse/faculty does cue the student, Natasha appropriately does the ID check, but says she knows the patient because they already met this morning.]*

**Mr. Black:** Thank you.

*[If the clinical nurse/faculty does not catch the mistake of the student in giving 50mg of metoprolol instead of 25mg, then Mr. Black cues by saying the following]*

Um, usually the blood pressure pill is just a half pill; is this right?

**Natasha:** (Whether the patient or clinical faculty identifies the dosing error, she is flustered and without saying anything hurries to the counter where the pill splitter is

located with the MAR. Natasha splits the pill and then brings the pills back to Mr. Black, apologizing).

**Natasha:** I am so sorry about that, thank you for recognizing the pills. This is 25mg of metoprolol.

**Mr. Black:** Are you sure?

**Natasha:** Yes, the pill was 50 mg and this is half of the pill.

**Mr. Black:** Okay, glad we sorted that out. (student simulates giving pills and water to patient). Thank you.

**Natasha:** You are welcome. Is there anything else I can get you right now?

**Mr. Black:** No, thank you. I will call if I need anything.

**Natasha:** Okay, see you later. (*Student and clinical nurse/faculty exit*).

[at any time, if the clinical nurse/faculty speaks up or moves into other space around the bedside, yield to their moves or answer appropriately. The student's attitude is apologetic about the pill dose, but defensive about checking the patient ID].

*Outside the room the student and clinical nurse/faculty talk about the encounter. The clinical nurse/faculty should lead the discussion. The student continues to understand the problem with almost double-dosing Mr. Black with metoprolol, but is defensive about needing to check the patient ID.*

End Scenario

### **Debriefing**

How does the clinical nurse/faculty feel about their performance? What do they think went well or poorly?

What is your impression of the clinical nurse/faculty behaviors in the room?

What is your impression of the clinical nurse/faculty behaviors outside the room?

Do you have any suggestions for the clinical nurse/faculty?

#### **Suggested support questions:**

In what ways did the clinical nurse/faculty encourage self-reflection and use questioning techniques?

Did the clinical nurse/faculty reinforce the strengths of the student (using examples)?

How did the clinical nurse/faculty communicate? Did they show respect, support, and caring?

What do you think of the clinical nurse/faculty timing of comments? Should the clinical nurse/faculty have stopped the student and given feedback before leaving the room?

Did the clinical nurse/faculty use specific objective examples (focused on behavior)?

How did the clinical nurse/faculty assist the student with a plan for improvement?

## **Simulation Scenario Overview #2**

**Title:** Clinical Nurse/Faculty Providing Feedback to Nursing Student-*Respiratory Assessment*

**Learner level:** Novice-competent (Clinical Nurse or Clinical Faculty)

**Estimated scenario time:** 10 minutes

**Estimated debriefing time:** 30 minutes

**Target group:** Developing clinical nurse educators supporting nursing students in clinical learning environments

**Nurse educator competencies:** NLN Clinical nurse educator competencies 2, 3, 5, & 6 (selected task statements)

- Creates opportunities for learners to develop critical thinking and clinical reasoning skills.
- Bridge the gap between theory and practice by helping learners to apply classroom learning in the clinical setting
- Create a positive and caring learning environment.
- Promote a culture of safety and quality in the health care environment.
- Demonstrate enthusiasm for teaching, learning, and nursing to help inspire and motivate learners.
- Support an environment of frequent, respectful, civil, and open communication with all members of the healthcare team.
- Use clear and effective communication in all interactions.
- Listen to learner concerns, needs, or questions in a non-threatening way.
- Display a calm, empathetic, and supportive demeanor in all communications.
- Balance client care needs and student learning needs within a culture of safety.
- Promote a learning climate of respect for all.
- Provide timely, constructive, and fair feedback to learners.

### **Brief summary of case:**

A nursing student is completing a respiratory assessment on a client with bacterial pneumonia and a history of CHF. The clinical nurse/faculty is observing the nursing student in the client room and then debriefs with the student outside the room.

### **Scenario Learning Objectives**

#### Learning Objectives

1. Demonstrate caring and support of the student learner.
2. Facilitate learning using teaching and learning strategies.
3. Provide constructive feedback to the student learner.
4. Create a positive learning environment with a student learner.
5. Assist the student learner to self-reflect and set goals.

#### Critical Learner Actions

1. Uses questioning techniques, gets the student perspective on the situation, and encourages self-reflection.

2. Timely, sensitive, respectful, supportive, and caring in how communicates feedback to student.
3. Identify areas that need improvement based on evidence and objective measures.
4. Reinforce strengths of student performance, using specific examples.
5. Uses objective language with specific examples focused on student behavior.
6. Assists student with plan for improvement, reassessing, and monitoring.

Case summary:

The nursing student is completing a focused respiratory assessment on a patient while being observed by clinical nurse/faculty. The student does not recognize indications of early respiratory distress and the clinical nurse/faculty must interrupt for patient safety. The student and clinical nurse/faculty discuss the experience outside the patient's room.

Key contextual details

The nursing student is completing a focused respiratory assessment on an older adult client with bacterial pneumonia. The student listens to lungs front and back but does not recognize an elevated respiratory rate and decreased oxygen saturation on the monitor. The student needs cueing from the clinical nurse/faculty to adjust the oxygen settings and re-evaluate the client's respiratory status.

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Characters:

**Natasha, nursing student:** In clinical uniform with report sheet, pen, watch, stethoscope. The student is a senior and has been at this facility for a couple of weeks.

**Mr. Black, client:** In bed in gown with head of bed low, about 20 degrees. 2 liters of O<sub>2</sub> by nasal cannula in place. ID band in place to match chart MAR. Allergy to iodine (70-year-old male).



The client is on continuous pulse oximetry. The respiratory rate is 32 breaths per minute and the pulse oximetry reads 89-90%. The lung sounds are coarse on both sides. The patient coughs intermittently.

**Participant, clinical nurse/faculty:** In scrubs with lab coat, pen, report sheet, watch, stethoscope

**Scene:** 1000 hospital room and bed; client with oxygen therapy and pulse oximetry on. Water bottle and incentive spirometer on bedside table. The patient chart with the MAR is on the counter in the room.

Outside of the room the student and clinical faculty are making a plan to enter the room to do a focused respiratory assessment with the client.

**Natasha:** *(With her stethoscope ready, is giving the clinical nurse/faculty an update on the client).* Mr. Black was coughing a lot this morning at change of shift and needed 2 liters of oxygen placed by nasal cannula. He also had an albuterol nebulizer treatment which he said helped him breathe better. The nurse wants me to do a focused respiratory assessment to see how Mr. Black is doing now.

*[Clinical nurse/faculty may answer, have questions, or give directions; Natasha should answer appropriately and lead into entering the room.]*

*(The student enters the room first, knocking, followed by the clinical nurse/faculty)*

*[The student can hesitate when in the room and allow the clinical nurse/faculty to choose to take over or allow the student to lead.]*

**Natasha:** Hello, Mr. Black, I am Natasha, the nursing student working with you today. We met earlier this morning.

**Mr. Black:** Oh, yes. Hi Natasha.

**Natasha:** I would like to introduce my instructor who will be observing me today [say clinical nurse's/faculty's name].

*[Clinical nurse/faculty may answer, and Mr. Black may answer appropriately]*

*[Mr. Black can keep talking to the clinical nurse/faculty if appropriate (coughs occasionally) and the student and client can follow the nurse/faculty's lead if they choose to talk more or give the client information.]*

**Natasha:** Mr. Black, I need to listen to your breathing and see how your lungs are doing.

**Mr. Black:** Okay.

**Natasha:***(Approaching Mr. Black, the student listens to the lungs in front, sides, and back. She does not have Mr. Black breathe deeply when she listens. The respiratory rate is 32 breaths per minute and the oxygen saturation is 89-90% on 2 liters O<sub>2</sub> by nasal cannula. The lung sounds are coarse, and the student does not react to any of these cues.)*  
Thank you, Mr. Black.

*[If the clinical faculty does not stop the student to address the respiratory assessment findings, then the student cleans her stethoscope as though finished with the assessment and proceeds to leave the room.*

*If the clinical faculty does cue the student about the findings, Natasha only notices the lung sounds are coarse-sounding and Mr. Black has a cough. But Natasha says that **these are normal findings in pneumonia.***

*If the clinical faculty cues the student to look at the oxygen level or respiratory rate, the student is hesitant to understand what the readings mean. Natasha does not know what a high respiratory rate finding is or what oximetry reading is acceptable for Mr. Black.*

*If the clinical faculty provides cues or direction about what to do before leaving the room such as turn up the oxygen, see if another albuterol nebulizer is due in the MAR or have Mr. Black use the IS, Natasha does not know what interventions are indicated.]*

**Mr. Black:** *(If the clinical faculty and Natasha do not intervene to improve his breathing, he says the following):* I am having a hard time catching my breath. I feel like I can't breathe very well *(coughs several times)*.

**Natasha:** Oh no, professor, what should we do? *(the student steps back from the patient looking scared and hesitant)*.

**Natasha:** *(If the faculty give her direction, she tries to complete the interventions.)* Is this right? Is this helping? *(faculty may focus Natasha on what re-assessment to look at)*.

**Mr. Black:** *(Coughs long and hard. If an intervention occurred, resp. rate and oxygen saturation improve. If no intervention occurs, the oxygen saturation decreases to 85% and the alarms start ringing)*.

*[If intervention and improvement occur, Mr. Black says his breathing is feeling better and he would like to take a nap. If no intervention, alarms continue].*

*[If the patient is stabilized, then end with the following, otherwise the student leaves without recognizing the problems].*

**Natasha:** Is there anything else I can get you right now?

**Mr. Black:** No, thank you. I will call if I need anything.

**Natasha:** Okay, see you later. *(Student and faculty exit)*.

*[at any time, if the clinical nurse/faculty speaks up or moves into other space around the bedside, yield to the faculty's moves or answer appropriately. The student's attitude is flustered and saying she does not know what to do in this situation].*

*Outside the room the student and clinical nurse/faculty talk about the encounter. The clinical nurse/faculty should lead the discussion. The student continues to need explanations about what are normal findings versus findings that need interventions. The student makes excuses about Mr. Black not being that sick and does not seem to get the parameters that need the student to take action or report the findings immediately for patient safety.*      End Scenario

### **Debriefing**

How does the clinical nurse/faculty feel about their performance? What do they think went well or poorly?

What is your impression of the clinical nurse/faculty behaviors in the room?

What is your impression of the clinical nurse/faculty behaviors outside the room?

Do you have any suggestions for the nurse/faculty?

### **Suggested support questions:**

In what ways did the nurse/faculty encourage self-reflection and use questioning techniques?

Did the nurse/faculty reinforce the strengths of the student (using examples)?

How did the nurse/faculty communicate? Did they show respect, support, and caring?

What do you think of the nurse's/faculty's timing of comments? Should the nurse/faculty have stopped the student and given feedback before leaving the room?

Did the nurse/faculty use specific objective examples (focused on behavior)?

How did the nurse/faculty assist the student with a plan for improvement?