

STUDENT PERCEPTIONS OF THE OBSERVER ROLE PLAY EXPERIENCES  
IN THE IMPLEMENTATION OF A HIGH FIDELITY PATIENT SIMULATION  
IN BACHELOR'S DEGREE NURSING PROGRAMS

By

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## ABSTRACT

Research has shown that high fidelity patient simulation (HFPS) experiences can improve critical thinking, increase students' self-confidence, improve psychomotor skills, advance communication skills, and increase awareness of patient safety and care issues (Harder, 2010; Henneman, et al., 2007; Jeffries & Rizzolo, 2006; Kiat et al., 2007). HFPS commonly employs role play to foster affective, cognitive, psychomotor, and formative domains of learning (Lowenstein, 2011). Role play reportedly interconnects experiences, theoretical underpinnings, and learning outcomes within HFPS (Bastable, 2008; Cannon-Diehl, 2009). Additionally HFPS may have relevance for helping students develop clinical judgment (Lasater, 2007a, 2007b; Tanner, 2005, 2008). As HFPS use continues to augment student clinical practicum preparation, analyzing what the student learns or is able to draw upon from the various roles experienced as part of simulation is important. While attention to broad roles in HFPS (primary, secondary, family and Observer roles) was found in the literature, no specific study of the Observer role was found. It may be that strategies to enhance the Observer role (such as engaging in a guided observation activity of the HFPS) are beneficial. Further research is needed to evaluate specific processes and outcomes that student Observers use in HFPS role play. Particularly, since this role can be used to extend student numbers in HFPS, it is important to understand how to optimize the processes for engaging the Observer as well as outcomes of this role.

The purpose of this study was to examine the perceptions of nursing students who role play in HFPS, with particular attention to the Observer role. Using a descriptive, exploratory approach, role play factors and Observer role enhancement were described including the Observer's perception/experience of completing the guided observation activity in the Observer role. Additionally role play practice experiences were compared among the primary, secondary,

and Observer roles. Data was collected from a convenience sample of senior Baccalaureate degree nursing students at two university colleges in the Midwestern United States that actively use HFPS. As part of normally scheduled formative course simulation experiences, all students were randomly assigned to participate in simulation role play as the primary nurse, secondary nurse, or Observers and asked to participate in this research study. During the HFPS main activity all consenting students in the Observer role were asked to engage in the simulation by completing a guided observation activity. After HFPS debriefing, all consenting students were asked to complete three simple surveys/data collection tools, called the Hober Student Demographic Questionnaire, the Hober Written Survey, and the Educational Practices in Simulation Scale (Student Version – SPSS-S). All consenting Observer students participated in an interview using the Hober Qualitative Interview Prompts and were then asked to complete the three simple surveys. Twenty-three interviews were conducted and a total of fifty students completed the on-line survey questionnaires.

Qualitative data was analyzed using a naturalistic inquiry, iterative process to find patterns and themes. Three themes emerged: *Conceptualizing the learning experience*, *Capturing the big picture*, and *Connecting with the team*. The first theme captures the participants' ability to minimize stress and learn by analyzing the simulation performances of peers. The three categories within this theme were: (a) Minimizing the Stress for Applied Learning; (b) Collecting Data and Thoughts; and (c) Contemplating/ Calculating. The second theme was distinctive in that it encompasses the participants' comprehensive grasp of the simulation experience from their unique point of view. The three categories within this theme were: (a) Increasing Confidence in Thinking; (b) Gaining a Difference Point of View; and (c) Concluding/ Confirming. And in the third theme, Observers stressed that they needed to once again

communicate with the simulation team. The two categories within this theme were: (a) Communicating; and (b) Consulting.

Using a descriptive, exploratory approach, five research questions were answered. Focus was given to Observer role experiences and strategies for enhancing the Observer role. Observers reported that they gained learning opportunities and perceived the Observer role in HFPS to be “important”. Observers described a difference in ‘seeing and doing’ simulations, recognized the importance of effective nursing care, and the benefits of safe working environment. The Hober Guided Observer Activity was described to be an engaging activity for the Observer in simulation. Observers shared that their experiences would likely assist him/her in future clinical practicums and that clinical judgment (noticing, interpreting, responding, and reflecting) was utilized in the Observer role. Data compared the Observer and Nonobserver groups on perceptions of simulation best practices and its importance using the EPSS-S tool, finding that most perceptions between the groups were similar in this study. Descriptions of the Observer and Nonobserver (primary and secondary nurses) responses to the on-line Hober Written Survey provided supplemental data.

*Keywords:* role play, Observer, high fidelity simulation, and nursing

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## **Chapter One: Background**

### **Problem and Significance**

The present health care setting is under pressure to meet dynamic health care demands, such as concerns related to the care of the increasingly elder population, the need to meet patient care needs during decreased hospital stays with rapid patient turnovers, technological advancements, the aging and retiring nurse workforce, and a shortage of adequately trained new nurses (Cant & Cooper, 2009; Traynor, Gallagher, Martin, & Smyth, 2010; Wilford & Doyle, 2006). As Benner, Sutphen, Leonard, & Day (2009) and Burritt and Steckel (2009) found, new nurses need to be equipped with the essential knowledge, assessment, and skills to enter practice and continue to learn to meet the dynamic health care demands of tomorrow's patient. Goode, Lynn, Krsek, & Bednash (2009) concur stating adequate preparation of new graduate nurses to work in the current acute care environment is challenging for even some of the best nursing programs.

Nursing education is responding to the emerging health care needs by transforming prelicensure nursing education processes in order to better equip new graduates for professional practice (Tanner, 2010). Among the noteworthy solutions to assist educators in this challenge is high fidelity patient simulation (HFPS). HFPS is an interactive instructional method with a computerized mannequin that allows students to learn about complex clinical situations within case scenario creations that mimic reality in the safety of a teaching clinical setting (Mauro, 2009; Rhodes & Curran, 2005). Simulated role plays are developed with the key principles of Knowles Adult Learning Theory including: the application of essential theory content to practice; engaging practices that connect with diverse experiences; student readiness to learn; clinical problem-centered case scenarios; internal motivation to learn; and self-directed learning

(Knowles, Holton, Swanson, 2005). These simulation experiences provide additional opportunities for students to enhance knowledge, facilitate skill acquisition, gain competencies, decrease anxiety, work collaboratively, utilize decision-making skills, and learn clinical judgment. Realizing that today's undergraduate information technology students called the "millennials" or the "net generation" are tech savvy, easily bored, and value more diverse, interactive experiences than traditional instructional methods further adds to the credibility of using HPS (Carlson, 2005; Mauro, 2009).

Congruent with the National League of Nursing (NLN) (2008) expectations, nurse educators will implement technology-rich learning environments to meet the complex, consumer-centric, global environmental needs of the 21st century. Nurse educational implementation of HFPS is on the rise and benefits are validated in research (Harder, 2010; Schiavenato, 2009). As Tanner (2010) highlighted, nursing simulation is an approach that draws upon best practices in teaching. Instrumental in the use of HFPS in nursing education is that it contains elements of full scale computerized patient simulators that facilitate interactive student engagement in 're-created' clinical situations (Jeffries, 2007). Simulations providing real, reproducible, standardized, objective problem based situations are "mistake-forgiving" for students in a safe environment while building skill level, confidence, and clinical proficiencies (Cannon-Diehl, 2009; Schiavenato, 2009). In essence, HFPS experiences provide an alternative to foster student clinical learning while preventing patient exposures to unnecessary risk or harm.

HFPS integration is increasingly being used to complement contemporary nursing professional practice requirements using planned scenarios with clinical educational outcomes. Therefore, educators need to critically evaluate simulation from multiple standpoints (Campbell and Daley, 2009; Harder, 2010). One area of simulation to research is role play. HFPS

experiences provide an opportunity for students to actively role play the provision of clinical patient care to a computerized mannequin. Simulated role play uses a constructivist basis for creating personal meaning through interconnecting past and present experiences, theoretical understandings, and learning outcomes within the simulated scenario (Bastable, 2008; Billings & Halstead, 2009). Some research appears to analyze general outcomes of students in the roles of the primary nurse, secondary nurse, and interprofessional roles. However, research is limited related to high fidelity patient simulation role play, especially when focusing upon the Observer role. The Observer(s) are not role playing in the interactive simulation experience, but instead are ‘watching’ the situation from a distance. Hence, what are the learning perceptions for the Observers in HFPS? Are HFPS experiences meaningful to Observers?

### **Importance of High-fidelity Patient Simulation Experiences in Nursing Education**

**Clinical sites.** Nurse educators are challenged to better prepare undergraduate students for the ever-changing and more acute clinical environments. As the American Association of Colleges of Nursing (2010) explains, a principle factor is the lack of a sufficient number of quality clinical sites. As McNelis and Ironside (2009) found, students seem to be spending much of their clinical time doing routine care tasks and basic hands-on procedures at the expense of providing adequate time focused on fostering the development of the practice skills and communication needed to meet the more complex and higher acuity patient care needs. Students need the opportunity to organize and prioritize nursing care, make judgments about patient care and collaboration efforts, effectively marshal interdisciplinary professionals, and efficiently and effectively use patient resources (Smith, Cronenwett, & Sherwood, 2007).

As Billings & Halstead (2009) explain, faculty must ascertain the adequacy of each student clinical performance related to course outcomes, clinical day objectives, and specific

competencies. Since students seem to be competing for crowded clinical placements in search of the learning moments for competent clinical practice, educators need to analyze the quality of the clinical experience in order to assess if students have adequate opportunities to meet learning outcomes or if they are simply on the periphery of the experience meeting clinical clock hours. In the unpredictability of acute care settings, faculty are unable to ensure that every student has an experience to address learner needs, apply essential nursing care knowledge, or meet core course objectives related to competencies such as safety issues (Harder, 2010; Tanner, 2010). In response to this issue, simulation experiences have been used to more clearly and reliably detect effective and ineffective student performance and to remediate students for competent clinical practice (Cannon-Diehl, 2009; Jeffries, 2005; Jeffries, 2007).

**Student competency and safety issue.** Nursing care competencies are needed to address quality chasm and patient safety needs. The Institute of Medicine (2003) released a report describing the importance of reforming health professions education to achieve national quality and safety goals and the importance of basing pedagogical decisions on the best available evidence. Assuring national quality and safety goals requires nurses to have the knowledge, skills, and attitudes to “continuously identify threats to patient safety, implement error prevention strategies, and promote and engage in an interdisciplinary culture of safety” (Ironside, Jeffries, & Martin, 2009, p. 332).

The Quality and Safety Education for Nursing (QSEN) initiative, funded by the Robert Wood Johnson Foundation (2011), responded to the IOM report. The QSEN function is to provide healthcare educators with discipline-specific knowledge, skills, and attitudes required for the competencies of: patient-centered care, teamwork and collaboration, evidence-based practice, quality improvement, safety and informatics. In a follow-up faculty focus group discussion

about the six competencies in curricula, Cronenwett, et al. (2007) found that the knowledge, skills, and attitudes reflected a more comprehensive view of what was required to teach patient safety. The authors also identified that faculty needed more pedagogical tools to make substantive changes in current nursing curricula in order to integrate competencies adequately.

HFPS offers a unique opportunity to teach nursing students important safety principles (Henneman, Cunningham, Roche, & Curnin, 2007). However Jarzemsky, McCarthy, and Ellis (2010) caution educators that prepackaged simulation scenarios should only jump-start the learning process because “. . . simulations are more likely to come alive when instructors interweave moments from their clinical practice that provided the greatest learning opportunities” (p. 90). Without overburdening existing faculty members, engaging simulations require systematic planning guided by the learning objectives in order to adequately incorporate knowledge, skills, and attitudes and QSEN competencies.

**Changing the nursing education environment.** Nursing education is amidst change in an attempt to adapt to twenty-first century health care system (IOM, 2010). As the largest workforce of the healthcare system, a key message recommended for nursing is to practice to the full extent of their education and training. Tanner (2010) stressed that according to the Carnegie study findings, content-laden nursing curriculums result in superficial content coverage, failure of students to engage in clinical practice that encapsulates real-life clinical situations, and a failure to integrate clinical reasoning, skill know-how, and ethical comportment. Simulations provide an innovative method to supplement clinical practice experiences by creating complex and demanding situations that incorporate efficient nursing care and safety with emotional involvement (Gaba, 2004).

Realizing that HFPS's are resource-intensive and being used to complement clinical practice, simulations should be carefully designed and conducted to meet specific, measurable course objectives relevant to nursing care, patient safety, and health care competencies (Gaberson & Oermann, 2007). Contemporary professional practice requires focusing upon learning outcomes, development of clinical judgment, ethical comportment, interprofessional teamwork, technical proficiency and evidence-based practice while factoring in the level of the student, the patient acuity, the complexity of the desired learning, and the skill of faculty (Lasaster, 2007a; Lasaster, 2007b; Tanner, 2010).

**The realism of high-fidelity patient simulation.** Modern HFPS's are computerized to mimic the realities of clinical practice (Alinier, Hunt, & Gordon, 2004). In the security of an educational clinical practice area, HFPS is performed using a computerized mannequin that is interactive, life-sized, and programmed to provide realistic patient responses and outcomes including respirations, gastrointestinal activity, genitourinary output, circulatory sensations, spontaneous and programmed communication, and neurological reflexes such as eye blinking and sweating for example. These computerized simulations are usually developed with course objectives in order to provide participants with the opportunity to perform pertinent patient care skills, develop interprofessional teamwork, and apply evidence based practice to a sequence of programmed events with expected outcomes (Feingold, Calaluce, & Kallen, 2004; Nehring & Lashley, 2004). Nursing education benefits from HFPS scenarios because valuable learning lessons can be developed and modified in the teaching/learning moment depending upon student(s) responses/actions or lack thereof. Simulations routinely conclude with debriefing, a time for participants to reflect on the experience for professional practice.



## Purpose

In the field of nursing the literature related to simulation experiences includes high technology, role play, standardized patients, interactive media, mannequins, and task trainers (Ironside, Jeffries, & Martin, 2009). The focus of this research study is role play in HFPS because role play is known to foster affective, cognitive, psychomotor, and formative domains of learning and is commonly incorporated into the use of simulation (Lowenstein, 2011). Role play helps learners to see, comprehend a situation, and respond while ‘*walking in the shoes of someone else*’ (Bastable, 2008). Well-designed role play in simulation is essential to meet student learner needs for clinical practice. Structured role play enables learners to reflect ‘in’, ‘on’, and ‘about’ action taken (Nestel & Tierney, 2007). Role play’s focal point is on the interactions and dynamics of the students who assume the verbal and nonverbal mannerisms of characters in a simulated scenario.

As HFPS use continues to augment student professional clinical preparation, analyzing what the student learns or is able to draw upon from varied roles in that experience is important in order to more definitively connect through analysis simulation role play performance and professional clinical practice applications. “Thinking on your feet,” or clinical judgment, uses a repertoire of knowledge, attitudinal, and skill experiences in order to make sense of the current situation, seek out the best solution, and/or consequences of the action (Schon, 1983; Lasater, 2007a; Lasater, 2007b) . And later, a professional can retrospectively think back to the event or problem using thought analysis, feedback, and/or discussion in order to help the professional learner broaden their base of experience.

Analyzing varied student roles and reported clinical practice outcomes that are purportedly transformed in HFPS scenario role play experiences can help researchers more

accurately deduce the scientific merit of these alternative clinical experiences. Since interactive, structured role play in HFPS appears to help students think in, on, and about a given clinical situation, what is the experience for the students, and more specifically, the Observers of the situation? The purpose of this study was to examine the perceptions of nursing students who role play in HFPS, with particular attention to the Observer role. Using a descriptive, exploratory approach, the factors related to role play and Observer role enhancement were described including the Observer's perception/experience of completing guided observer activity in the Observer role.

### **Theoretical Framework**

Role play encourages describing, explaining, and implementing professional practice (Levitt & Adelman, 2010); this is consistent with learning clinical practice skills and clinical judgment. While a theory specific to role play was not found, the Clinical Judgment Model (CJM) developed by Tanner (2006) provides clinical direction. Tanner's CJM has three decades of research describing the thinking processes nurses use when faced with complex, ambiguous, and conflicting situations (Dillard, et al., 2009). Benner, Tanner, and Chesla (1996) defined clinical judgment as "the ways in which nurses come to understand the problems, issues, or concerns of clients/patients, to attend to salient information, and to respond in concerned and involved ways" (p.2). The CJM emphasizes that what nurses' notice, how they interpret findings, how they respond in practice, and ultimately reflect upon the experience in a particular situation is influenced by the role of the nurses' background, the context of the situation, and the nurses' relationship with their patients. These activities are consistent with the intent of role play in HFPS. The CJM describes a variety of reasoning processes that nurses experience as they provide patient care.

The components of the CMJ display the nurse's awareness, actions, and reflections of patient care in which one of the outcomes is clinical judgment (Appendix A). The overall model process includes the aspects of: noticing, interpreting, responding, and reflecting. Noticing involves a perceptual grasp of the situation, including the nurse's expectations of the situation. Noticing is also influenced by situational circumstances, including identifying a clinical situation that demands attention, the nurse's vision of excellent clinical practice, the nurse's values related to the particular patient situation, the culture of the unit, and the complexity of the work environment.

After the nurse notices and initially grasps the situation, one or more reasoning patterns are triggered in the clinical situation to support the nurses' interpretation of the situation, including analytical, intuitive, and narrative data. The interpreted data then leads the nurse to responding in an appropriate course of action, including no immediate action. The process concludes with reflecting, termed reflection-in-action and reflection-on-action. Reflecting implies that the nurse attends to the patients' responses of the nursing action followed by reviewing the outcomes of the action. Reflection-in-action refers to the nurses' ability to read the patient and his or her responses to the nursing interventions. And lastly, reflection-on-action; this step requires a sense of responsibility, where one connects one's actions to outcomes to know that what occurred is a result of nursing actions.

Using this model, educators can be instrumental in providing feedback and coaching in order to guide student development of insight into their clinical thinking. The CJM has been used in clinical practice, simulation, and as a guide for debriefing following simulation activities (Tanner, 2006; Lasater, 2007a; Lasater 2007b; Dillard, et al., 2009). Simulated role play fosters reflection-in-action and reflection-on-action. Debriefing also provides a time for reflection-on-

action in which students are able to recognize the patterns of noticing, interpreting, responding, and reflecting. Understanding that simulated role play concludes with debriefing, it can help to authenticate simulated situations to in turn captivate and engage vicarious learning. This process creates meaning within simulated concept-based learning activities because it builds relevance and an emotional context for learners.

Of particular interest in this research study is the implications of this theoretical framework for the Observer within the HFPS experience. For example, does being an Observer of a HFPS experience spur awareness, connections, and personal learning? Are Observers, who are watching the vicarious learning experience from a distance, able to recognize individual or team patterns of noticing, interpreting, and responding in simulated role? Do the Observers gain increased awareness of team interactions and its importance to the simulation? Additionally, what does the Observer add as constructive communication during debriefing?

### **Adult Education Theory**

HFPS experiences prepare adult learners for professional practice in a manner consistent with adult learning theory (Clapper, 2010a; Jeffries, 2007). Adult learning theory is commonly referred to as andragogy “. . . the art and science of helping adults learn” (Knowles, 1980, p.43). Adult learners do best when internally motivated, using their experiences, and applying knowledge to solve real-life problems or situations (Knowles, 1980). The adult learner’s motivation to learn is pragmatic and problem centered because they are increasingly self-directed and have rich experiences that serve as a resource for continued learning. Ultimately, adult learners seem to make a commitment to learn when the learning goals are perceived as realistic, immediately useful, and relevant to their professional goals (Billings & Halstead, 2007).

In a typical HFPS experience, the adult learners are actively participating in the simulation patient care scenario except for the Observers. In most instances, the Observer usually ‘watches’ the simulation experience from a distance. Therefore, Observers need to be connected to the simulation experience in a manner that facilitates meaningful collaboration. In this study the Observer, consistent with the principles of andragogy (Appendix C) and undergraduate good practice principles in education, would be engaging in the HFPS with the completion of the guided observer activity.

In accordance with adult learning theory, Chickering and Gamson (1987) explained the seven good practice principles in undergraduate education as: encouraging contact between students and faculty; developing reciprocity and cooperation among students; encouraging active learning; providing prompt feedback; emphasizing time on task; communicating high expectations; and respecting diverse talents and ways of knowing. The guided observer activity is one technique to connect the Observer student in the simulation experience with a realistic, useful, and relevant task that applies the Observers’ theoretical knowledge and experiences. After completing the guided observer activity during the simulation experience, the Observer will have the opportunity to discuss assessment findings and employ ongoing reflection for improved professional practice in the debriefing which normally concludes a simulation experience (Clapper, 2010a).

Of particular interest in this research study are implications of Adult Education Theory and Educational best practices in calling for an engaged student to promote learning. Since students regularly take on the Observer role in HFPS with limited engagement, it is important to consider if further opportunities exist for engaging these students during the simulation.

## **Significance of the Observer Role**

Simulation is an educational tool that provides pedagogy of theory and practice integration and also engagement for students and faculty alike. The popularity of using HFPS as a teaching methodology for students by nurse educators is expanding because HFPS provides an exposure to a variety of clinical scenarios in a safe environment (Jeffries, 2007; Henneman, et al., 2007; Schiavenato, 2009). In simulation student participation and interactions are fundamental to enacting a 'reality-based' simulation. Three goals of simulation are to make the simulations as believable as possible, such as having the students assume the roles of health care professionals or family members, to embed in the experience educational goals that require whole brain applications, and thirdly, translation into practice by tapping into the emotional component of student experiential learning (Campbell & Daley, 2009). Hence, as educators work on implementing the goals of believability and emotional comportsment in interactive HFPS, what are the implications for the Observers?

In a typical HFPS nursing practicum experience, the primary nurse and secondary nurse would collectively assess, provide patient care, and evaluate the outcomes of patient care in the scenario. Students commonly role play family members to add to the HFPS experience related to the realism of clinical practice while providing students with an experiential perspective other than health care professionals. Other interprofessionals can be added to the HFPS experience, such as the respiratory therapist, physical therapist, and doctor for example. Overall, these HFPS roles are interactive. So, what is the learning experience for the Observer? How do participating Observers in HFPS become internally motivated and participate meaningful in the simulation?

## **Observer Guided Observation Activity in HFPS**

As guided by Adult Education Theory, one viable option for engaging Observers to actively participate in HFPS is a guided observation activity. The intent of the guided observational activity is similar to peer review. A student peer is someone who is of equal standing in terms of educational practice and professional experience (Hodges, 2011). As Boehm and Bonnel (2010) explain, peer review, sometimes referred to as peer assessment, “is an organized, systematic process whereby peers can evaluate the professional practice of another colleague using a standardized tool with the goal of providing constructive feedback to promote professional growth and development” (p. 109). Peer assessment can be a formal or informal process where students can demonstrate professionalism using interactive, purposeful processes for constructive feedback. Peer assessment can foster a culture of continuous learning, patient safety, and best practices when it is implemented in a caring, respectful, objective, supportive, and equitable environment (Delgado & Mack, 2002; Morby & Skalla, 2011). In this study, the guided observation activity is intended to engage Observer students in the HFPS experience as the student completes the focused assessment of the HFPS experience.

Contemporary education is facing the challenge of preparing new graduates with abilities to deal with ambiguity and adapt to changing health care demands. As Hodges (2011) explains, nurse educators need to implement teaching-learning strategies such as peer review that promote student participatory roles with constructive feedback in order to guide students to better manage the complexities and challenges of real practice settings while fostering the commitment to lifelong learning. Ultimately student nurses, as well as professional practicing nurses, must be proactive problem solvers who develop critical thinking, cooperation, accountability, self-regulation, and quality care standards within a collaborative, interdisciplinary environment (Haines, et al., 2010; Hodges, 2011).

Hence, it may be that strategies to enhance the Observer role, such as engaging the student in a guided observer activity during HFPS, are beneficial. Researchers need to evaluate specific processes and outcomes that student Observers use in HFPS role play. Particularly, since this role can be used to extend student numbers in HFPS, it is important to understand how to optimize the processes for engaging the Observer as well as outcomes of this role.

### **Research Questions**

- 1) What are the benefits or opportunities of the Observer role in high fidelity patient simulations?
- 2) What are the challenges of the Observer role in high fidelity patient simulations?
- 3) What are the Observer perceptions of completing the guided observer activity as an engaging activity in high fidelity patient simulations?
- 4) In what ways does the Observer perceive clinical judgment (noticing, interpreting, responding, and reflecting) occur in high fidelity patient simulations?
- 5) How do perceived educational practices compare between the Observer and other roles (primary, secondary, and family members) in high fidelity patient simulations?

### **Assumptions of this Study**

1. The simulation laboratories at each site were similarly equipped for high fidelity patient simulation.
2. The high fidelity manikins performed consistently during the simulated role play experience.
3. Each student participant prepared for the high fidelity role play experience.
4. Each student participant was motivated to participate in the high fidelity role play experience.
5. Each student truthfully evaluated and openly discussed the high fidelity role play experience.



6. Students can be engaged in learning and participate in clinical judgment activities using guided observer activity in high fidelity patient simulations.

### **Limitations of this Study**

1. This study used participants from two Baccalaureate degree nursing programs (Shadish, Cook, & Campbell, 2002)
2. Convenience sampling is a less robust sampling method that can lead to bias in the sample by not being truly representative of the study population (Shadish, et al., 2002).
3. No attempt was made to control study participants based on the number of experiences with high fidelity patient simulation, which could have an impact on each group's responses to the simulation experience (Shadish, et al., 2002).
4. No attempt was made to alter the normally scheduled high fidelity patient simulation experiences in order to gather data for this study, which could skew the participant's authentic responses.

### **Terms**

Action – The active nurse responses following the interpretation of a given patient situation (Tanner, 2006).

Analytic – The reasoning pattern of hypothetical-deductive processes inherent in diagnostic reasoning (Tanner, 2006).

Clinical learning – The development and/or expansion of practice knowledge (Tanner, 2006).

Context background relationship – The particular clinical situation demanding attention, including the circumstantial factors of: the nurses' vision of practice excellence, the nurses' values related to that particular patient situation, the unit culture and patterns of care, and the complexity of the work environment (Tanner, 2006).

Debriefing – An activity that follows a simulation experience led by a facilitator wherein constructive feedback is provided by participating members for the purpose of reinforcing learning and encouraging reflective thinking (Jeffries, 2005; Lasater & Nielsen, 2009)

Expectations – The prospects of a situation, stemming from a combination of the nurses' knowledge of a particular patient and his or her patterns of responses, the nurses' clinical or practical knowledge of similar patients, and the nurses' textbook knowledge (Tanner, 2006).

Feedback – The provision of evaluative information by participants or the facilitator following the simulation experience to assist in knowledge acquisition or revision of practices (Billings & Halstead, 2009; Jeffries, 2005).

Fidelity – The degree to which a simulation and the simulation equipment approaches reality, including low, moderate and high fidelity (Jeffries, 2007; SIRC Glossary, n.d.).

High Fidelity Patient Simulations – Simulations that contain elements of full scale computerized patient simulators with human participants in order to re-create reality as much as possible while providing a high level of learner interactivity (SIRC Glossary, n.d.).

Initial grasp – Nurse's primary understanding of a clinical situation (Tanner, 2006).

Interpreting – Developing a sufficient understanding of a situation in order to respond (Tanner, 2006).

Intuitive – Nurse's immediate apprehension in a clinical situation, functioning from an experience with a similar situation (Tanner, 2006).

Narrative – Thinking that involves trying to understand a particular case through an interpretation of human concerns, intents and motives (Tanner, 2006).

Noticing – The perceptual grasp of a particular situation (Tanner, 2006).

Observer Engaging Activity – the completion of the guided observer activity during the high fidelity patient simulation experience.

Observer Role- any student whose part in the simulation experience is that of a witness, meaning not directly providing care or activities in the high fidelity patient simulation experience (Jeffries & Rizzolo, 2006).

Outcomes – The patient’s clinical responses in a given situation (Tanner, 2006).

Peer Assessment - systematic process whereby students assess a simulation experience, document their conclusions, and then provide constructive feedback for independent and peer professional growth and development (Boehm and Bonnel, 2010; Clapper, 2010a).

Reasoning patterns – The interrelated processes used by experienced nurses in their decision making, including analytic, intuitive, and narrative patterns (Tanner, 2006).

Reflecting – Attending to the patients’ responses of nursing action(s) while in the process of acting (Tanner, 2006).

Reflective thinking – The process of connecting a learning activity to its meaning for the learner using reflection-in-action and reflection-on-action; engaging in reflection enhances learning from experiences (Billings & Halstead, 2009; Tanner, 2006).

Reflection-in-action – The nurses ability to “read” the patient, meaning how the patient is responding to the intervention, and then adjusting the interventions based on that assessment (Tanner, 2006).

Reflection-on-action – Reviewing the clinical outcome(s) of the nursing care action(s) of a particular situation in order to focus upon the appropriateness of all preceding aspects; contributes to the nurse’s ongoing clinical knowledge and capacity for clinical judgment in the future (Tanner, 2006).

Responding – Deciding on a course of action deemed appropriate for a given situation, including no immediate action (Tanner, 2006).

Role play simulation – High fidelity patient simulator use in problem-based clinical scenarios of role play in which participants use assessment, psychomotor, clinical judgment, and/or managerial skills in a replicated clinical situation (Dillard, et al., 2009; SIRC Glossary, n.d.)

Simulation – A representation of a real life health care event using computer software, role play, case studies, and participants for the purpose of practice, learning, evaluation, or to gain an understanding of human actions in an active learning situation (Billings & Halstead, 2009; SIRC Glossary, n.d.).

### **Summary**

At this time of complexity in the acute care system where students engage in clinical practice, it is crucial to bridge the gap between theory taught in the classroom and clinical practice (Cannon-Diehl, 2009; Dillard, et al., 2009). Since 2003, the IOM has stressed the importance of reforming health professions education to achieve national quality and safety goals based on the best available evidence for pedagogical decisions. Simulations are one approach to draw upon best practices in teaching (Tanner, 2010). HFPS is an interactive instructional method that engages students in complex case-based clinical situations that mimic reality in the safety of a teaching clinical setting (Mauro, 2009). HFPS provides a pedagogical connection between science and practice (Jeffries, 2008; Dillard, et al., 2009; Tanner, 2010). Simulation experiences provide additional opportunities for students to enhance knowledge, facilitate skill acquisition, gain competencies, decrease anxiety, work collaboratively, utilize decision-making skills, and to promote clinical judgment for clinical practice while maintaining patient safety.

As simulations implementation continues, it is imperative to continue to evaluate the efficacy in relation to student outcomes (Cant & Cooper, 2009; Harder, 2010). Campbell and Daley (2009) explain that even though benefits and best practices of simulation have been documented by the National League for Nursing (NLN)/Laerdal simulation study (Jeffries & Rizzolo, 2005) and other prominent studies, more research is needed. One area of simulation in nursing to evaluate is role play. Role play simulation purports to interconnect experiences, theoretical underpinnings, and learning outcomes within HFPS (Bastable, 2008; Cannon-Diehl, 2009). Role play's focal point is on the interactions and dynamics of the students who assume the verbal and nonverbal mannerisms of characters in a simulated scenario. Simulated role play research appears to be limited, specifically when analyzing the implementation of student factors in the Observer roles. The purpose of this study was to examine the perceptions of nursing students who role-play in HFPS, with particular attention to the Observer role. Using a descriptive, exploratory approach, the factors related to role play and Observer role enhancement were described including the Observer's perception/experience of completing guided observer activity in the Observer role.

## Chapter Two: Review of the Literature

Chapter one provided an overview of the problem to be studied and its significance. Literature on role play and role play within high fidelity patient simulation helps inform this study. The following review will provide background on the concept of role play, implementation of role play in multiple disciplines, role play in high fidelity nursing simulations, the observer role in role play, and the Observer's experience of completing a guided observer activity. To identify appropriate literature, key word searches of the words/phrases: role play, role play and education, simulation, and simulation and role play were used with the electronic search engines of CINAHL, ERIC, and PUBMED journal articles from 1990 to 2010.

### Background of Role Play

Historically role play emerged from psychodrama in response to the need to affect attitudinal changes and sensitivity in persons during psychotherapy and counseling (Van Ments, 1989; Lowenstein, 2011). Although psychodrama required participants to recite specific lines, role play usually encourages participants to express their thoughts and feelings spontaneously (Van Ments, 1999). For example, one role player can be given a description of their role while the other is provided with their task. Role players can rotate through roles with the intention of gaining insight into various perspectives and roles. An important point is that an actor plays to the audience; in contrast, role play calls upon participants to play to the scenario. A definition of role play provided by Van Ments (1989) is:

“ . . . one particular type of simulation that focuses attention on the interaction of people with one another. It emphasizes the functions performed by different people under various circumstances. The idea of role-play, in its simplest form, is that of asking someone to imagine that they are either themselves or another person in a particular

situation. They are then asked to behave exactly as they feel that person would. As a result of doing this they, or the rest of the class, or both, will learn something about the person and/or situation. In essence, each player acts as part of the social environment of the others and provides a framework in which they can test out their repertoire of behaviors or study the interacting behaviors of the group” (p.19).

Successful learning occurs with various methods of teaching and instruction, including role play. As Wilson (n.d.) explained, role play is an educators tool for engaging intellectual activity so that learning becomes more stimulating, imaginative, and valued for students, teachers, and/or students and teachers together. Role play is used to acquire knowledge, attitudes, and skills in learners of all ages (Nestel & Tierney, 2007). Over the years role play has become a teaching technique in many diverse settings and disciplines, such as communications, cross-cultural training, industrial psychology, business, management, marketing, economics, law, law enforcement, medicine, political science and sociology (DeNeve & Heppner, 1997; Nestel & Tierney, 2007).

As Lowenstein (2011) explained, role play in the field of nursing has been defined as an *unscripted* drama technique of experimentation without risk focusing on the actions of the characters in which participants rely on spontaneous or semi-structured interplay designed to illustrate expected actions of persons in outlined scenarios. Role play is a teaching strategy that encourages describing, explaining, and implementing professional practice (Levitt & Adelman, 2010). Although the general use of role-play as an educational tool by disciplines is noted in the literature, there appears to be limited literature to provide guidance on the best practices and use of role play assignments in high fidelity simulations. One such area is nursing high fidelity

simulator role play, specifically role play of the primary nurse, secondary nurse or nurse assistant, and Observer who are providing, assisting, or analyzing the care of patients.

Role play allows learners to participate in an unrehearsed dramatization (Bastable, 2008). Participants are asked to play the characters as they think the character would act in reality, meaning what the participant perceives the actual person would say, feel, or do. Role play is used for real-life situations in order to develop an understanding or sensitization to other people and situations, and when used in conjunction with simulation enables mastery of skills for applications to those situations. For role play to be employed most effectively, the teacher must ensure that each participant has been informed about the role they are to portray, the small group has attained rapport with each other and the instructor, all participants in the small group are assigned an active role in the teaching-learning experience, and the experience is concluded with discussions on feelings, observations, and interpersonal relationships. Central to role play is debriefing. In Appendix D a summary of advantages and disadvantages of role play as described by authors Bastable (2008) and Billings and Halstead (2009) is provided.

Role play techniques are commonly used by educators for cooperative learning, varied by the teacher in accordance to his or her teaching philosophy, applicable students, time issues, and learner objectives (McKeachie & Svinicki, 2006). Role play is like a drama in which the participants are assigned characters, but in role play the lines are not learned. Instead participants are asked to improvise their responses to model the designated character in a given situation that represents some real-life problem or conflict. Role play can occur in team situations, meaning that more than one participant will be portraying a character in the situation in order to facilitate discussion. Participation in team discussion after role play is essential in order to ‘walk’ the participant through reflection on action using facilitator skills such as



listening, questioning, clarifying, challenging, problem solving, ethical dilemma analysis, and testing of the validity of generalizations. In Appendix E a summary table of faculty teaching tips used in role play implementation as identified by authors Billings and Halstead, 2009; Joyner and Young, 2006; McKeachie, 2002; Northcott, 2002; Ments, 1999 is provided.

### **Role Play Implementation**

Role play appears to be more commonly used in simulations without high fidelity simulators, as evidenced by this comprehensive review of the literature. An overview of the findings from role play in multiple disciplines will be discussed.

**Role play in disciplines other than medicine.** Role play is a teaching/learning method applicable from children to adults in the United States and internationally. As Burton-Wilcock (2010) explained, the Department for Education and Skills used role play to support the Social and Emotional Aspects of Learning (SEAL) in London. This initiative highlighted that children can understand and manage difficult feelings, work cooperatively in groups, motivate themselves and others, and demonstrate resilience in disturbing situations using the real-life experiences of role play. Burton-Wilcock remarked that children, as well as adults, can learn through mimicking the actions of others, stepping into the shoes of another, and exploring challenging issues in role play.

In an early adult study on role play simulations, DeNeve and Heppner (1997) used a convenience sample of 29 (n = 21 females) senior undergraduate students enrolled in a psychology course at a large Midwestern university to assess role play in 15 simulations designed around a pizza establishment. The author's studied the effectiveness and memory recall of role play when compared to lecture as a teaching technique. The authors concluded that

lecture is useful in various situations such as introducing theory concepts, and likewise, role play is useful in applying theory to practice situations.

In the *Journal of Management Development*, Feinstein, et. al (2002) explained selected implications of role play for experiential methodology in education and training. As the author writes, experiential learning involves seeing, hearing and doing. Experiential learning to a systems model of role play would then impact performance measures, decision variables, and interactions of the system. Role play requires the learner to be immersed, practical, and able to make decisions with communication expression while doing the job. The significance of role play is to promote negotiation, cross-cultural understanding, skill performance, and interpersonal communication.

Whelan, Spencer, and Rooney (2008) completed a thematic analysis on the development, design, implementation and evaluation of role play in a Rural Interprofessional Program Education Retreat (RIPPER). The authors studied 60 undergraduate medical, nursing, and pharmacology student perceptions of the interactive educational strategies of high fidelity compared to low fidelity role play. The students participated in two weekends of intensive workshops that required students to work collaboratively in small interprofessional teams to respond to rural healthcare emergencies. Using a pre-and-posttest quasi experimental design, students reported finding the most positive aspects of role play in the program to include: the value of working together; learning team skills; the opportunity to meet people and network; being able to learn in a mentored environment; and overall feeling better prepared for professional practice.

Role play, emphasizing active listening skills, appears to be a mainstay in behavioral assessments for interpersonal skills (such as assertion, social skills, and job interviews) across

individuals with diverse cultural and/or emotional problems (such as aggressive children, substance abusers, schizophrenics, and sex offenders) (Van Hasselt, Romano, & Vecchi, 2008). The widespread utilization of role play extends into law enforcement as well. As Van Hasselt, Romano, and Vecchi explained, although role play has received educator support, the external validity (relationship between role play performance and real world incidents) has not been ascertained. The coauthors recommended great detail in scenario descriptions to help participants “get into their roles” and that using actors/trained participants in scenario roles actually enhances realism. The authors concluded by stressing that the value of role playing in crisis management, counterterrorism, and emergency and mass casualty disaster training is vital.

As DiNapoli (2009) from the University of Murcia in Valencia Spain discussed, enhancement of creativity and emotional expression in students is paramount for improved communication in our digital age. He used qualitative methods to study students’ creative and emotional aptitudes as well as effective teamwork in role play. Discussion included: role play is needed to develop the emotional aptitude of the right side of the brain which in turn better balances the cognitive left side of the brain; students need to be able to detect feelings in order to communicate; and ultimately, role play improvisational activities require listening and reacting to others. The author concluded that dramatic role play with scripted scene study and improvisational student activities is a way to enhance communication skills needed for students to transition from the current information age to the upcoming conceptual age of artistry, empathy, and emotion.

Overcoming the barriers of using simulation, games, and role play (SGRP) in higher education was the focus of the Moizer, Lean, Towler, and Abbey (2009) study. Moizer et al. conducted 11 academic staff interviews from a United Kingdom higher education institution

finding significant links between the interrelated barriers of: suitability, resource, and risk. The transcript analysis exposed a range of potential internal and external mechanisms which could be employed to overcome SGRP barriers: “freeing up academics’ time, providing training and development, enabling informal learning, providing resource support, facilitating access to networks and providing access to secondary information sources” (p. 207). The authors summarized that student expectations will require academics to effectively use different active learning platforms to ensure positive student experiences.

Role play appears to be an applicable pedagogy in political science courses. In a recent qualitative study assessing private electronic journals and final reflective essays by the researcher Loui (2009), 11 students participated in role play for two weeks playing adult characters for a Technology, Communication, and Contemporary Society seminar. In this study, a fictional community was created in which the characters were facing technology related to stem cell research, nanotechnology, and privacy. After the students played in two scenarios and served as an Observer in the third scenario, students were interviewed as to the effectiveness of role play in achieving student composed instructional objectives. Student responses indicated that adult students learned to trust one another, understand and be open to the perspectives of others, negotiate in stressful situations, understand course content more in-depth, and be more prepared for citizenship using role play pedagogy. The author suggested that role play have sufficient detail to be challenging and engaging with conflict for students in order for them to become more familiar with the character, appeal to their imagination, and ultimately possess comfort with portraying roles.

In counselor education and supervision, role play provides experiential learning for students through experimentation and observation (Smith, 2009). Role play is believed to help

students gain a deeper understanding and awareness of clients and is suggested to be superior to the more traditional didactic teaching methods. Role play is reported most suited for more advanced-level practicum and internship. The author stressed role play needs to be researched more rigorously since most literature today on role play is descriptive. Role play variables to consider are character comments, displaying emotions, realism, discussion, feedback, and/or challenging scenarios for example. Additionally, the dynamics of role play should be considered when: characters are added or subtracted; performed in dyads as compared to triads; small groups; or using a hired actor to assume the client or adjunct roles.

**Role play in medicine.** Joyner and Young (2006) discussed role play in teaching medical students, stating that role play simulation is a powerful teaching tool that promotes active learning, self-discovery, and content comprehension for both role players and Observers if the learner objectives are clearly defined and the cases are challenging. The authors discussed the importance of adequate time, constructive feedback, and reflection for ideal learning outcomes in role play.

Role play is commonly used in communication training (Cauhan & Long, 2000; Magnani et al., 2002; Nikendei et al., 2003). Nikendei, et al. (2005), analyzed role play realism using pre- and post-interventions with an educational intervention. Specifically, the researchers tried to create more realistic skills training scenarios that could enhance students' involvement using case studies in four skills-lab sessions with enactment of the defined roles of interim doctor and senior consultant attending to a standardized patient or mannequin. Following the pilot study, a sample of 79 students from the sixth term of medical education volunteered to fill out the evaluation questionnaire for the study. According to the participating students, the content of the skills training was important for future professionalism and important for patient safety (67.5%

and 64.9% respectively) and that role playing and role playing with feedback were important tools for education (58.4% and 72.2% respectively). The researchers discovered that the sessions with role-playing were graded significantly higher than sessions without role-playing ( $p < 0.001$ ). The researchers concluded that simulative role-play is seen as a realistic, acceptable, feasible, and engaging method used in combination with traditional skills-lab activities for professional education. The authors encouraged further investigations of the effects and acceptability of role-playing and cautioned that more complex scenarios should be introduced later in the student's education allowing for a degree of security and experience attainment through skills training, role playing and professional practice.

Role play is used frequently as an educational method for learning communication in medicine (Drucquer & Cavendish, 2007; Nestel & Tierney, 2007). Lane & Rollnick (2007) completed a review of the literature through August 2005 to assess communication skills outcomes following training and whether the use of simulated real patients in training is likely to be superior to role play in terms of communication skill acquisition. They found a number of methodological weaknesses in the reviewed studies; hence, conclusions were difficult to draw. Nevertheless, one study directly compared the use of role play with simulated patients, finding no significant differences in outcomes between the two methods.

Drucquer & Cavendish (2007) evaluated a three month trainer-led role play simulation program in Canada. The program was for teaching six basic communication skills to general practice registrars. In this study, 23 participants took turns role playing the registrar/doctor and the trainer/patient in front of a group using emotionally charged topics like sexual health and six briefing sheets for the communication skills. Participants responded to introductory stems on role play communication sheets. After each role play implementation, debriefing ensued. At the

conclusion of the program, role play was evaluated through anonymous questionnaires including open ended response sections completed by the eight trainers and 15 registrars. Using thematic analysis, the results supported that the role play program was plausible, acceptable for demonstrating communication skills, useful for the six communication skills tested, beneficial for all participants, and important for providing an attitudinal shift towards the patient's perspective.

Nestel and Tierney (2007) analyzed students' prior and current experiences of role play simulations and produce guidelines for maximizing the benefits of role play for medical interviews. Using 284 novice first year undergraduate medical students (represents 88.8% of the cohort) from a communications program, a one day session was conducted. The one day session consisted of three mini sessions in which the rotated roles of interviewer, patient, and Observer were role played by each student in order to encourage students to adopt different perspectives likely needed for each role. The rotated role play mini sessions were structured, focused towards helping students develop competence in medical interviewing skills. Format included five minutes preparation for the assigned role, five minutes in role play, ten minutes for tutor feedback, a 'brief period' for student reflection, and concluded with encouragement to complete written reflections. Between each role play mini session, large groups convened and discussed issues that emerged from the role play enactment.

The researchers implemented pre/post role play session questionnaires concerning students prior experiences, if these were helpful (yes or no), and then asked to identify helpful and not helpful aspects of role play in free text. After the one day session concluded, students were asked to complete the same evaluation form. Qualitative data was thematically analyzed by both authors. In the pre-session questionnaire, 221 students (77.8%) stated that role-play was

valuable for learning and in the post-session questionnaire 274 students (96.5%) reported that role-play had been helpful for learning. In general, student's recommended improvement strategies for role-play focus on personal, educational, and organizational aspects. The unhelpful aspects of role-play included: insufficient time; inadequate opportunities for role-play enactment; unrealistic roles; lack of tutor enthusiasm and feedback; and working with known classmates.

In a physician's communication course, Lim, Oh, and Seet (2008) studied the usefulness of dual role play (doctor and patient roles) to identify perceived barriers to effective communication. Chinese ethnicity participants (20 men and 6 women, mean age 30.2 years) completed the anonymous survey administered before and after completion of each course after playing both roles within scripted scenarios. When comparing pre-course (6.23, SD 1.18) to post-course (7.58, SD 0.95) ten point confidence levels (1 = having no confidence and 10 = having no doubts) using Wilcoxon Signed Rank test, a significant result was noted ( $P = 0.001$ ). All respondents felt that they had benefited from the course and 24 (92.3%) deemed it useful to have role-played both the doctor and patient. The researchers acknowledged that increased confidence does not necessarily equate with improved performance, but the experiential nature of role play can be augmented by dual role play for better utility and empathetic experiences.

In a qualitative study of simulated consultation, Croix and Skelton (2009) analyzed how interruptions and the number of words are distributed in simulated consultations and if they correlate with set variables (gender, scenario) or the outcome variable (grade). After transcribing a stratified sample of 100 tapes of consultations between standardized patients and third year Medical students from Birmingham Medical School in 2003-2004, the authors noted the potential marker of conversational dominance. Upon reviewing the results, it was ascertained that standardized patients talk and interrupt significantly more than students. The number of



words is significantly and positively associated with examination grade and the number of student interruptions is significantly and positively associated with grade. Therefore, the authors concluded that standardized patients may have institutional power over the student. Conversely, role-played scenarios did not directly correlate with grade but the scenario being role-played significantly influenced the number of words spoken by each participant. Further research is warranted to better understand the implications of realism in conversational dominance within role play simulations using objective measurement tools.

Bosse, et. al (2010) studied student perspectives on acceptability, realism, and perceived effects of participating in parent-physician communication training using six-point Likert scales comparing role play to standardized patients. Using a blinded randomized control trial with 69 medical students in a four-week pediatric rotation, students who were assessed to have a pre-intervention finding of no significant group differences were randomly assigned to experience nine communication training sessions for the counseling of parents of sick children using either role play (N = 34) or standardized patients (N = 35). The results showed no significant findings for acceptability and realism of role play or standardized patients, but the perceived effects of participation in sessions with standardized patients were more significantly worthwhile for the students. Since training methods were perceived as useful, the authors concluded by pointing out that the value of role play warrants inclusion in medical curricula because it is a less expensive learning alternative than standardized patients, has potential to foster a greater appreciation of patient concerns, and facilitates the development of skills when compared to standardized patients.

**Role play with high-fidelity patient simulators in medicine.** Girzadas et al. (2009) analyzed the heart rate, self-perceived stress and learning value, and objective written test results

of participants in two high fidelity patient simulation scenarios. Since simulation scenarios seemed to provide realistic, stressful environments in which participants could increase clinical knowledge, the authors addressed whether or not the role a participant plays (team leader, procedure chief, or team member) affected the scenario outcomes in a prospective, randomized, cohort trial from a single US Midwestern level I medical center. In groups of three to five participants, 38 (from a total of 200) medical students or residents participated in the interactive, one day high-fidelity simulation workshop used for educational purposes only. The participating groups were familiar with simulation and were randomly assigned to a role with a typed card delineating their role. Participants rotated through two scenarios in a continuous fashion after providing written agreement to not disclose the scenario to any other participant.

Interestingly, Girzadas et al. (2009) found no significant differences among the different roles upon examination of heart rate changes during the procedure (Wilcoxon Signed Ranks test, one-way analysis of variance,  $P = 0.06$ ). Even though the self-reported learning value increased with self-reported stress levels ( $r_s = 0.37$ ,  $P = 0.01$ ), the role a participant played in a scenario had no effect on perceived learning value ( $P = 0.57$ ). On the post scenario objective test scores, no effect with role was seen on the final test score ( $P = 0.74$ ). The authors concluded that the results of their study support that participants may benefit from assigned role rotations in continuous simulations, but encouraged further research for more detailed findings.

**Role play in nursing education.** According to Billings and Halstead (2009) role play is “a dramatic approach in which individuals assume the roles of others; usually unscripted, spontaneous (or may be semi-structured) interactions that are observed by others for analysis and interpretation” (p. 254). Role play is considered to be an alternative assessment strategy in teaching (Billings & Halstead, 2009). Alternate assessment strategies in teaching are important in

order to potentially increase the evidence base for best practices as discussed by Chickering and Gamson (1987). Best teaching practices will contribute to the scholarship of teaching and ultimately the quality of education for nurses in the future. The future of nursing should integrate a variety of learning activities designed to achieve specific learning outcomes while taking into account the level of the student, essential competencies, the complexity of the desired learning, and the skill of faculty (Tanner, 2010).

As directed by Billings and Halstead (2009), the student should be informed of the concept to be role played and given time for creative expression. The content and process is assessed, not the performance, using a grading rubric. Grading rubrics facilitate faculty and/or student objective assessment and evaluation of student/peer learning objectives (formative) or outcomes (summative), critical thinking skills, psychomotor behaviors, and communication skills. If the purpose is to change attitudes and facilitate an understanding of an opposing belief, then role reversal is recommended. Upon termination of role play, all student participants should analyze what occurred, what feelings were generated, what insights were gained, why things happened as they did, and how the situation is related to reality. Role play provides a vehicle for students to: “(1) explore feelings; (2) gain insight into their abilities, values, and perceptions; (3) develop their problem-solving skills and attitudes; and (4) explore subject matter in different ways (Billings & Halstead, 2009, p. 426). Role play fosters affective, cognitive, psychomotor, and formative domains of learning (Billings & Halstead, 2009).

Role play varies according to time availability and the complexity of the situation. Role play is becoming an increasingly important teaching strategy for pattern recognition in the ever-changing health care environment because students will likely not have the opportunity in clinical settings to care for all types of patients or even experience course sentinel events prior to

graduation (Billings & Halstead, 2009). Role play in clinical scenarios provides an opportunity for students to try out new behaviors, simulate clinical health care, focus on interpersonal communication, and provide the opportunity to observe, evaluate, and provide feedback to one another (Bastable, 2008). Gaberson and Oermann (2007) noted role play is particularly appropriate for objectives related to building patient, peer, and health care provider interpersonal relationships. Each student benefits from the introspective process of self-reflection, including thinking in action and thinking on action during staging, role play action, and debriefing.

McKeachie and Svinicki (2006) suggest that a productive discussion following role play will include guiding the student as he/she learns about the actual process role played in the situation, variables considered or omitted, and how strategy variance impacts or could impact what was actually done or could have been done in the situation. This type of reflection enables problem-based student learning, which results in retention, application, and motivational outcomes generally superior to those in traditional methods of instruction. Stated simply, “If students are to learn how to think more effectively, they need to practice thinking” (p. 227). Role play is considered a valuable instructional resource, but the astute teacher must pause to ask, “Will this help my students learn more effectively” (p. 19).

As Lowenstein (2011) explained, role play is a versatile technique where the focus is on the actions of the characters and not on the acting ability. Role play is used to help learners develop decision-making and problem solving skills, increase interpersonal skills, increase cultural awareness, and engage in on-line educational learning. Clinical simulations incorporate role play. Role play offers learners an opportunity to become actively involved in the learning experience in a nonthreatening environment while the evaluating instructor’s role is “more passive, clarifying, and gently guiding” (p. 188). The role play situation should be familiar

enough so that learners can understand the roles and valid applicable responses, but it should not have too direct of a relationship to student's own personal problems. The evaluating instructor is responsible for helping students to avoid the negative effects that could come from exploration of feeling and behaviors in sensitive situations.

Role play is not limited to the classroom or laboratory, and it adds psychosocial, cultural, and/or political dimensions to the physiological simulated mannequin scenario. However, Ments (1999) suggested that role play is most effective in small groups, meaning less than 20 students. Role play is becoming a teaching strategy in online courses as well. As DeNeve and Hepner (1997) found in a study which compared student perceptions of role play to traditional lectures, the use of role play was more stimulating and valuable, increased student learning, and students reported remembering what they had learned.

Christiansen and Jensen (2008) completed a qualitative study, including a focus group and contextual analysis of 16 volunteer students from a pool of 144 Norwegian nursing students. The study addressed how students help each other cultivate caring and compassionate conduct for real-life challenging patients (such as those suffering from cancer, loss of relative, serious new health diagnosis, and so on). This study used four groups of students (one nurse, one nurse assistant, and two Observers) in peer learning role play. The researchers defined peer learning as defined as the use of formal role play in which students learn with and from each other without immediate teacher intervention; whereas role play is defined as a medium for building competencies that integrate knowledge, skills, and attitudes that will foster student abilities to use and retain particular skills effectively. This study supported that students negotiate to find skillful ways to handle challenging situations. Additionally, emotional dissonance, defined as a

resource for learning in which deep acting facilitates students' actual feelings, was noted as important.

**Role play with high-fidelity patient simulators in nursing.** Kesten (2011) studied role play using a standardized communication tool. Acknowledging that skilled communication and respectful interactions among health care team members is vital for quality patient care outcomes, the tool known as the SBAR (Situation, Background, Assessment, and Recommendation) was used to evaluate data gathered from a volunteer sample (N =115 of a total of 156 students) of private, university-based, traditional (n = 58) and second-degree (n = 57) senior nursing students. Specifically, this study was designed to determine whether the type of skilled communication instruction, Didactic versus Didactic plus Role Play, influences nursing students' knowledge of skilled communication and/or performance in simulated experiences.

Students were randomly assigned to the experimental group (didactic plus role play) or the control group (didactic only). The researcher examined differences in knowledge between the groups using a pretest-posttest design and differences in performance between the groups using a post-test only control group design. Study results on knowledge for all students revealed a statistically significant difference in mean change in knowledge as measured by paired sample *t* test analysis ( $t = 14.5$ ,  $p < 0.001$ ,  $ES -1.59$ ) (although no statistical significant differences between the groups were noted). Using a one-tailed *t* test to evaluate performance between groups, the results showed that the experimental group of didactic plus role-play students performed significantly higher than those who had didactic instruction alone ( $t = -2.6$ ,  $p = 0.005$ ,  $ES 0.56$ ). As summarized, nursing students who received role play instruction plus didactic instruction performed significantly better on skilled communication first observation.

**Observer role compared to other roles with high-fidelity patient simulators in nursing.** In the national, multi-site, multi-method hallmark study by Jeffries and Rizzolo (2006), the Phase III purpose was to evaluate role play in medical-surgical nursing courses (including the roles of Nurse 1, Nurse 2, significant other, and Observer) with students (N=403) working with a static mannequin or high fidelity patient simulator. Students participated in the activity as a regular course activity and were randomly assigned to one of the four assigned.

Prior to and after the simulation experiences the students completed self-evaluations based on the context of the learning situation using the research tools. Four study instruments were developed and/or modified and tested by the researchers during the project including: Cognitive Gain or Knowledge (compared two parallel forms of test scores from multiple choice NCLEX-RN type questions related to caring for a post-operative adult patient); the Student Satisfaction with Learning Scale (measured five different items of student self-perceived satisfaction related to the simulation activity); the Self-Confidence in Learning Using Simulations Scale (measured how confident students felt about the skills they practiced and their knowledge about caring for the simulation post-operative patient); and lastly, the Self-Perceived Judgment Performance Scale (measured higher order thinking of students during a performance, in which the higher the score the better the student perceived him/herself as performing appropriately and effectively within the simulation).

The two groups (students working with a static mannequin or students working with the high fidelity patient simulator) were given the same postoperative adult patient simulation, worked in groups of four, allotted 20 minutes to conduct the simulation, and followed the simulation experience with a 20-minute reflective thinking session. Among the conclusions of the Phase III, Part 2 study by Jeffries and Rizzolo (2006) was that overall students who worked

with high-fidelity patient simulators were more satisfied with the instructional method, reported greater confidence in their ability to care for an adult postoperative patient, perceived more active learning and diverse ways of learning, and rated active learning as the most important educational practice when compared to the other groups. Based on knowledge gain, confidence, satisfaction, and the roles assumed in simulation (Nurse 1, Nurse 2, significant other, and Observer), role assignment does not affect overall student learning outcomes. Interestingly, students who assumed the Observer role rated themselves significantly lower on judgment when caring for a postoperative adult patient when compared to those who assumed the Nurse 2 role. The authors noted that faculty is encouraged to provide students, in the role of the Observer, some form of structured assignment so they will be engaged in the collaborative work of simulation.

Smith-Stoner (2009) completed a qualitative study that incorporated role play in high-fidelity simulation to provide students with an opportunity to explore their own ideas about caring and death in dying patients. This study, known for the ‘Silver Hour’ model publication, stressed the importance of simulated death needing to fit the overall plan for achieving course objectives. Research tools from the National League of Nursing, the Simulation Design Scale and Education Practices in Simulation Scale, and a third tool, Concerns about Dying Scale, were used to analyze data. The simulation role play was set up with a nurse, nurse assistant, second instructor who assumed the role of the patients spouse, and two student Observers.

Although an evaluation of the outcomes used in this study remain ongoing, the researcher purported that overall students found this simulated role play design in death and dying to be a good learning experience. The author stressed that Observers should be “given meaningful assignments that require advance preparation and encourage involvement and critical thinking”



(p. 118). In this study the Observers guided observer activity assignment was to be completed during the simulation, including the topics of nursing process, care planning, documentation, patient safety, and student feedback.

In a recent HFPS descriptive study by Traynor, et al. (2010), the researchers introduced simulation to an undergraduate nursing curriculum in Northern Ireland in order to analyze developing confidence, proficiency, and patient safety. The study used a convenience sample (N=90) of third-year nursing students from a single institution. These students attended the simulations in groups of six for a 4-hour session over eight days rotating in specifically created simulation scenarios. Of the six students, two were required to work together on each scenario, two participated in the simulation ward setting, and four observed from the control room. Each session was concluded with a 20-minute debriefing session designed for the two students engaged in the bedside nursing care of the patient. The four Observer students were encouraged to share their assessment of their peers and openly discuss any issues from the scenario related to clinical skills, awareness, communication and team work. After the simulation session, students completed a 20-item questionnaire using a five point Likert scale on each item ranging from strongly agree to strongly disagree and then an open-ended question for detailed comments on their experience. The researchers found that for all the rotating role play students (N=90), HFPS helped develop their organizational skills (85.6%, n=77), facilitated the opportunity to test their clinical skills (97%, n = 87), was a useful way to test their diagnostic skills and clinical judgment (96.7%, n=87), increased their confidence by working through the scenarios (81%, n=73), provided a safe environment to manage patient care (5.6%, n=5), and that the scenarios were useful learning experiences (99%, n=89). In the qualitative data analysis portion of this study, the students perceived a difference in seeing and doing simulations, recognized the

importance of a sound base of knowledge for effective clinical judgment, recognized the value of delivering effective nursing care, and the benefits of a safe working environment.

### **Engaging the Observer Role in High-fidelity Patient Simulations, Similarities to Peer Assessment**

Peer assessment or peer review is not universally adopted in nursing education. Nurse educators are actually cautious in implementing peer review because it can cause untoward effects such as apprehension, insecurity, anxiety, and distrust (Morby & Sakalls, 2011). Interestingly, the American Nurses Association has supported the process of peer review for over two decades (ANA, 1998). In addition, many students ultimately encounter peer review in professional practice because of continuous quality improvement processes (Haines, et al, 2010), the World Health Organization (1993) stance that health education environments should promote outcomes of collaborative professional performance, and the American Nurses Credentialing Center (ANCC, 2008) requirement of peer review for Magnet status organizations.

The use of peer review by nurse educators is debated as a technique that can provide an enriching opportunity for students, including experiencing an aspect of professional nursing practice in a safe, controlled environment where mechanisms for coping and adaptation can be nurtured. In support of peer review, Hodges (2011) found that students are more likely to give their peers the benefit of the doubt than to rate them poorly. Some of the benefits of peer review include: promoting self-directed learning and professional practice, gaining critical appraisal skills, enhancing student responsibility in an interactive process, increasing student awareness of their personal biases, enhanced ability to be objective using developed standards or criteria, developing the ability to provide and receive constructive feedback, and become reflective practitioners (Boehm & Bonnel, 2010; Morby & Skalla, 2011). In this study the guided

observation activity would include questions to address that have similarities to peer review. The guided observation activity is designed to engage the Observer in the HFPS experience as the student assesses the active nursing care of the simulated patient. The purpose of the guided observer activity in this study is to explore whether or not this activity completed by the Observer student(s) during a HFPS is an engaging activity for the Observer student(s).

**State of the science of HFPS in nursing education.** Traditionally HFPS has focused upon active simulation roles (primary nurse, secondary nurse, and family members) with desired learning outcomes (Cant & Cooper, 2009). HFPS has evolved from simulated clinical experiences used to demonstrate competence in skill acquisition and assessment in a variety of disciplines (Nehring & Lashley, 2004) to a process of teaching students more comprehensive experiences for advanced-level applications in critical thinking, prioritization of care, and the ability to anticipate patient needs (Hawkins, Todd, & Manz, 2008). HFPS offers nurse educators opportunities to teach with a more student-centered, active learning approach needed for today's students (Hawkins, Todd, & Manz, 2008).

HFPS is widely used in nursing education, and it may assist students to apply knowledge to clinical contexts and narrow the 'know' and 'do' applications for nursing (Cant & Cooper, 2009). Cant & Cooper reported that HFPS is an effective teaching and learning method when best practices are adhered to. After a comprehensive literature search, the authors concluded that six studies in HFPS roles showed additional gains in knowledge, critical thinking ability, satisfaction or confidence compared to a control group in nursing with other teaching/learning method applications. However, Cant & Cooper stress that additional well-designed studies are needed to quantify simulation education outcomes for all participants. The co-authors Kaakinen & Arwood (2009) go on to explain that most nursing faculty approach simulation from a

teaching (what the educator provides the student in terms of goals, methods, objectives, and outcomes) rather than learning (processes by which the student changes skills, knowledge, and dispositions through a planned experience) paradigm. Thus, more research is needed to investigate the efficacy of simulation for improving student learning in simulated role play.

### **The Future of Role Play in Nursing**

While this study focuses on role play in high fidelity simulation, technologies are evolving that will expand role play teaching/learning opportunities. Role play simulations are commercially available and used on computers with effective instructional support and structure (McKeachie & Svinicki, 2006). Three common interactive learning environments are Second Life©, virtual platforms such as Fablusi™, and the virtual nursing lab of Duke (OpenReality Duke Nursing Virtual Lab, 2010). The chief advantage of games, simulations, and role play for any age is active participation. Computer games provide motivational features, including challenge, self-competence, curiosity, personal control, and fantasy. Students are encouraged to make decisions, solve problems, and react to the results of their decisions (McKeachie & Svinicki, 2006). Gaming environments and virtual worlds use role play as the central activity, but additional evaluative frameworks to assess their efficacy as an educational medium are needed (Imholz, n.d.). Riddle (2009) noted that online educational role plays engage students in teaching and learning and appears to be an improvement over basic didactic teaching strategies. Students tend to frequently ‘check-in,’ express emotional engagement, and demonstrate reflective personal identification with behaviors such as depression or substance abuse (Nelson & Blenkin, 2007). Online role play provides students with acting and doing opportunities as compared to simply reading and listening. The future of role play is to connect more students in

the professional learning moment while assessing the efficacy of designated outcomes. The limit is one's imagination.

### **Summary**

This chapter provided an extensive review of the literature on role play in high fidelity patient simulation. Role play is a flexible and effective educational learning tool. It provides opportunities for integration and engagement for learning outcomes (Billings & Halstead, 2009; Loui, 2009; Smith, 2009). Role play is used by diverse disciplines to make sense of theory, to gather together and apply concepts into a practical experience, and to build one's professionalism (Levitt & Adelman, 2010). In the field of nursing role play is known to foster affective, cognitive, psychomotor, and formative domains of learning and is commonly incorporated into the use of simulation. Role play is a teaching strategy that could increase the evidence base for best practices in simulation while contributing to the quality of education for nurses in the future using high-fidelity simulator outcomes in role play implementation. In essence, role play purports to help learners to see, comprehend a situation, and respond while '*walking in the shoes of someone else*' (Bastable, 2008).

As HFPS growth continues to supplement learning opportunities and meet clinical practicum requirements in nursing, it is important to research what students come to see, comprehend, and respond to implementing role play in HFPS experiences. While attention to broad role play in HFPS (primary nurse, secondary nurse, family members, and interdisciplinary professionals) was found in the literature, limited study of the Observer role was found. In the nursing discipline literature, discussions and/or findings for the Observer role in HFPS was found in only three articles.

Further research is needed to evaluate specific processes and outcomes that student Observers use in HFPS role play. The Observer is a recognized role in HFPS; the Observer participates in the experience from a distance; and, the Observer role can also be used to extend student numbers in HFPS. Therefore, it is important to better understand the Observer role as well as how to optimize the processes for engaging the Observer in HFPS. The focus of this research study was on exploring HFPS role play experiences as described by students in the Observer role.

## Chapter 3: Methods

### Introduction

This study provided information about the implementation of the Observer role in high fidelity role play simulation. The methodology presented in this chapter includes the detailed explanation of the plan for data collection and analysis and human subject's protection.

### Purpose and Research Questions

The purpose of this study was to examine the perceptions of nursing students who role play in HFPS, with particular attention to the Observer role. Using a descriptive, exploratory approach, the factors related to Observer role play and role enhancement were described including the Observer's perception/experience of completing guided observer activity. Additionally role play practice experiences will be compared among the primary, secondary, and Observer roles. The research questions for this study were:

- 1) What are the benefits or opportunities of the Observer role in high fidelity patient simulations?
- 2) What are the challenges of the Observer role in high fidelity patient simulations?
- 3) What are the Observer perceptions of the guided Observer activity as an engaging activity in high fidelity patient simulations?
- 4) In what ways does the Observer perceive clinical judgment (noticing, interpreting, responding, and reflecting) occur in high fidelity patient simulations?
- 5) How do perceived educational practices compare between the Observer and other roles (primary, secondary, and family members) in high fidelity patient simulations?

## **Design Overview**

Using a descriptive, exploratory approach, factors related to the Observer role in HFPS were described. Specifically, this study focused on the Observer's engagement in formative HFPS including: opportunities for enhancement of the Observer role, the perception/experience of completing guided observer activity, perceived clinical judgment, and perceived educational practices. This study approach was selected to answer the research questions because there is little research on student Observer role play in high fidelity patient simulation (Patton, 2002). Using normally scheduled course simulation experiences, qualitative data was gathered to address questions 1, 2, 3, and 4. This data provided richness of detail, concrete descriptions, and potential interpretations about meanings and the significance of the Observer role following naturalistic inquiry. In addition, quantitative data was gathered for question five. The intent of question 5 was to provide descriptive results comparing perceived student presence and importance of educational practice among various role (primary nurse, secondary nurse, and Observer) implementation in HFPS. Using an iterative, content analysis process, data was merged in the interpretation phase in order to better describe student perceived themes and patterns of Observer role implementation in HFPS.

In a normal, formative scheduled simulation experience, students were: orientated to the simulation experience (Appendix F); introduced to the study; randomly assigned to role play the primary nurse, secondary nurse, and Observer(s); informed of the study purpose, benefits and risks; and document informed consent if willing to participate in the study on the hard copy consent form provided (Appendix J). During the role play simulation experience, the Observers completed a simple guided observer activity. The guided observer activity was intended to operationalize an engaging activity in HFPS for the Observers as he/she completed a guided



observer activity of the simulated patients' nursing care. As a guided observation activity, with similarities to peer review, the student Observer's role was to document the performance of peers using standardized questions. As consistent with educational best practices, the simulations concluded with debriefing for all students. During debriefing the Observers had the opportunity to offer constructive feedback to the student HFPS team. Debriefing is a key component of learning in HFPS (Jeffries, 2007).

After the normally scheduled simulation experience concluded, all students were offered refreshments. Refreshments are often provided after routine simulations dependent upon faculty preferences, simulation purposes, and the timing of simulations. While refreshments were being offered, the researcher formally requested all students who consented to participate in the study to use available computers to access a secure site set up through the University Of Kansas School of Nursing to complete student demographics (Appendix L), the Hober Written Survey (Appendix M) and the Educational Practices in Simulation Scale (Jeffries - Student Version) (EPSS-S) (Appendix Q). Electronic documents were used because the participants were anticipated to be college aged tech savvy, informational students of the millennial" or "net" generation from two University simulation labs where computer access was readily available and incorporated with standard simulation operating functions. In addition, computer data input may also protect anonymity of respondents.

And lastly, the Observer from each simulation experience was asked to participate in an interview with the researcher using the Hober Qualitative Interview Prompts survey (Appendix N). Each interview took about 20 to 30 minutes. All interviews were completed following the simulation activity by one researcher for site one and by two researchers at site two. The Hober Qualitative Interview Prompts survey and the on-line Hober Written Survey addresses research

questions 1, 2, 3, and 4. Table 1 summarizes the research question, method of measurement, and method of data analysis.

Table 1

*Summary of Research Questions and Data Collection Methods*

| <i>Research Question</i>  | <i>Method of Measurement</i>  | <i>Data Analysis</i>         |
|---|---|------------------------------|
| 1) What are the benefits or opportunities of the Observer role in high fidelity patient simulations?  | Open-ended, semi-structured questionnaire using the Hober Qualitative Interview Prompts survey and the on-line Hober Written survey | Qualitative content analysis |
| 2) What are the challenges of the Observer role in high fidelity patient simulations?   | Open-ended, semi-structured questionnaire using the Hober Qualitative Interview Prompts survey and the on-line Hober Written survey | Qualitative content analysis |
| 3) What are the Observer perceptions as to the benefits of guided observer activity as an engaging activity in high fidelity patient simulations? | Open-ended, semi-structured questionnaire using the Hober Qualitative Interview Prompts survey                                      | Qualitative content analysis |

|   |   |                              |
|---|---|------------------------------|
| 4) In what ways does the Observer perceive clinical judgment (noticing, interpreting, responding, and reflecting) occur in high fidelity patient simulations?         | Open-ended, semi-structured questionnaire using the Hober Qualitative Interview Prompts survey and the on-line Hober Written survey | Qualitative content analysis |
| 5) How do perceived educational practices compare between the Observer and other roles (primary, secondary, and family members) in high fidelity patient simulations? | Educational Practices in Simulation Scale (Student Version) - (EPSS-S)  | Descriptive Statistics       |

By studying the Observer role in HFPS, nursing education will benefit from acquiring a better understanding of the benefits, challenges, engagement potential, and perceived clinical judgment outcomes of this role in HFPS. Since HFPS use involves augmenting clinical practicum learning and the Observer role is a recognized participant of the simulation experience, it is important to foster the full potential of the Observer role in the vicarious simulated learning experience so that multiple roles (primary nurse, secondary nurse, family member, interprofessional members, and Observers) have the opportunity to further develop professional practice.

## **Study Setting and Samples**

Data was collected from senior Baccalaureate degree students at two universities in Kansas, one site rural and one site urban, which actively use HFPS in the nursing department. Both nursing programs offer a four-year Baccalaureate of Science in nursing degree programs and are accredited by the Commission on Collegiate Nursing Education (CCNE), a division of the American Association of Colleges of Nursing. The simulation coordinators at each site were provided letters seeking their agreement to use the site for data collection. Approval for this study was obtained from the University of Kansas Medical Center (KUMC) Institutional Review Board (IRB) and the University of Fort Hays State University (FHSU) Institutional Review Board (IRB) prior to beginning data collection.

These two nursing sites were chosen because their nursing programs have simulation embedded in the curriculum and use a state-of-the-art simulation lab with computer-operated total body simulators who can talk, breathe, simulate a human heartbeat, and act out a number of real-life scenarios. Each site had the ability to video-record students during HFPS experiences for later review by students and faculty. Faculty could monitor students from a private control room where they could manage the patient simulator responses to student questions and nursing interventions. In this environment, students could safely develop their skills and concentrate on the patient care experience, as well as receive immediate feedback from faculty in preparation for nursing practice.

## **Sampling Plan**

This study used a purposive convenience sample of senior nursing students from two colleges in Kansas. Any nursing student participating in a normally scheduled simulation experience as the primary nurse, secondary nurse, Observer, family member, or interdisciplinary

professional that has reached the age of consent, was a senior, and had participated in HFPS at each site was eligible for the study. Each site had the potential for 30 to 60 student participants. This sampling procedure was selected to allow for the largest potential participant pool from each site for enhanced external validity (Shadish, et al., 2002). The sample size allowed for data saturation of qualitative research (Lincoln & Guba, 1985; Munhall, 2007) and provided for a rich sample of diverse participants to enhance transferability of the findings. Data saturation was considered as the point where a sense of closure was attained because new data yielded redundant information (Patton, 2002). Twenty-three Observer interviews were completed.

For the quantitative data collection of research question five, a priori power analysis determined that statistically significant relationships would exist between Observer roles perceptions of educational practices compared to the other roles (primary and secondary nurse) if a sample size of 40 participants was obtained for each group using the Independent Samples T-test (tests the difference in the mean scores of two independent groups when the independent variable is nominal and dependent variable is interval or ratio) with a Type I error rate of .05, Power of 0.95, and medium effect size of 0.25 (G\*Power 3.1.2, n.d; Polit, 2010). Power was not achieved in this study, so data obtained from the EPSS-S tool was a descriptive report only. In this study the participants who volunteered to complete the Hober on-line surveys and the EPSS-S tool from the two sites totaled fifty participants, consisting of twenty-three Observers and twenty-seven primary or secondary nurse participants.

### **Recruitment and Participants**

After approval was granted from KUMC and FHSU, the researcher proceeded to obtain official approval from each site to conduct research.

**E-mail notifications to participants.** The researcher communicated via e-mail and/or phone with the separate school simulation lab coordinators about this research study (Appendix G). The intent of the e-mail contact was to inform the simulation lab coordinator about the purpose, benefits, and risks of the study and also to formally introduce the researcher. The simulation lab coordinator was asked to identify dates for scheduled simulations for potential research study senior students, and after confirmation with the researcher and course instructor, forwarded those students an e-mail notification regarding this study (Appendix H). The forwarded student e-mails initially informed the students that during and/or following their normally scheduled simulation experience, a researcher was requesting their participation in a research study. This e-mail contained an electronic informative letter explaining broadly the purpose of the study, potential risks and benefits, participant requirements, and the option for non-participation without penalty of any kind (Appendix I). The e-mail provided an electronic version of the formal consent form to be used in this study for participant documentation (Appendix J).

**Simulated participant experience.** As part of the normally scheduled simulation, senior students were provided orientation to the simulation. Additionally they received information about the study and were given the opportunity to complete informed consent. After random role assignment which occurs normally in simulation experiences, the scheduled simulation proceeded.

The simulations of this study used senior level medical-surgical HFPS experiences with role implementation of a primary nurse, secondary nurse, and Observer. The primary nurse was the lead nurse assuming direct patient care for the simulated patient. The secondary nurse was an assistant nurse for the primary nurse and cared for the simulated patient under the direction of

the primary nurse. The Observer sat within two to four feet of the simulated patient in a chair and was able to openly view the simulation experience. During the simulation observation, and prior to the formal simulation debriefing, the Observers completed their simple guided observer activity forms. The researcher recorded simulation field notes.

The HFPS experiences lasted approximately 50 minutes at both sites, including pre-conference, the main simulation activity, and debriefing. During the refreshment break which followed debriefing, all participants were asked to complete study forms electronically, including the Hober Written Survey and the EPSS-S tool. The Observers were also invited to complete an interview with the researcher guided by the Hober Qualitative Interview Prompts. Table 2 summarizes the simulated participant experience.

Table 2

*Summary of the Simulation Experience for the Participant*

| <i>Purpose</i>   | <i>Occurrence</i>   | <i>Time Allotment</i> |
|--|---|-----------------------|
| 1) Study purpose and consent forms   | Prior to the beginning of the normally scheduled medical-surgical simulation experience | 10 minutes            |
| 2) Simulation experience “orientation” (usual practice)  |   |                       |
| 3) Random role assignment (usual practice)   |   |                       |
| 4) Observer(s) assessment of the main medical-surgical simulation experience using the simple guided observer activity | Given to the participant during orientation and initiated during the                    | 15 to 20 minutes      |

|   |  |                  |
|---|--|------------------|
| form  | simulation experience;<br>researcher requested hard<br>copy return |                  |
| 5) All students to complete the on-line participant demographics, Hober Written Survey and the EPSS-S tools | Refreshments stage<br>following debriefing                         | 10 to 15 minutes |
| 6) Observer(s) to complete the Hober Qualitative Interview Prompts with the researcher                      | Refreshments stage<br>following debriefing                         | 20 to 30 minutes |

### Data Collection

**Data collection instruments.** As appropriate in a new area of study, the researcher developed three of the four data collection instruments. The developed data collection surveys include the Hober demographics questionnaire (Appendix L), the Hober Written Survey (Appendix M), and the Hober Qualitative Interview Prompts (Appendix N) for the Observer interviews. In addition, the Hober Observer Guided Activity (Appendix O) was implemented as an engaging activity for the Observers during the simulation experience. The Hober Observer Guided Activity form has five questions designed to actively engage the Observer in the simulation experience using assessment data. The researcher developed the tools and guided observer activity form guided by the literature and professional experiences. Questions were peer reviewed by two nursing faculty with expertise in simulation and piloted with three students in previous years classes. In the pilot, the Hober Written Survey took 10 minutes to complete and



had nine completed answers whereas the Hober Qualitative Interview took 15 minutes to complete and had complete answers for all questions. These tools are described as follows:

- The Hober demographics questionnaire which has seven questions designed to gain background on all study participants;
- The Hober Written Survey which has ten questions designed to explore the simulated role play experience and clinical judgment perception of all participants in the simulation;
- The Hober Qualitative Interview Prompts which has ten questions designed to describe the benefits, challenges, experience, and recommendations of being the Observer.

The fourth data collection instrument for this study was a quantitative instrument. This tool is called the Educational Practices in Simulation Scale-Student Version (EPSS-S) developed by the National League for Nursing (NLN)/Laerdal joint research study for simulation in nursing educational practice assessments (Jeffries & Rizzolo, 2006) (Appendix P). The National League of Nursing granted the researcher permission to use the EPSS-S tool (Appendix Q). Finding no currently devised instrument in simulation for measuring educational practices in simulation, experts collaboratively created the instrument and implemented its' use in Phases II to IV of the study. The EPSS-S is a 16-item instrument using a five-point rating scale (5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2= Disagree, 1 = Strongly Disagree) for the presence of educational best practices. Summative scores range from 16 to 80. The importance of the educational practices is rated with a five-point scale (5 = Very Important, 4 = Important, 3 = Neutral, 2 = Somewhat Important, 1 = Not Important) with possible scores ranging from 16 to 80. Higher summative scores indicate a greater presence of the educational practices measured and a greater value placed on these practices by the learner. The EPSS-S took approximately seven minutes to complete.

The EPSS-S was designed to measure the presence and importance to the learner of best educational practices, which are based on Chickering and Gamson's (1987) research on best practices in undergraduate education. Ten nurse experts reviewed the instrument for content validity (Jeffries & Rizzolo, 2006). Construct validity was supported through factor analysis using data collected in Phase II of the NLN/Laerdal study. Internal consistency reliability for the presence of the educational practices was .86 using Cronbach's alpha and .91 for the importance placed on these practices (Jeffries & Rizzolo). For a newly developed instrument such as this one, these values were considered adequate (Ferketich, 1990). Internal consistency reliabilities for the individual scale components of active learning, collaboration, diverse ways of learning, and high expectations were not reported. Although no published reliabilities for the instrument is available, six studies reported using the instrument (Childs & Sepples, 2006; Dobbs, et al., 2006; Fountain & Alfred, 2009; Hoadley, 2009; Kardong-Edgren et al., 2008; Smith & Roehrs, 2009).

Table 3 provides an overview of internal consistency reliability findings for the EPSS-S tool components for this study. Site One had lower reliability scores than Site Two on both the presence and importance of educational practices at .87 and .88 respectively. These scores compared to .97 and .98 respectively at Site Two. The findings on the sites combined revealed that the presence component reliability for this study was .98 for all Observers as compared to .91 for all Nonobservers and the importance component reliability was .90 for all Observers as compared to .76 for all Nonobservers. In comparison to the NLN/Laerdal Study finding, this study sample had higher reliability scores on the presence of educational practices (.95 as compared to .86) and lower on the reliability score for the importance of educational practices

(.84 as compared to .91). Overall, the internal consistency reliability findings for the Hober study were considered adequate since all scores met or exceeded .70 (Ferketich, 1990).

Table 3

*Comparison of Cronbach Alpha's for Educational Practices in Simulation Scale (Student Version) (EPSS-S).*

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| Educational Practices in Simulation Scale (Student Version) |                               |                                 |
|---|-------------------------------|---------------------------------|
|   | <u>Presence Reliabilities</u> | <u>Importance Reliabilities</u> |
| Site One (n = 22)   | .87                           | .88                             |
| Site Two (n = 27)   | .96                           | .94                             |
| Observers (n = 16)  | .98                           | .90                             |
| Nonobservers (n = 33)                                       | .91                           | .76                             |
| Total Sample (n = 49)                                       | .95                           | .84                             |
| NLN/Laerdal<br>Study  | .86                           | .91                             |

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Note. One participant, being a Nonobserver, did not complete the EPSS-S tool from Site One

**Data collection procedures.** Before the normally scheduled simulation experience ensued a hard copy of the consent form was passed out and then collected by willing study participants. Emphasis was made on the confidential nature of all data collected and that this study was in no way associated with the students' course work or grades. Additionally, it was stressed that only aggregated, de-identified data would be reported. Students were reminded that an electronic informative letter was made available via e-mail providing researcher contact information. A copy of the consent form was also provided to the student for personal record

keeping. During the simulation, the simple guided observer activity form was completed and collected from willing Observers. Of those students willing to participate in this research study, an appropriate website link was accessed to complete the demographic data, the Hober Written Survey, and the EPSS-S tool.

Following the completion of the simulation, the data collection procedures included the Observer interview using the Hober Qualitative Interview Prompts in a private room within walking distance of the simulation center. The open ended 20 to 30 minute interviews were audio taped and conducted in person with the same researcher by all but three participants. The faculty investigator conducted the last three interviews at Site Two. Each audio taped, verbatim transcribed interview was conducted on a one to one basis, meaning the researcher and the student Observer. Since the researcher is faculty at one of the schools, volunteerism and confidentiality was stressed to potential participants. The right of the Observer to drop out of the research study without retribution was reiterated at the beginning of the interview. In addition, strict confidentiality of all conversations was stressed and that the session was tape recorded for qualitative data analysis only. The Observers were informed that the only person who would listen to the tape recorded sessions was the researcher transcribing the interviews verbatim for qualitative content analysis.

### **Data Management**

All willing participants were given a copy of the consent form. Those participants completed electronic versions of the demographics, the Hober Written Survey, and the EPSS-S tool data via a secure KUMC internet website from the University of Kansas School of Nursing (KUSON) network. After the research participant data was collected at each site, a faculty member from KUSON converted it into an excel file and then sent it to the researcher and

faculty advisor using KUMC Secure Files. All data was stored on password protected computers. The data was initially linked to subjects using a random personal identification of the participants choosing. Upon transcribing the interviews, each participant was coded with consecutive numerical number and with an alphabetical name from A to W to facilitate interview analysis. The researcher recoded the participants to maintain confidentiality of the participants and also to allow the data to be studied for qualitative content analysis.

Once the taped recorded interviews were transcribed verbatim, all tape recordings were destroyed. The typed, recoded interviews were sent to the peer doctoral educator and faculty advisor from the researcher using Kansas University Medical Center (KUMC) Secure Files© for content analysis. These interviews were stored in electronic format on the three password protected computers of the researcher, peer doctoral educator, and faculty advisor during content analysis for this study. Following content analysis completion, all electronic versions of the interviews were destroyed. The researcher has a hard copy of the interviews stored in a fireproof, locked safe. After five years of storage, these files will also be destroyed.

### **Data Analysis**

Analysis of the qualitative and quantitative data is described in detail below. Qualitative content analysis using naturalistic inquiry was implemented for research questions 1 to 4. In order to analyze the data and research question 5, the Statistical Package for the Social Sciences, called IBM SPSS Version 19.0 (SPSS, 2010), was used. Data cleaning to check for errors in data entry was performed prior to analysis. The percent of data missing was determined, and no missing data management modifications were necessary (Polit, 2010).

**Demographic information.** Descriptive statistics for the student samples were calculated using data from the demographic questionnaires (Appendix L). An item on the demographic

questionnaire identified the participant's college so that descriptive statistics for each college could be determined.

**Research questions# 1, 2, 3 and 4.** In completing these five questions, the researcher adhered to the overall phases of qualitative data analysis as described by Marshall and Rossman (2006) using naturalistic inquiry. Qualitative data consisted of: 1) transcribed interviews, and 2) written Hober survey responses. Initially these data were reviewed separately. This study emerged through organizing the data, immersion in the data, generating categories and themes, developing beginning interpretations, seeking alternative explanations, and writing the report. The researcher cycled through each of these phases in a deliberate, reflexive and iterative manner so that intentional data reduction took place as the researcher found the meaning in the participants' responses (Marshall & Rossman).

Qualitative content analysis does not require nor preclude quantification, while allowing for immersion in the data (Elo & Kyngas, 2008). An inductive perspective focused the search for meaning at the unit (person) level, while incorporating constant comparison of manifest (visible or obvious components of the data such as the specific words a participant uses) and latent information (focusing on the underlying meaning of the words such as body language or tone of voice) provided by the interview transcripts and researcher field notes (Graneheim & Lundman, 2004). Elo & Kyngas (2008) noted six steps for content analysis: preparation, open coding, development of coding sheets or book, grouping, categorization, and abstraction process. The researcher followed these six steps to complete the content analysis of the data utilizing triangulation methods and data saturation to ensure the validity of study findings. In the end, the open-ended, semi-structured qualitative interview data was manually coded and analyzed in

order to discover major themes and patterns related to the student perceptions of HFPS roles with focus on the Observer role.

Specifically content analysis in this study included peer and faculty advisor debriefing, systematic audit trails, and iterative processes. Using recoded typed interviews sent out by the researcher via KUMC Secure Files©, the three group members, consisting of the researcher, peer doctoral educator, and faculty advisor, worked independently and then collectively to complete content analysis. The three group members met twice weekly via Adobe Connect© and/or the telephone to discuss interpretations and preliminary interview meanings. To facilitate formal group meetings the researcher developed Observer Tables, sometimes referenced as Observer Cliff Notes, which were intended to capture the essence of how students described the Observer role in HFPS using key words and/or interview line numbers (Appendix R). These tables were consistently used to facilitate group discussions for all Observer interviews. In group meetings all members discussed their professional insights into the interviews, fostering an inductive process for manifest and latent content. For example, initial meanings from the descriptive interview data were captured with simple classifications, such as confidence (the Observer described self-assurance in his/her role when the primary nurse appeared assured), coaching (Observers' described wanting to redirect the simulation team on activity mishaps) and confusion (Observers described a lack of awareness of his/her duties in the simulation).

Using Adobe Connect©, the telephone, and/or e-mail the three group members developed and shared de-identified data codes, groups, and categorizations for a more iterative review of the qualitative data. All group members synthesized data findings for audit trails throughout the process. Over a ten week timeframe, themes and specific passages were identified for inclusion in the narrative with thick, rich description. Synthesized data was further appraised and refined

following reflection by all group members. The researcher then completed a secondary investigation of the themes and categories for each interview. This process entailed documenting the interview data by line number(s) with the meaning of each theme for concise descriptive data from each Observer interview. The researcher then moved forward with the qualitative data analysis of the Hober survey data. This data served to supplement the qualitative findings of the interview data after comparison and contrast ensued by the researcher and peer doctoral educator. These summative findings are reported in chapter four.

**Research question #5.** Descriptive statistics were used to analyze the data from the EPSS-S instrument. Scores from the tool examined the degree to which all of the student participants perceived the presence and importance of educational practices in his or her randomly assigned role (including the primary nurse, secondary nurse, or Observer.). The higher the mean summative score the greater degree of perception of the presence and importance of educational practices in that randomly assigned role. The purpose of this evaluation was to compare and contrast the various role educational practice perceptions, of the students, for further role meaning distinctions and congruencies (Creswell & Plano Clark, 2007). As Jeffries (2005) stated, the educational practices of the EPSS-S were drawn from Chickering and Gamson's (1987) best practices in undergraduate education. Therefore the scores on the EPSS-S instrument indicated the student participants' perceptions of the presence and importance of educational best practices in HFPS role play in the randomly assigned roles. To reiterate, power was not met in this study; the data reported from the EPSS-S tool is descriptive.



### **Trustworthiness of Qualitative Data**

The trustworthiness of all qualitative data analysis was evaluated according to Lincoln and Guba's (1985) criteria of credibility, dependability, confirmability, transferability, and authenticity. There were several acceptable methods used to demonstrate each criterion.

Prolonged engagement, persistent observation, triangulation, and peer debriefing are accepted ways to support credibility (Lincoln & Guba, 1985). In preparation for this study, the researcher spent five years studying the phenomenon of HFPS by implementing it in her nursing faculty position, serving on the Simulation Task Force of the nursing department dedicated to fostering simulation use in the department, and attending continuing education conferences about simulation from local, regional and national arenas. The researcher has observed and conducted numerous full scale HFPS experiences with nursing students at a four year Bachelor of Science School of Nursing with junior and senior students for formative and summative purposes. The researcher has also implemented and evaluated simulation experiences with nursing students in two courses she taught starting five years ago, one for juniors and the second for seniors, and continues to teach in these courses intermittently. The researcher has also published one article on simulation, titled "Simulation Development: The Simmons' Family" (Hober, Manry, & Connelly, 2009). This prolonged period of engagement as described contributes to the credibility of this study because the researcher has learned and will continue to learn more about the context of HFPS role play from which the qualitative data was generated (Lincoln & Guba).

During the research study, the researcher personally attended the HFPS role play experiences to gather field notes and complete the Observer interviews. It is believed that being present at the role play HFPS experiences was a form of persistent observation and participation, aiding in the credibility, dependability, confirmability, transferability, and authenticity of the

study findings (Lincoln & Guba, 1985). The researcher's notes from these experiences assisted the researcher in determining salient themes and patterns during data analysis. The researcher used triangulation in the study by reviewing written survey data, asking all Observers the open-ended survey questions, comparing their different perceptions about Observer role play in HFPS, completing on-going content analysis with a peer doctoral educator and faculty advisor, and returning to confirm the research study findings with all willing and available students from site one.

Dependability for this study was supported through the researcher's audit trail, depicting the reasoning and methods used by the researcher during the study (Patton, 2002). The researcher kept track of the research process through her field notes on how decisions were made for the coding and analysis of the data into preliminary and final themes, and the emerging interpretations to their final form. For example, ongoing tables and excel sheets were developed. During the data analysis the researcher, peer doctoral educator, and faculty advisor met using Adobe Connect © and the telephone to discuss the themes found in the data. Peer debriefing with a doctoral educator and reflexive journaling were used to help the researcher stay aware of her own biases in terms of the meaning of the data and the processes used for analyzing the data. Peer and faculty advisor debriefing also served as a safe guard mechanism to assist the researcher in seeing other perspectives in the data and to provide encouragement to the researcher during the analysis process.

Confirmability added to the trustworthiness of the qualitative research by tying together the data collected with the researcher's interpretation and discussing these findings with willing Observers at site one. The researcher maintained a reflective journal as part of the audit trail. Triangulation and member checking were also used in this study, further contributing to

confirmability. The researcher initially completed member checking at the end of each Observer interview. Member checking also occurred a second time, in which the researcher met with all willing and available students from site one at the end of a normally scheduled theory class period in order to present the qualitative themes and categories and encourage student discussions regarding the findings. As Lincoln and Guba (1985) suggested, describing the data in this manner allows readers to judge the transferability of the results, thus contributing to trustworthiness of the study. Table 4 provides a summary of the trustworthiness strategies of this study.

Table 4

*Summary of the Qualitative Trustworthiness Strategies for this Study (Lincoln & Guba, 1985)*

| <i>Criteria:</i>                                   | <i>Dependability</i> | <i>Confirmability</i> | <i>Transferability</i> | <i>Credibility</i> | <i>Authenticity</i> |
|--|----------------------|-----------------------|------------------------|--------------------|---------------------|
| <b>Strategy:</b>                                   |                      |                       |                        |                    |                     |
| <b>Reflexivity/<br/>Reflective<br/>journaling</b>  |                      |                       |                        | X                  | X                   |
| <b>Careful<br/>documentation;<br/>audit trail</b>  | X                    | X                     |                        | X                  |                     |
| <b>Prolonged<br/>engagement</b>                    |                      |                       |                        | X                  | X                   |
| <b>Persistent<br/>Observation</b>                  | X                    | X                     | X                      | X                  | X                   |
| <b>Comprehensive<br/>field notes</b>               | X                    |                       | X                      | X                  |                     |
| <b>Audiotaping;<br/>verbatim<br/>transcription</b> |                      | X                     |                        | X                  | X                   |

|  |   |   |   |   |   |
|--|---|---|---|---|---|
| <b>Triangulation<br/>(data method;<br/>investigator/peer<br/>debriefing)</b> | X | X |   | X | X |
| <b>Data saturation</b>   |   |   | X | X |   |
| <b>Member<br/>checking</b>   | X | X |   | X | X |

### **Ethical Considerations**

Prior to beginning data collection, the researcher completed the University of Kansas Medical Center Tutorial for Human Subjects Protection and the University of Kansas Medical Center Tutorial for HIPPA. These training programs informed the researcher of the responsibilities incurred by the principles of ethical research conduct to promote the welfare of research participants, to practice confidentiality regarding participants, and to uphold legal and ethical requirements related to protected health care information.

All data was collected and maintained in a secure manner. Vigilant data analysis ensuring authenticity and confidentiality was maintained. Data stored in computer files was password protected. Hard copy data is being stored in the security of KUMC with the faculty advisor. All data will be destroyed after five years of storage. As previously noted, one of the researchers is faculty at one of the two schools where the purposive sample of participants was obtained. The researcher was mindful of the need to address with students the researcher's ethical responsibility to maintain anonymity of the data.

There were no risks or direct benefits to study participants. Indirectly, students may have accrued a deeper understanding of clinical judgment, guided observer activity, and become more comfortable with role play in HFPS. The student may also see the benefit of various roles in HFPS, including the Observer role. Potential student participants received an informative letter

via e-mail explaining the purpose of the study and had the opportunity to have their questions answered prior to agreeing to participate in the study. This letter provided contact information for the student should he or she need to contact the researcher for any reason including to opt out of the research study at any time in the future. Students were verbally informed that participation in the study was in no way connected to their nursing program courses and any information they provide was confidential and not accessible by any of their nursing faculty. Students also received a copy of their signed consent form for personal record keeping.

### **Summary**

Chapter Three has summarized the methodologies used in completing this study. High fidelity patient simulation (HFPS) is a clinical model being adopted in nursing education to give nursing students experience with the critical thinking and decision making required to provide high quality care to patients with complex health care needs. Early research in this area shows that students are satisfied with and more confident after simulation experiences. However, little research is available on role play in HFPS, specifically focused upon the Observer role. The purpose of this study was to describe the perceptions of the Observer role in HFPS.

Using a descriptive, exploratory, approach, factors related to the Observer role were described including role enhancement, the perception/experience of completing guided observer activity, clinical judgment, and educational practice presence and importance outcomes. The student participant sample consisted of senior students from two Midwestern United States Baccalaureate of Nursing Science accredited schools that openly purport HFPS use in their nursing curriculum and practicum experiences. To facilitate participation in the study, each site's simulation center coordinator alerted potential student participants via e-mail about the opportunity to participate in this study. The selected sample participants for this study have

participated in a HFPS in the past and did participate in a normally scheduled simulation role play experience for a nursing course. Appropriate IRB approvals were secured prior to beginning the study. Equally important, student participant consented by signing the research study consent form(s) and provided implied consent by accessing the online link for the demographic questionnaire and the EPSS-S instrument for data collection.

The qualitative data was examined through a rigorous iterative content analysis process in order to find patterns and themes in the data from student participants. Quantitative descriptive summative data from the EPSS-S tool was analyzed using IBM SPSS 19.0 in an attempt to determine student participants' perceptions of the importance and presence of educational best practices of the primary nurse, secondary nurse, and Observer roles. Study findings were compared to the current literature. The study's methodology presented in this chapter included the detailed explanation of the plan for data collection and analysis followed by human subject's protection.

## **Chapter Four: Results**

The purpose of this study was to examine the perceptions of nursing students who role play in HFPS with emphasis on the Observer role. Specifically, this study focused on the Observer's engagement in formative HFPS including: opportunities for enhancement of the Observer role, the perception/experience of completing a guided observer activity, perceived clinical judgment, and perceived educational practices. Descriptive data compared the Observer role to the Nonobserver roles of the primary and secondary nurses' in HFPS. The research questions were answered using a descriptive, exploratory approach with rigorous attention to the standards of descriptive qualitative research methods. The samples of participants from the two sites and the descriptive findings of the research questions are described in this chapter and summarized at the end of the chapter.

### **Sample Characteristics**

The final sample size for this study was 50 nursing students (Appendix U). The participants in this study were from either site one (n = 23), a rural University in Kansas, or site two (n = 27), an urban University in Kansas. Sample demographics for age, gender, and race characteristics are provided in Table 2. The participants from both sites were primarily in the age range of 18 to 23 years old, consisting of 20 (87%) participants from site one and 19 (76%) participants from site two. Further age differences are noted in Table 5 with site two having more older students. In examining the mean ages between the two sites, there were no significant differences.

Table 5

*Participant Age, Gender & Race Characteristics from Site 1 (N=23) and Site 2 (N=27).*

|                                | <i>Site 1</i><br>Frequency (Percentage) | <i>Site 2</i><br>Frequency (Percentage) |
|--------------------------------|---|---|
| Age                            |   |   |
| 18-23                          | 20(87)                                  | 19(76)                                  |
| 24-29                          | 3(13)                                   | 4(12)                                   |
| 30-38                          | 0                                       | 2(6)                                    |
| 39-53                          | 0                                       | 2(6)                                    |
| Mean Age (Standard Deviation)* | 22.52(1.08)                             | 25.11(7.51)                             |
| Gender                         |   |   |
| Male                           | 1(4)                                    | 1(4)                                    |
| Female                         | 22(96)                                  | 25(92)                                  |
| Missing data                   | 0                                       | 1(4)                                    |
| Race                           |   |   |
| Black or African American      | 1(4)                                    | 0                                       |
| White or Caucasian             | 22(96)                                  | 26(96)                                  |
| Asian                          | 0(0)                                    | 1(4)                                    |

Note. \* No significant Independent Samples T-test differences between Site 1 and Site 2 age demographics.

The study sample composition was also similar in comparison of gender and race at the two sites. The participants from both sites were mostly female, totaling 22 (96%) at site one and 25(92%) at site two. The participant race was primarily Caucasian with one African American at site one and one Asian at site two.

Three questions on the Hober Survey addressed participant's experiences with HFPS. The number of participant simulation experiences at each site were compared as presented in Table 5. Student participants from site two reported more high-fidelity patient simulation experiences in their nursing school education compared to site one. The participants from site



two also reported higher satisfaction experiences with past simulations compared to site one.

These differences were significant ( $p < .05$ ).

Table 6

*Participant Simulation Experience Characteristics from Site 1 (N=23) and Site 2 (N=27).*

|   | <i>Site 1</i><br>Frequency (Percentage) | <i>Site 2</i><br>Frequency (Percentage) |
|---|---|---|
| Number of high-fidelity simulation experiences involved in during your nursing education? |   |   |
| 0-2   | 16(70)                                  | 2(8)                                    |
| 3-5   | 7(30)                                   | 7(26)                                   |
| 6-10  | 0                                       | 17(62)                                  |
| 11-15   | 0                                       | 1(4)                                    |
| Mean (Standard Deviation) **  | 1.91(1.31)                              | 6.78(2.79)                              |
| Comfort level with high fidelity simulation in educational settings?                      |   |   |
| Low (1)   | 3(13)                                   | 1(4)                                    |
| (2)   | 20(87)                                  | 21(78)                                  |
| High (3)  | 0                                       | 5(18)                                   |
| Mean (Standard Deviation) **  | 1.87(0.34)                              | 2.11(0.42)                              |
| Satisfaction with past simulation experiences:  |   |   |
| Dissatisfied (1)  | 1(4)                                    | 0                                       |
| (2)   | 1(4)                                    | 0                                       |
| (3)   | 9(40)                                   | 2(8)                                    |
| (4)   | 9(40)                                   | 12(44)                                  |
| Satisfied (5)   | 3(12)                                   | 13(48)                                  |
| Mean (Standard Deviation) **  | 3.39(1.08)                              | 4.41(0.64)                              |

Note. \*\* Significant Independent Samples T-Test differences between Site 1 and Site 2 at  $p < .05$

In summary, the site participants were equivalent as evidenced by age, having a mean age of twenty-two at site one and twenty-five at site two. Additionally, the majority of participants

from both sites were Caucasian females. In contrast, the site participants had differences in simulation experiences. Specifically, the findings demonstrate that site two had participants that were more experienced with simulation, had more comfort level with HFPS in their educational setting, and higher satisfaction ratings with past simulation experiences.

### **Simulation Activity Characteristics at Site One and Site Two**

A simulation circle is the process of the simulation experience from orientation to debriefing (Jeffries, 2007). In this study, a normal simulation circle was noted at both sites and a few specific details about the simulations are noteworthy. Both sites used a format called Situation, Background, Assessment, and Response-SBAR (Kesten, 2011) during pre-conference. The sites added random role assignment (specifically to the role of primary nurse, secondary nurse, or Observer) to orientation as prescribed by the researcher. The simulations used critical care medical-surgical simulation activities for each respective site (Appendix S for Site One and Appendix T for Site Two) and the combined simulation orientation, main activity and debriefing lasted approximately 50 minutes at both sites. The simulations required the Observer to sit in a chair with his/her clip board, Hober Guided Observer Activity Sheet, and pen off to the side of the simulated patient during the simulation activity. Upon completion of the simulation main activity, many Observers requested a time-out period before entering into debriefing. This time-out was described in the interviews and identified to be a time for 'self-closure' commonly used in role play (Appendix E).

The simulation sites had some variations. At site one the students were required to complete only a pre-simulation preparation assignment. The assigned course instructors did not directly participate in the simulation; instead, the simulation activity was facilitated by the simulation lab technician, including orientation, the patient simulator controls during the

simulation main event, and debriefing. The students received their simulation preparation materials using e-mail three days prior to the experience. All simulation teams could have included the roles of a primary nurse, secondary nurse, and Observer, although all but two teams included only the primary nurse and Observer roles due to instructor preference and student class size. All thirteen audio taped interviews were conducted by one researcher.

Site two offered the formative critical care simulation activity with the respective student clinical instructors who directly participated in the activity four-fold: as the voice of the simulated patient; to monitor the simulation activities; to facilitate debriefing; and to credit post simulation student required paperwork. Students received the simulation preparation via e-mail one week prior to the experience. The simulation teams were more evenly dispersed to include the roles of a primary nurse, secondary nurse and observer according to instructor preference and student class size. Seven of the audio taped interviews were conducted by the same researcher as site one for day one and then a second researcher on day two for the last three interviews.

### **Qualitative Findings and Response to Research Questions**

In this section, qualitative findings from participant interviews and the online data (Hober Written Survey) are reported as well as responses to the Educational Practices in Simulation Scale – Student Version (EPSS-S). This section begins with an overview, or introduction, of the qualitative interview findings and then proceeds to discuss findings within each research question. Each of the four research questions are presented with the applicable themes and categories in order to further describe the rich qualitative interview findings.

**Overview of qualitative interview themes.** Qualitative interview data were analyzed following naturalistic inquiry. The researcher, peer doctoral educator, and faculty advisor used an iterative process to capture the participant's perception of the Observer role in HFPS. On a

steady and consistent basis over two months, the interviews were studied intently to try to understand the latent and manifest content of the Observer descriptions. While maintaining notes, the researcher, peer doctoral educator, and faculty advisor read through the interviews separately and then collectively, highlighting key passages or phrases. These sections were discussed in virtual meetings and/or on the phone using peer debriefing in an attempt to capture the true meaning of the Observer role as explained by these participants.

Additionally to assist in identifying the themes and categories, each week the researcher summarized the interviews by key meanings and rich passages. These were referred to as the Hober Cliff Notes (Appendix R). These key meanings and passages were collated and then grouped together in a systematic, yet iterative, fashion. Initial themes were identified, but refinements ensued as the interviews were studied. After the eighth interview, many key meanings and passages began reiterating findings of previous interviews, providing evidence of data saturation. For example, in what was eventually identified as the first theme, Observers described repeatedly being able to monitor peers' actions in the HFPS. They reported that once they realized they would be Observers, the stress of the actual simulation was reduced. As one Observer explained, "I think it helped me learn a little bit more. When you're the one actually doing it you kind of panic, but when you are just sitting back and watching it, it just helps you learn what you really should do." Thus, theme one was delineated as follows.

The first theme was *Conceptualizing the learning experience*. This theme captures the participants' ability to analyze the simulation performance of peers. The three categories within this theme were: (a) Minimizing the Stress for Applied Learning; (b) Collecting Data and Thoughts; and (c) Contemplating/ Calculating (Appendix U). For example, the first category, Minimizing the Stress for Applied Learning, was distinctive in that the Observers reported a

release of ‘stage tension or stress’ after realizing the camera would be focused on peers in the simulation experience rather than themselves. In this study the Observers reported becoming engaged in the Observer role; they reported, assessing and evaluating their peers’ interventions and outcomes during the simulation.

The second theme that emerged from the data was *Capturing the big picture*. The second theme was distinctive in that it encompasses the participants’ comprehensive grasp of the simulation experience from their unique point of view. The three categories within this theme were: (a) Increasing Confidence in Thinking; (b) Gaining a Different Point of View; and (c) Concluding/ Confirming (Appendix V). The theme emerged as the research team identified that the Observers described the ability to understand what the simulation was teaching them. The Observers reported taking ownership of the simulation, and describing what they would have done as the simulation evolved. “In the Observer role, it allows you to become prepared for the simulation activities and then at the same time look at it from a more broader aspect . . . instead of just doing it and focusing on the patient and the patient’s environment.” Many Observers explained that it was like watching television, and that the onlooker could know what to do even though not acting in the simulation. For example, within the category Increasing Confidence in Thinking, Observers reported sharing their insights into the simulation experience, including what they would do as the primary nurse caring for the simulated patient. Hypothetical nursing care included anticipating patient care, meaning what should be completed next or what was missing from the simulation.

The third theme that emerged was *Connecting with the team*. This theme emerged as the Observers stressed that they needed to once again communicate with the simulation team in a way that they could assist the team. Theme Three was unique in that it created the participants’

means or “bridge” for verbal and nonverbal communication with the simulation team. Observers stressed the importance of their presence, voice, gestures, and sharing analyses in the pre-conference; the main simulation; and debriefing; they most emphasized their role in debriefing. As one Observer explained, debriefing provided a time when the Observer role could educate the team on the “pros and cons” of the experience.

As described the Observers wanted to review with the simulation team what was done and then offer support for improved patient care: “The Observer role is better when one can speak up or when that person takes notes followed by debriefing and talking to them about this and what about that.” In this theme, Observers wanted to be an active voice in the simulation again, and they seemed to want to cue the simulation team to prevent an oversight or short coming in patient care. The two categories within this theme were: (a) Communicating; and (b) Consulting (Appendix V).

In summary, the interviews revealed that the participant’s perceived the Observer role to foster learning and team involvement. The Observers’ perceptions of their role, delineated with thick narrative within the categories of the themes, were described. The three themes emerging from this study were *Conceptualizing the learning experience*, *Capturing the big picture*, and *Connecting with the team* (Appendix V). In the following research questions 1 to 4, the theme categories are further described. At the conclusion of each research question, the categories that assist in answering the specific research question are further described, under the heading Further Theme Analysis for Descriptive Explication, to interconnect the research findings.

**Research question one.** The first research question was what are the benefits or opportunities of the Observer role in high fidelity simulations? Findings from the qualitative interviews of twenty-three participants revealed collectively that the role of the Observer gave

students an occasion to experience the simulation learning situation from a unique locus.

Participants explained one benefit of the role similar to this Observer,

Um, well I think it [the Observer role] is a good experience in the simulated situations just because you get to see other peoples thought process and you can be, can be thinking to yourself what you would be doing while seeing what they are doing. Then you see if they did a better thing or you if you think one thing is better than another. It is like you can compare and see what (laughs) or gain knowledge or maybe note something that you were not aware of. You can learn that from them doing it.

The student participants explained in the interview that they felt like they learned, but with less 'stress' than what is experienced in an active bedside patient care role such as the primary nurse or secondary nurse(s). Most Observers emphasized the same points repeatedly, starting with the first Observers' interview, as she explained, "Well instead of freaking out trying to figure out as a nurse what I would do, I got to relax and think about what I would do." Another Observer vividly described the craziness of being a nurse and how as the Observer you can actually visualize the experience:

Seeing firsthand how physical it can be for a nurse is shocking. You know what it is like to be the one put in that situation um because we are in it ever so often but being able to sit back and see it firsthand just seems to add a little bit more to just how sick he [the patient] really is. Because when you are in the moment it might not seem so crazy. Well it might seem crazy but not as crazy as when you sit back and can actually see it.

The majority of Observers went on to explain that another benefit of the role is being able to stay composed in these critical simulation experiences because composure is central to being able to better assess your patient and intervene to meet their holistic needs. The Observer role seemed to help the students focus on the patient needs and not allow his/her emotions, such as anxiety, fear, and panic, to impact their thought processes. An Observer further explained that,

I would say it would be actually watching the patient and the patient's status not improving and then seeing how the two nurses reacted to it . . . And going into a critical care rotation it [the Observer role] kind of helped me know when a rapid response and more advanced assessments are needed to be popped in and that helps for clinical practice.

Students repeatedly stressed they learn in the Observer role; over half of the Observers went further to explain that they might even learn better in the Observer role because their mind remains engaged on the patient care processes as opposed to the distractions of their emotions. As an Observer stated, "I think you are able to learn better, but um, well it is not such a pressure situation. Instead you just sit back and just watch what they do and then things can just come to your mind, like what you could add to it." Observers went on to clarify that just because the Observer was not the student directly caring for the patient, it does not necessarily lessen the benefit of the simulation experience. As one Observer remarked:

I just think that I am used to that role [meaning the primary nurse]. I am used to, you know, those kinds of situations and being the one who is doing it. So um, it is just a different perspective, and I um do not necessarily think that it would be more beneficial but just different to be doing it.



The learning opportunity that the Observer role provides students seemed to extend beyond awareness of needed patient care and towards the active process of contemplating patient care. An Observer frankly stated, “I think it is making the critical decisions because I thought about what was going on and I would have definitely called earlier and got some orders. I think I am more clear in my train of thought when I am an Observer . . .” Overall, the Observers described that the Observer role was beneficial, being time well spent for educational enrichment and that this learning experience would likely bridge over into helping him or her in clinical practice.

***Further Theme Analysis for Descriptive Explication.*** Much of the rich description from Theme 1 categories Minimizing the Stress for Applied Learning and Contemplating/Calculating help answer Research Question One.

In Minimizing the Stress for Applied Learning, most of the Observers described a decrease in stress knowing that the focus of the simulation experience would be on the performance of peers. As one Observer stated, “I could really think because I was not, I was not stressed because all the eyes were not on me, or at least not so critically.” A second Observer explained that experiencing less stress in the simulation in lieu of the Observer role assignment seemed to enable learning through thought deductions. “It just makes it easier for you to understand the situation without having all the pressure on you because everyone is watching you to see what you are doing. Instead, you can kind of sit back and try to just understand.” Conversely, two Observers from each site discussed that they were normally motivated to learn due to the stress or anxiety in the situation and that they did not experience this stress as an Observer. “I think that the school thinks about their simulations very well and they do it well for us. They do not

make it too stressful, so that you feel hopeless doing it, but just enough to make us think on our feet.”

In the category, Contemplating/ Calculating, the Observer takes what he/she discovered while collecting thoughts and data to the analysis level. As an Observer replied, “... it [the Observer role] makes me see things bigger and see what is going on for validation of what my classmates are doing pretty much.” Observers analyzed the risks and benefits of the patient care interventions implemented in the simulation experience. In this category, the student Observer was still focused upon what the primary and/or secondary nurse actions were, or negated to be, as evidenced by the patient outcomes. This category included safety issues. For example:

Yes, I noticed there was information or something that maybe was missing. I kind of um prompted them [referring to the Primary and Secondary Nurses] like for checking the oxygen uh to make sure it was on number one and that when the patient was complaining of shortness of breath and that their oxygen sat went down and um also the fluid instructions. Um I do not know if that is something that popped into their minds or not. I was watching the monitors and making sure that it was not too much and things like that.

**Research question two.** The second research question was, what are the challenges of the Observer role in high fidelity simulations? Findings from twenty-three participant interviews revealed that the Observers struggled with: the lack of open and on-going communication during the main simulation activity, physically sitting in a chair to the side of the main simulation activity, not knowing what the outcome for the simulated patient would be following nursing provisions, and documentation of the main simulation activity. Seventeen of the Observers, including this participant, verbalized the most challenging aspect of the Observer role was, “Not

saying anything. I do believe that was the hardest. Sometimes I wanted to say you know, call rapid response, but you know I couldn't [as the Observer]. I just had to sit there and that was really hard for me to do.”

Interestingly, some Observers opted to use nonverbal and/or verbal communication in the experience to participate with the patient simulation team. One Observer said emphatically, “... being able to communicate without chaos is key and for some being hands on is important. Communication provides more of a connection. . .” A second Observer described how he/she communicated the need for patient care in the simulation:

I was able to participate in and um put in my two cents in I guess with the nurses, but I could not call the physician and tell the group what I thought the patient needed or um hear the lung sounds and the heart and everything... But yes, if I noticed there was information or something that maybe was missing I kind of um prompted them like to check the oxygen and to make sure it was on . . .

Despite improvising in the moment to communicate with the simulation team, students still described having this strong yearning to get up and go to the patient's bedside and 'help 'the patient care team provide quality patient care. As another Observer described, “Well probably watching the student go through that, I mean that horrible situation. Just watching that, I could just tell, I mean I would have been the same way wondering what to do now and what I should give . . . I just wanted to help her.” Thirteen other Observers replied to this question, “Not really knowing what was going on with the patient. I mean really being not sure about the patient, like his medications and lung sounds and you know just really not knowing what the outcome would be.”

Five Observers felt challenged to participate in the Observer role. These participants described a past experience as an Observer, their preferred learning style as an active, hands on learner, and/or role confusion about the Observer role which may have been related to limited orientation to the Observer role. Interestingly, four of these five participants went on to describe that even though he/she would not have self-selected the Observer role, they felt as though the role was important for learning. One Observer explained, “Well I got a lot out of just being the Observer, um, I mean even though I could not communicate and do things I think um, both of us, got a lot out of it, and learned a lot out of it.”

***Further Theme Analysis for Descriptive Explication.*** Rich descriptive data for Theme 3 categories a) Communicating and b) Consulting (Appendix U) help answer Research Question Two.

Within Communicating, an Observer discussed, “Well just being able to talk back and forth during the simulation would be good so you could coach more in the moment. You know I think what happened was okay, but I could help out more if I could talk. You know with a microphone and headset or something.” The category of communicating includes all verbal and nonverbal interconnections between the Observer and a member of the simulation team occurring during preconference, the main simulation experience, and/or debriefing. These interconnections included factual data that led the Observer to cue or inform the simulation team to act or not act. The importance of communication became apparent when an early Observer interview explained that communication actually made her feel like she was part of the simulation activity.

Well I think it was when I suggested that maybe, because you know that everybody notices something, like I would have set the head of the bed up

because it is easier for them to breath. I liked being able to make suggestions, this makes me feel like maybe I am a co-worker, you know giving her [referring to the primary nurse] suggestions.

The category Consulting, occurred primarily in debriefing. Consulting involved verbal communication by the Observer who supported the team in the process of achieving competency skills for the simulation experience. An Observer clarified that:

The Observer role ... is an evaluation from the student's point of view after he observes the simulation from um, um an outsider's point of view about the skills that were done and competencies that were done and then recommends a few things and ideas to improve it in the end.

Consulting was alluded to as a feedback mechanism in which the Observer could add to the learning outcomes of the simulation by a majority of the participants. As described by another Observer, "Well I think um I see the details and the big picture. Then when I am the helper, like in the session afterwards [referring to debriefing session] um being able to give a different perspective than those who participated. I can provide constructive feedback in there."

**Research question three.** The third research question was what are the Observer perceptions of a guided observer activity as an engaging activity in high fidelity simulations? In this study, each Observer was given a one page document called the Hober Guided Observer Activity (Appendix O) to compile simulation findings. As one Observer described, "I used the form because I was in charge of figuring out what was right and what was wrong and the different nursing cares that were being done. I think it does help you better understand because you can learn from other peoples' mistakes." Observers transitioned from noticing patient care

to ultimately taking notes about patient care procedures and/or actions performed by the team.

Most students reported favorable comments on the tool such as:

I got to see, um, what these two nurses were doing, um performing, and what was expected of them in the scenario. I could see in the students their knowledge base and, um, how um they are supposed to be performing those skills that they are supposed to have already learned. . . I, um, well I thought the whole scene went pretty quick.

Students reported that overall the questionnaire was “helpful” in providing a record for the Observer to refer back to following the simulation related to simulation patient care during debriefing. Fifteen of the Observers thought that the questions were applicable to the simulation, providing the Observer with specific information to monitor for during the exercise and then to reflect upon for professional growth. An Observer concluded the use of the activity by explaining,

Debriefing, yes, well this tool was useful in debriefing. Um yes because you need something to think about in these times. It is a good type of teaching situation and you need something to be able to think about what they did and what they should do, you know the things you should do to take care of the patient.

Observers did comment on minor changes. For example, three Observers commented that open space at the beginning and/or end of the document for random thoughts would be ideal for collating sporadic thoughts. Three other suggestions included an orientation to the activity, more specific case scenario questions, and moving it digital using a hand held device such as a Personal Digital Assistant (PDA).

Although the vast majority of the Observers reported favorably to using the Guided Observer Activity, a few students from each site verbalized that the tool distracted them from the simulation. As one remarked, “. . . I guess the only thing that was really difficult is to watch and write things down at the same time. You know when you are writing you could have missed something that the person did because you were writing and not paying attention.” Another Observer reported being challenge in grasping the situation and being able to document it simultaneously. “Um when you are trying to get a grasp of what exactly they are going to be doing and um catch it all too um personally put it down on paper. You know I could see and understand in my head what was going on but it is hard to explain it in ways that makes sense on paper to someone else.” Improved orientation to how best to use the tool might have helped allay this concern.

***Further Theme Analysis for Descriptive Explication.*** Rich descriptive data from the Theme 1 category, Collecting Data and Thoughts (Appendix U) helped answer this research question. This category incorporated noticing, interpreting, and recording with a paper and pen the Observer’s perceptions of the simulation experience. In this study, the students described that the Guided Observer Activity seemed to engage him/her during the simulation and in debriefing. One Observer stated, the activity “. . . helped me focus in on what she was doing that it was correct and it also made me think about what I would have done or things that I would have missed if I were the person doing it.” Many Observers remarked that the activity was helpful in noticing safety issues. “. . . I guess it helps you notice more . . . I guess while you are sitting there, if I did not have this piece of paper I would barely notice that she had not checked the patient’s identification band.”

**Research question four.** The fourth research question was in what ways does the Observer perceive clinical judgment (noticing, interpreting, responding, and reflecting) occur in high fidelity simulations? Findings from the student interviews supported that clinical judgment, as evidenced by noticing, interpreting, and reflecting, occurred in the simulation.

Noticing was described by the Observers to start in preconference as the simulation team collectively discussed the patient's situation; noticing continued to occur as the Observer watched the simulation unfold. Noticing was usually referred to as "seeing or watching" by the Observer. In the initial interview prompt question, "How would you describe your experience as an Observer" Observers commonly replied similarly to: "I think as an Observer you are able to step back and see what everybody is doing and think about what you would maybe do differently. It also gives you the chance to give the other two participant's things that you see that they might not necessarily see."

Observer's reports suggested students moved swiftly from noticing to interpreting patient care and back again. Student Observers reported interpreting patient care needs during the simulation from their chair position. Over half the Observers commented, "Um everything in the room helped because I could see the monitors and in the window I could what was going on including the oxygen tubing." After being prompted by a question about the need to call rapid response, an Observer recited interpreted data to substantiate her opinion, "Probably when the patient just kept getting worse and telling what his symptoms were. He had pale skin, pain increasing, and was light headed. With all these symptoms it just kind of worried me that this was going to be a huge problem."

Eighteen of the student Observers commented that they could not "react" in this simulation, but instead mentally responded to the situation. As one Observer explained,



“Because as an Observer you, I mean me, if you are a true Observer you are thinking that okay this is what I am going to be doing and be saying. I mean this is what I would say to the doctor. And yes, I think it is a very good opportunity to mentally prepare yourself.” The Observers seemed to interlink the term react, which was intended to be the reaction of clinical judgment, to a term meaning physical motion. For example, one voiced emphatically, “I am not reacting. I have to sit here and watch what is going on.” However, this Observer did go on to clarify that even though she was not physically reacting in the simulation experience, the Observer role is important because “Well um like for her being the nurse [referring to the primary nurse] I could see our feedback on what she did right and wrong and then give her our feedback and then like just see someone else do it is helpful and then you could go out on your own and do it. You would have seen what they did and hopefully not forgot anything when you do it.”

Reflecting was two-fold. Initially the Observers discussed the opportunity to review the simulation experience with the patient care team in debriefing. For example, an Observer explained that

... I was there to observe Jane [the primary nurse] and observe the situation, then fill out the form. And then to communicate with Jane to tell her that the identification band was at the end of the bed so that I could make her aware that I saw a different name than she heard. So I encouraged environmental safety and what could have been done from the simulation start.

In the second tier of reflecting, Observers commented on a more professional level. Over half of the Observers commented that they learn from the patient care acts of peers, including the mistakes, signifying a researcher assumed inherent value of the Observer role. At this point in

the interview process, the Observer would comment on what he/she would have liked to have seen done or what the situation taught him/her. For example, an Observer commented,

Well um when his oxygen saturations were going down and he was short of breath and everything and then stepping back afterwards and saying oh yes, that was fluid retention. But we were just trying to overthink it I think. That situation, being short of breath, and it just taught me to not overthink things. It could just be simply what is right in front of us.

Interestingly, many students applauded the team for providing quality patient care within a stressful situation while confessing that is easier to identify the patient care shortcomings of peers when you are observing. An Observer exclaimed “And she just, I mean, I learned to stay calm like her [referring to the composure of the primary nurse], and she did excellent and was great” in the simulation experience. Another Observer voiced that, “The, *you should have done this and that*, just kind of was [pause] . . . and I would have forgotten too, you know, to do it. It was just that I was sitting there and um had no pressure that I could think gee do this and not that.”

***Further Theme Analysis for Descriptive Explication.*** The Theme categories: Increasing Confidence in Thinking, Gaining a Different Point of View, and Concluding/Confirming (Appendix U) all provided rich data to answer Research Question Four.

Within the category, Increasing Confidence in Thinking, students remarked that they were able to watch a simulation in progress and detect patient cares outcomes, but in this category they reported more advanced thoughts of what would ‘I’ do in that situation. Clearly stated, “Well um I think it would be the patients’ status because once he starting dropping um I was thinking what they could be doing or what I could do to prompt them to help them in this

simulation.” The Observer seemed to discover their own thinking processes as they reflected, meaning they verbalized higher level thinking statements such as “This is what I would do if I were in the shoes of the primary nurse.” The Observers went on to describe the importance of reflection in Concluding/ Confirming. “It is meaningful, um, because in reflection you can reflect back to what the nurse actually did in that activity and um . . . what they know plus what the Observer knows you can help everyone out. You know, understand it all better.”

Within the category of Gaining a Different Point of View, Observers explained that they felt like they were watching a television set from their own chair in the simulation environment. And since they were viewing the ‘set’ from a unique locus, the Observer could surmise what needed to be done for the patient. This different point of view was unique to the Observer role, meaning the viewing lens was described to be unlike that of the instructor or participating simulation team members. As one Observer described,

. . . it is like you are watching a television show, like a game show, and the pressure is not on you performing if you are watching, than you can think more clearly sometimes I think when you are watching it. This is the different perspective. You do not have the pressure. You um, you can see that oh they need to do this and that because you are not like having to do it.

This distinctive perspective was described by all but four Observers interviewed. Nine of them went on to explain that this unique lens provided a means to add additional insightful information into the simulation that could be or was expressed in debriefing. They described this information as different from or in addition to what the instructor and students might be aware of. “The Observer role is real important to get a student nurses’ opinion, like past it, and their opinion as far as how they think things went from their observations and from their point of

view. Because there are things that we understand from the student's point of view you know that the instructor is not going to get.”

Within the last category Concluding/ Confirming, Observers described seeing the pieces of the simulation come together. And since the pieces of the simulation activity were coming together, the Observer could reflect back to the simulation experience and declare either 1) what ultimately was missing in patient care provisions and should have been done by the primary nurse during from the simulation experience; and/or 2) what should be done next for best simulated patient care outcomes. As one Observer described:

Ah it was a nice way to view my fellow nursing students in action while still participating so it was kind of nice being on the outside and actually being able to see how people work together. . . [I was] watching them from the beginning of issues of when they needed help with the patient (few indiscernible words) and then all the way through their assessment when they were watching the patients status and vital signs and um seeing what they were doing. And um all the checks that would be done on the patient but also watching the interactions with the patient and if they were therapeutic or not and if they did the right thing or not. . . And now I think about what I would do if I were in there.

**Research question five.** The fifth research question asked how do perceived educational practices compare between the Observer and other roles (primary and secondary in this study) in high fidelity patient simulations? The perceptions of educational practices by Observers and Non-observers were compared using the EPSS-S which gains students perspectives of best practices as well as their perception of the importance of these practices.

The EPSS-S survey for this study was completed by all participants using an electronic presentation of the tool following the formative simulation activity at two University sites in Kansas. Within the online survey data, sample size for Observers was 16 (not all Observers who interviewed proceeded to complete the on-line surveys/tool) and the sample size for Nonobservers (includes both primary and secondary nurses) was 33. Refer to Appendix U for total sample characteristics in this study.

The internal consistency reliability for the presence of the educational practices and the importance placed on these practices was reported in Chapter 3, comparing the reliability results of site one to site two, and also the collective sample of Observers and Nonobservers in relation to the NLN/Laerdal Study findings. These results were all within reasonable limits.

The Independent Samples T-test was used to analyze the results. It is noted that most mean comparisons were similar; however, power was not met in this study, so findings remain descriptive. A difference in the two groups was found on two items from both the presence and importance scale components in which the Observers mean score was significantly less than the Nonobservers mean score. The following discussion and tables summarize the results.

***Presence of best practices component of EPSS-S.*** The presence component of the EPSS-S is a 16-item instrument using a five-point rating scale (5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree, 1 = Strongly Disagree) measuring educational best practices. Summative scores range from 16 to 80. Independent *t*-tests were used to compare means of the best practice presence between the Observer perceptions and the Nonobserver perceptions. The two significant findings are displayed in Table 7. For the comprehensive results of the Independent *t*-test analysis of all questions comparing the Observer group to the Nonobserver group on presence of best practices, refer to Appendix W.

As noted in Table 7, the first significant difference was for the Active Learning subscale question, which asked for response to, “I had the opportunity during the simulation activity to discuss the ideas and concepts taught in the course with the teacher and other students.” The mean of the Observer group was significantly lower than the mean of the Nonobserver group.

The second question showing a significant difference between the Observer and Nonobservers was also from the Active Learning subscale. Specifically, in question number four, the participants were asked, “There were enough opportunities in the simulation to find out if I clearly understood the material.” The results showed that the mean of the Observer group was significantly lower than the mean of the Nonobserver group. Since this response is of particular interest to the researcher, the data was further reviewed and will be discussed further in Chapter 5.

Table 7

*Comparison of Observer (n=16) and Nonobserver (n=33) Mean, Standard Deviation, and Independent T-Test Significance Questions for the Presence Component of the Educational Practices in Simulation Scale (Student Version) (EPSS-S)*

|                                       | Observers<br>n=16<br>Mean (SD) | Nonobservers<br>n=33<br>Mean (SD) |
|---------------------------------------|--------------------------------|-----------------------------------|
| <b>Active Learning Subscale</b>       |                                |                                   |
| 1. Opportunity during simulation      |                                |                                   |
| to discuss ideas **                   | 3.81(1.33)                     | 4.72(.72)                         |
| 4. Enough opportunities in simulation |                                |                                   |
| to clearly understand materials **    | 4.00(1.15)                     | 4.60(.70)                         |

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Note. \*\* Significant Independent Samples T-test differences between Observers and Nonobservers at  $p < .05$ .

***Importance of best practices component of EPSS-S.*** The student perceived importance of educational best practices is rated with a five-point scale (5 = Very Important, 4 = Important, 3 = Neutral, 2 = Somewhat Important, 1 = Not Important) with possible scores ranging from 16 to 80. Higher summative scores indicate a greater presence of the educational practices measured and a greater value placed on these practices by the learner. In this study Observer perceptions were compared to Nonobserver perceptions on the importance of best practices component of the EPSS-S; for the comprehensive findings refer to Appendix X. Table 8 showed that there was a significant difference on the importance of best practices between the Observer and Nonobserver groups on two questions.

In question number six of the Active Learning subscale of the EPSS-S, the participants were asked, “I received cues during the simulation in a timely manner.” The results showed the mean of the Observer group was significantly lower than the mean of the Nonobserver group. The second significant question was found on the collaboration subscale of the importance component of EPSS-S. Specifically, in question number twelve, the participants were asked, “During the simulation, my peers and I had to work on the clinical situation together.” The results showed the mean of the Observer group was significantly lower than the mean of the Nonobserver group.

Table 8

*Comparison of Observer (n=16) and Nonobserver (n=33) Mean, Standard Deviation, and Independent T-Test Significance Questions for the Importance Component of the Educational Practices in Simulation Scale (Student Version) (EPSS-S)*

|                                    | Observers  | Nonobservers |
|------------------------------------|------------|--------------|
|                                    | n=16       | n=33         |
|                                    | Mean (SD)  | Mean (SD)    |
| <b>Active Learning</b>             |            |              |
| 6. Received cues during simulation |            |              |
| in timely manner **                | 3.75(1.81) | 4.73(.72)    |
| <b>Collaboration</b>               |            |              |
| 12. My peers and I worked on       |            |              |
| clinical situation together        |            |              |
| during simulation **               | 4.25(1.06) | 4.73(.52)    |

Note. \*\* Significant Independent Samples T-test differences between Observers and Nonobservers at  $p < .05$ .

#### **Additional Findings from the Hober Written Survey.**

The Hober Written Survey was completed by students following their simulation experience to gain a perspective on student's perceptions of their use of clinical judgment in the simulations. The Hober Written Survey questions are provided in Appendix M. Survey responses were broken down into the two groups, Observer and Nonobserver, and then reviewed to consider clinical judgment efforts used by the two groups. Fourteen Observers and twenty Nonobservers



felt they were able to use Clinical Judgment. Sample descriptive comparisons follow and provide basis for further thought.

**What was learned?** In this data the Observers listed learning themes from the simulation to include: 1) maintaining one's composure as "curve balls are thrown at you"; 2) monitoring nursing "actions and figure out which ones were effective"; and 3) "learning from the mistakes of others, such as "how to respond to a rapidly declining patient". As one Observer replied: "You're able to assess your own knowledge as an observer in the simulation. You can always be asking yourself "did you know that?" or "is that what you would have done?" Common themes from the Non-observers explained that three important themes learned from today's HFPS were to: 1) "maintain one's composure" utilizing "critical thinking in the moment"; 2) facilitate "teamwork"; and 3) "patient advocacy."

**Reflecting on/or what to "re-do".** This question asked the Observer and Nonobserver participants to explain: If you could redo one part of the HFPS experience today, what would it be? The Observer responses varied from "nothing" to acquiring additional simulation preparation and assessment, providing emotional support to the nurse, consulting with the nurse for better patient care, and actively playing the primary nurse. The Nonobservers explained that they would like to have more confidence in thinking, including the patient assessments requiring rapid response. This group went on to describe wanting to be able to communicate to the team and patient more effectively, including "looking at the whole picture," and intervening in a more organized and timely manner for patient wellbeing. Examples of interventions for patient wellbeing included lowering one of the three bed rails, raising the head of the bed, proper medication administration, and calling the doctor.

**Thinking back.** This question asked the participants to think back to a recent experience where he/she was the Observer in HFPS to describe what the best or most challenging aspect of this was. This survey question was rich in responses from both Observers and Nonobservers. Observers stated that the most challenging part of the role is not being able to “jump in and do things my way” and lack of an interactive role, collaboration, and skill practice. Some Observers referred to being able to sit back and monitor the experience, such as “The best thing is being able to relax your mind and put myself in the situation.” A few students confessed that he/she has never had the experience of an Observer in HFPS. As one Observer replied:

This was the first time I was the observer in HFPS. In previous clinicals, I was the observer in some situations. In the operating room or at the surgery center I observed nurses and doctors. I feel like observing is beneficial just to help you further familiarize yourself with situations and actions. Anything that helps increase your knowledge.

The Nonobservers described their past experience with HFPS to be more of an opportunity than a challenge. Many of the Nonobservers stated that the most challenging aspect of the simulation is the stress of being watched. Some Nonobservers reported struggling with the lack of communication, or the “most challenging part was being silent and not trying to help my classmates.” The Nonobservers seemed to appreciate their past Observer experience as an opportunity to validate skill performance from a different or “more than one perspective,” provide “constructive critique of a nurses’ performance,” and “seeing things done in a different way or order than I would do them, and having to analyze what action’s would be most prudent.

**Additional comments.** In response to the request for additional comments, twenty-one Non-observers responded with comments primarily about appreciation of simulation activities. As

one explained, “It is one thing to learn all the skills you need to know, but it is a totally different aspect when you are challenged to put them all to practice.” Only four Observers responded to this item. The message in their responses aligned with the interview data in that the Observers reported that they enjoyed the experience. “It helped me to observe the situation and sit back to see the whole picture. I also did not feel like there was as much pressure on me.” Conversely, a new experience not described in the interviews, but emphasized in the on-line survey was that: “As an observer I should mention that not every observer is candid in their response to the team of nurses. I don’t think the observers should talk since some observers try to really show the nurses up...”

### **Summary**

Chapter four summarized the results of this study. This study analyzed role play in HFPS following a normally scheduled, formative simulation activity. Data was collected using interviews and online surveys. The online surveys included the Hober Student Demographic Questionnaire, the Hober Written Survey for High Fidelity Patient Simulation (HFPS) Experience, and the EPSS-S. Fifty participants, including Observers and Nonobservers, completed these tools. Twenty-three of those participants also completed one to one interviews as simulation Observers. Using a descriptive, exploratory approach, the Observers’ role was described, including role enhancement using a guided observation activity, clinical judgment, and educational practice perceptions.

The student participant sample consisted of senior nursing students from two accredited Universities. The descriptive statistics revealed that the sample consisted of mostly white female nursing students in their early twenties. The participants from Site Two reported more past experience with HFPS in their nursing education, a greater comfort level with HFPS in their

educational setting, and a higher level of satisfaction with past simulation. In addition, the normally scheduled formative simulation experiences had minor site variations such as case topics.

Qualitative data were analyzed following naturalistic inquiry. The researcher, peer doctoral educator, and faculty advisor used an iterative process to capture the participant's perception of the Observer role in HFPS. The three themes that emerged from the data included: *Conceptualizing the learning experience; Capturing the big picture; and, Connecting with the team*. Further categories within each theme helped address the research questions.

Qualitative content analysis of the interviews supported the Observer's perception of clinical judgment throughout role implementation (noticing, interpreting, responding, and reflecting). The Observers described reflection on action via their peers' performance, along with considering what actions should occur or what they would do if they were the primary nurse. Descriptions of the Observer and Nonobserver responses to the Hober Written Survey provided additional data on perceived clinical judgment. The Hober Guided Observer Activity was described to be an engaging activity for the Observer in simulation. Observers shared that the Observer experience would likely assist him/her in future clinical practicums.

Data comparing the Observer and Nonobserver groups on perceptions of simulation best practices and its importance were gained from the EPSS-S. The two groups were similar on all but four questions that are further discussed in Chapter 5. Chapter 5 provides further discussion and implications related to these findings.

## **Chapter Five: Discussion, Conclusions, and Recommendations**

### **Introduction**

High fidelity patient simulation (HFPS) is widely used in nursing education and continues to grow as an effective teaching and learning method (Cant & Cooper, 2009; Jeffries, 2007; Ironside, Jeffries, & Martin, 2009). This teaching process immerses students in comprehensive simulated experiences for advanced level applications in order to be attaining critical thinking, prioritization of patient care, and the ability to anticipate patient needs (Hawkins, Todd, & Manz, 2008). HFPS roles commonly include the Observer role, but limited research on the Observer role exists. Since the Observer role participates in the HFPS experience from a distance and extends the number of participants involved in the experience, it is important to better understand the Observer role.

This study explored the implementation of the Observer role play in HFPS. A descriptive, exploratory approach using a small convenience sample of nursing students from one urban and one rural Kansas site, provided data on the Observer role enhancement, the perception of completing a guided observer activity, and perceived clinical judgment of the Observer in HFPS. Data were analyzed using a naturalistic inquiry, iterative process by three researchers to find patterns and themes in the data focusing upon the Observer roles. In addition perceived HFPS educational practices were compared between the Observers and Nonobservers. Chapter Four organized the results of this study according to the research questions.

### **Discussion and Implications**

Qualitative findings in this study supported that Observers gained learning opportunities and perceived the Observer role in HFPS to be “important”. The Observers reported opportunities to analyze professional skills used by a nurse in a simulation setting. Study results

support that HFPS creates a reality based opportunity for student Observers to reflect-in-action, monitor the simulation activity, and reflect-on-action in debriefing following the simulation. The fact that students reported clinical judgment opportunities is important.

Extending clinical learning opportunities using HFPS is particularly important with clinical site shortages; HFPS may help extend student clinical learning opportunities while incorporating essential quality and safety initiatives. The Institute of Medicine (2003) released a report describing the importance of reforming health professions education to achieve national quality and safety initiatives. As indicated in the Quality and Safety Education for Nursing (QSEN) initiatives, healthcare educators must equip professionals with discipline-specific knowledge, skills, and attitudes required for the competencies of: patient-centered care, teamwork and collaboration, evidence-based practice, quality improvement, safety and informatics. HFPS offers a unique opportunity to teach nursing students important discipline-specific knowledge, skills, and attitudes. As this research study described, Observers who role play in HFPS can focus on the bigger picture, meaning the analysis of patient and environmental quality and safety concerns.

A particular strength of this study was the thematic analysis of qualitative interviews to gain students perceptions of the Observer role. Three themes emerged from the data including: *Conceptualizing the Learning Experience, Capturing the Big Picture, and Connecting with the Team*. Each of these themes is supported by two to three categories that help to further describe the theme and provide implications for nursing education.

Theme 1, *Conceptualizing the Learning Experience* consisted of categories: Minimizing the stress for applied learning; Collecting data and thoughts; and Contemplating/ calculating. Each of these categories provided rich examples of students' abilities to use the Observer role for

learning. Comments supported the benefits of continuing to enhance the use of the Observer Role as an educational practice.

Theme II, *Capturing the Big Picture* consisted of the categories: Increasing confidence in thinking; Gaining a different point of view; and Concluding/ confirming. Each of these categories provided rich examples of students' abilities to use the Observer role for a unique learning perspective that is often missing in nursing students; that of focusing not only on single patient symptoms or problems, but rather gaining a perspective that incorporates the interaction of a variety of factors. The Observer role was useful for many of these students in increasing confidence in their thinking. The rich student comments supported that the unique perspective the Observer gains provides valuable student learning.

Theme III, *Connecting with the Team* included the categories of a) Communicating and b) Consulting. Particularly at a time in healthcare where the focus is on developing teams and safe communication, the rich examples of students' abilities to use the Observer role for these important team concepts provides further teaching/learning opportunities.

This data is supported by and extends the limited research on the roles assigned to students during HFPS experiences. Billings and Halstead (2009) reported that simulation role play provides a means for students to explore feelings, gain insight into personal abilities and values, develop problem-solving skills, and explore professional issues in a different way. Jeffries and Rizzolo (2006) found that student learning outcomes of knowledge gain, confidence, and satisfaction are not impacted by assignment of the primary, secondary, significant other, or Observer roles.

**Observer role enhancement.** As noted the Observer role was studied as it normally occurred in HFPS at two sites for this study. The Observer role required a randomly selected

nursing student to focus upon the simulation activity, documenting overall simulation team actions and patient wellbeing. Students were encouraged to anticipate potential problems and evaluate simulation outcomes. Study findings suggested that to enhance the Observer role, some specific role recommendations would be beneficial including orientation; involvement throughout the simulation, debriefing leadership opportunity; and a guided observer activity.

Orientation emerged as an essential element for Observer role enhancement. As many of the study participants explained, a formal orientation to the Observer role is essential because their perception of that role may be different than what was intended by the simulation and/or instructor. As Billings and Halstead (2009) stress, orientation should be provided in any learning experience. The Observer role could be enhanced if each student comprehends the role duties and responsibilities and is given clearly delineated student learning outcomes for that simulation.

Implementation of the Observer role throughout the entire simulation activity is another opportunity for Observer role enhancement. Observers described that they learned from completing patient preparation paperwork, simulation experience documentation, and also in discussions. Thus, all students should be actively participating for the entire simulation activity. An example of this utilized by both sites identified by the researcher was the SBAR tool for communication. As Keston (2011) found, students who completed didactic instruction plus role play using the SBAR performed significantly better on skilled communication first observation. A second example used at one site is the direct involvement of the instructor in the simulation, followed by graded post simulation assignments, similar to regular clinical experiences. These were all tools that helped make simulation look more like clinical.

Another way to engage Observers, which is a unique finding of this study, is what a few of the Observers called “time out.” Ultimately, Observers described a need for self-closure



following the main simulation activity that would precede formal debriefing. Self-closure is described as personal student reflective time to think about the activity that he/she just completed or participated in, requiring approximately five minutes. Self-closure is normally part of role play (Billings & Halstead, 2009; Joyner & Young, 2006). Self-closure is another finding that could enhance the Observer role.

Observer performance and expectations during debriefing is another implication of this study to enhance the Observer role. Debriefing facilitates group discussion, analysis, and evaluation of the simulation exercise (Feingold, Calaluce, & Kallen, 2004). Debriefing is the most important stage of a simulation experience in that it enables students to further explore learning objectives, clarify actions, consider alternative decisions, enhance observational skills, and participate in interpersonal reactions (Clapper, 2010b, Jeffries, 2007; Lowenstein, 2011). Therefore, all students participating in the HFPS, including the Observer role, must be strongly encouraged to present their observations and evaluative findings during debriefing. A suggestion is to allow the Observer to lead debriefing once the student is familiarized with role implementation, while being supported by an experienced debriefing facilitator. Although the research is rich in substantiating the benefits of debriefing, no research exists to examine the outcomes of the Observer role in leading debriefing.

Observer role rotation emerged as the last potential suggestion to enhance the Observer role. The participants described wanting a follow-up simulation activity, seeking opportunities to apply theory to practice as a primary nurse, and wanting to share the learning experience of the Observer role with peers. In a study by Traynor, et al. (2010), rotating students between roles in HFPS developed their organizational skills, facilitated clinical skill application, guided testing diagnostic skills and clinical judgment, increased their confidence, encourage patient

safety, and provided useful learning experiences. One concern might be will all students prepare equally if they are on a rotating schedule. In this study, random assignment to roles assured that all students prepared equally for the HFPS.

**Guided observer activity opportunities.** Participant descriptive results favored the guided observer activity as an engaging activity for the Observer in HFPS. Students described the activity as “helpful”, explaining that having the opportunity to monitor for specific peer performance criteria and document professional competence was “meaningful”. Students also suggested mobilizing this activity digitally, similar to the ‘net’ research of Carlson (2005). Specifically, it was suggested to provide the guided observer activity on a Personal Digital Assistant (PDA) so that the Observer could look up disease processes, care plans, laboratory guides and evidence based practice databases in the simulation experience. This addition of technology in gaining evidence is important because nursing is in an era of demand for holistic nurses who achieve national quality and safety goals (Cronenwett, et al., 2007).

The guided observer activity afforded similar outcomes as noted in the benefits of peer review by the authors Boehm and Bonnel (2010) and Morby and Skalla (2011). These outcomes included promoting professional practice, gaining critical appraisal skills, enhancing student objectivity using criteria, developing and providing constructive feedback, and becoming reflective practitioners. Similar to the findings by Hodges (2011), Observers opted to support and give peers the benefit of the doubt in evaluating the simulations. Additionally, as Smith-Stoner (2009) stressed, the importance of providing Observers an assignment to complete during the simulation with topics on the nursing process, care planning, documentation, patient safety, and student feedback is a requisite for actual student engagement in the HFPS alongside continued research to substantiate the outcomes.

**Perceived clinical judgment of the Observer.** In this study the Observer described “thinking while sitting” as opposed to “thinking on my feet.” Observers explained that they did experience noticing, interpreting, responding, and reflecting as described by Tanner (2006). They noted that “responding” occurred mentally with limited cuing. Of particular interest in this study is discovering that students described reflection-in-action and reflection-on-action. This is a valuable finding because HFPS helps students apply knowledge, assessment, and skill competencies to prepare for clinical practicums (Lasater & Nielson, 2009; Tanner, 2008). Clinical practicum clock hours, although variable by institution and state, are transitioning to the controlled simulation environments and one or more Observers commonly participate. Reflection is key as the student nurse learns professionally in the simulation environment and later implements the nursing role in clinical.

Acknowledging that Observers monitor the simulation experience from a distance, this study provided additional foundational, credible qualitative evidence that learning is occurring and can be bridged over into the practicum by even the Observer participants in the HFPS. Similar to qualitative findings reported by Traynor, et al. (2010), students who were Observers compared to other roles perceived a difference in seeing and doing simulations. They recognized the importance of knowledge for effective clinical judgment, identified the value of delivering effective nursing care, and remarked on the benefits of a safe working environment.

**Educational practices of Observers and Nonobservers.** In reviewing the EPSS-S findings, the presence and importance educational practices between the Observers and Nonobservers were compared. Most mean comparisons were similar in this study, but these findings must be considered with caution because the power analysis was not met leaving the results descriptive. A difference in the two groups was found on two items from both the

presence and importance scale components in which the Observers mean score was significantly less than the Nonobservers mean score. Of interest is that the Observer group did not perceive the presence of having enough opportunities in the simulation to clearly understand the materials. Upon further analysis of this educational practices question, it was discovered that two of the lowest scored responses on this question were from two Observers who described in their interview that their learning style is hands-on and that they did not experience enough pressure or stress in the Observer role to learn. A third Observer on this question scored it with a 'one' rating, similar to most of the other questions on this tool. These lower scores actually are consistent with these three students' providing a range of results (limited appreciation of the Observer role) in the qualitative interviews. The summative mean scores of these three participants contributed to the lower scores on these items. Again with the small sample size these results are exploratory and suggest opportunity for further study.

### **Further Implications for Nurse Educators**

The results of this study support that the Observer role can be meaningful in HFPS and contribute to student learning. Faculty need to be aware of the potential application of the Observer role. The literature emphasizes the need for teaching practices that implement a variety of learning opportunities for students while meeting specific learning outcomes; implementation of the Observer role in HFPS appears to be a plausible teaching practice alternative. Based on the results, the researcher compiled suggestions for Observer role enhancement to engage the Observer in HFPS that nurse educators may find useful (orientation; involvement throughout; debriefing opportunity; and guided observer activity sheets).

**Ongoing issues.** Student learners are unique and have diverse learning styles. While the majority of this study's participants valued learning opportunities in the Observer role, a few

self-described “hands-on learners” expressed some dissatisfaction with the role. Some students will always find less satisfaction than others with the role. This finding coincides with the work of Knowles (1980) on engaging adult learners. Knowles work describes adults as self-directed, goal-orientated, practical, and learning from ‘hands-on’ activities.

Workload issues for nurse educators responsible for Observer role implementation in HFPS must be considered. The Observer role can lessen the workload of simulations if the role is used in conjunction with other roles, such as the primary nurse, secondary nurse, and family members. In this instance, the Observer role provides a unique learning opportunity for students without adding to the burden of faculty work load. However, if students rotate roles to play each or many of the roles in addition to the Observer role, faculty work load is increased. It is important to note that the participants of this study did suggest having the opportunity to rotate roles in HFPS, to better prepare for the complexities of practice they will face as practicing registered nurses. So that all students prepare equally, random assignment may have implications.

### **Limitations of the Study**

This study was limited to a convenience sample of Baccalaureate degree nursing students from two mid-western Kansas sites. No attempt was made to control participants based on their HFPS experiences. The final sample size for nursing students was reasonable for a descriptive qualitative study. Caution still needs to be used when considering the implications of the best practice findings for the Observer and Nonobserver students because power was not met. Twenty-three participants provided rich data for the open-ended one to one qualitative interviews and data saturation was obtained. Fifty participants completed the on-line survey questionnaires specific to simulation perceptions and experiences. The self-report nature of the study was a

limitation as there may be differences in the perceptions of Observer role play in HFPS of nursing students who participated in the study compared to those who did not. No attempt was made to alter the normally scheduled HFPS experiences. Hence, the utilization of an instructor in the simulation at one site in this study (Site Two) may have impacted student performance. In addition, the main medical-surgical simulation activity varied at the two sites and may have impacted the findings.

### **Strengths of the Study**

Data were collected from two, geographically diverse sites. Voluntary participation in this research study included all senior level nursing students from each site who participated in a normally scheduled, formative critical care simulation experience. The similarities and differences in the results from the convenience sample of each site revealed the perceptions of both rural and urban nursing students. Qualitative data considered similarities and differences between the two groups. Rich qualitative interviews followed naturalistic inquiry. Results from each site were compared by the researcher, a peer doctoral educator, and faculty advisor, who collectively used an iterative, content analysis process. A particular strength of this study was that data saturation was found in both a rural and urban convenience sample of nursing students. No studies on high fidelity patient simulation were found in the literature that took this approach. Comparison of the Observer and Nonobserver participant results provided a clearer and more strongly supported description of best practices in nursing education. The emerging themes encapsulated the descriptive perceptions of the randomly assigned Observers to role implementation in HFPS.

## **Future Research**

The literature about the use of roles in high fidelity patient simulation in nursing education is growing. Ongoing research specific to the Observer role in HFPS is needed. Future research in the area of Observer role implementation in HFPS may include studying a larger sample of nursing students, describing perceptions of student Observers who are collectively similar related to past experiences and satisfaction with simulation, and increasing the number of Observers to determine their perceptions of the role with and without faculty presence. An interesting area to investigate would be students' anxiety outcomes, in the various roles, with the presence or absence of faculty.

Further study could also address the potential for differences when analyzing multiple simulation roles, meaning the implementation of family members and/or interdisciplinary professionals (as compared to only the primary and secondary nurses). Another area to investigate may include gathering the data before standardized group debriefing in order to capture each participant's authentic responses. Further investigation could also include the Educational Practices in Simulation Scale – Student Version. An area of interest that emerged using this tool was that the Observer group did not perceive the presence of having enough opportunities in the simulation to clearly understand the materials. Further study of this issue could yield information on whether or not this finding persists, and if so, how to best address this educational need for Observer students.

As the results of this study suggest, other areas of research for the Observer role in HFPS could include investigating the affective outcomes of the Observer role. Since research validates debriefing as a valuable educational component of the simulation experience, further study of the Observer role in debriefing might include exploring outcomes of Observers who gain training in

debriefing and guide debriefing using a guided observer document. In addition, if simulations can be conducted so that switching roles occurs, at what point do students meet learning outcomes as opposed to reporting role exchange exhaustion? Researching the Observer role in HFPS could add significantly to the body of knowledge on effective nursing education.

Future research on the Observer role opportunities could focus on opportunities to address safety and quality. For example, some students in this study suggested the benefits of being equipped with a digital device, such as a Personal Digital Assistant (PDA), to rapidly seek information required by the simulation group for safe, quality care; an alternative strategy could be to implement a Resource Nurse in the simulation who's primary role could be utilizing a digital device to access needed web-based or stored data from course references. This Resource Nurse would then allow the Observer to continue to monitor and evaluate the simulation.

The Observer role should also be studied related to interprofessional patient care and in situations for students at different educational levels. For example, what are the implications of the Observer role when various professionals are caring for the simulated patient as opposed to only nursing professionals? Can the Observer role be successfully implemented with junior level students and/or licensed professionals? Is the Observer role impacted when a simulation includes both undergraduate and graduate professionals and when the Observer role is implemented at a greater distance, meaning a distant viewing area or perhaps even many miles away in lei of internet capabilities?

## **Conclusion**

Nursing education programs are challenged to prepare graduates who are ready for the complexities of the health care environment. The issues of patient safety, quality of care, and the nursing shortage are driving forces in the development of nursing curricula that can produce



greater numbers of well-prepared nurses. High fidelity patient simulation (HFPS) is one method to meet these demands. This study described the perceptions of the Observer role in HFPS, exploring Observer role enhancement, the perception/experience of completing a guided observer activity, perceived clinical judgment, and educational practice findings. Research supports further use of the Observer role with a guided learning activity. Nurse researchers should continue to research roles in HFPS specifically focused upon the Observer role.

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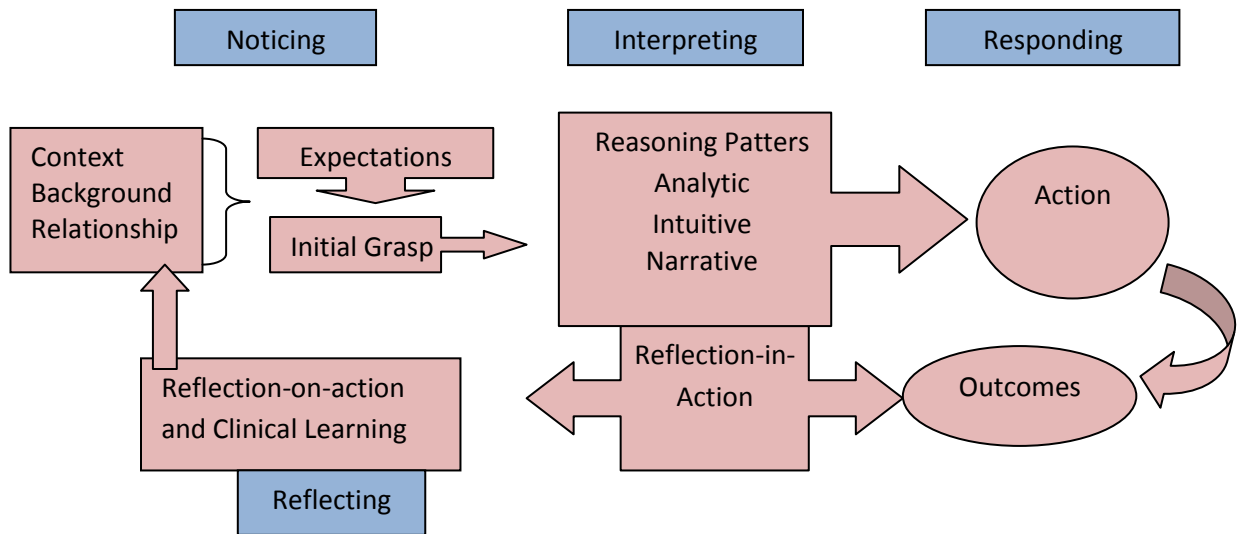
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Appendix A

Tanner's Clinical Judgment Model (CMJ) (2006)



## Appendix B

### Assumptions of the Clinical Judgment Model (Tanner, 2006).

1. “Clinical judgments are more influenced by what the nurse brings to the situation than the objective data about the situation at hand” (p. 205).
2. “Sound clinical judgment rests to some degree on knowing the patient and his or her typical pattern of responses, as well as engagement with the patient and his or her concerns” (p. 206).
3. “Clinical judgments are influenced by the context in which the situation occurs and the culture of the nursing unit” (p. 206).
4. Nurses use a variety of reasoning patterns alone or in combination” (p. 207).
5. “Reflection on practice is often triggered by breakdown in clinical judgment and is critical for the development of clinical knowledge and improvement in clinical reasoning” (p. 207).

## Appendix C

### Knowles Theoretical Characteristics for Engaging Adult Learners (Knowles, 1980)

1. Adults are autonomous and self-directed.
2. Adults are goal-orientated.
3. Adults are relevancy-orientated.
4. Adults need to be shown respect.
5. Adults are practical, focusing on the aspects of a lesson most useful to them in their work.
6. Adults have accumulated a foundation of life experiences and knowledge that may include work-related activities, family responsibilities, and previous education that need to be incorporated in some degree within learning experiences.
7. Critical elements of adult learning that optimize participant learning are: motivation, reinforcement, retention, and transference.

## Appendix D

## Common Advantages and Disadvantages of Role Play Simulations by Two Nursing Authors

| <u>Author</u>   | <u>Advantages</u>   | <u>Disadvantages</u>   |
|---|---|--|
| <p><b>Domain/Assessment Purpose</b></p> <p><b><u>Billings &amp; Halstead, 2009</u></b></p> <p><b>Affective</b></p> <p><b>Cognitive</b></p> <p><b>Psychomotor</b></p> <p><b>Purpose: formative learning</b></p> <p><b>Students = Active Learners</b></p> <p><b>Teacher = Facilitator</b></p> | <p>Increases observational skills and comprehension of human behaviors</p> <p>Improves decision-making skills</p> <p>Provides psychomotor skill practice with peer-review</p> <p>Provides interpersonal communication and problem-solving techniques</p> <p>Enables formative feedback</p> <p>Provides non-threatening environment to try out unfamiliar communication and decision-making techniques</p> <p>Provides active learning</p> <p>Stimulates creativity</p> <p>After students critique the process, it can be repeated</p> | <p>Students may be reluctant to participate or self-conscious</p> <p>Stereotypical behavior can be reinforced</p> <p>High time cost for faculty to develop scenarios</p> <p>Faculty who prefer controlled environments will be frustrated</p> <p>Requires adequate time and appropriate planning for scenario development, role play implementation, and feedback</p> <p>Participants need to be familiar with content objectives, material, and process of role play</p> <p>All that could happen cannot be anticipated</p> |
| <p><b><u>Bastable (2008)</u></b></p> <p><b>Affective</b></p> <p><b>Cognitive</b></p> <p><b>Psychomotor</b></p> <p><b>Purpose: achieve behavioral objectives</b></p> <p><b>Students = Active Learners</b></p> <p><b>Teacher = Facilitator</b></p>  | <p>Opportunity to explore feelings and attitudes</p> <p>Bridging the gap between understanding and feeling</p> <p>Practice reality in safe setting</p> <p>Narrows the role distance between patients and professionals</p>  | <p>Small groups required</p> <p>Labor and cost intensive</p> <p>Participants may exaggerate their assigned roles</p> <p>A role part loses its credibility and realism if played overly dramatic</p> <p>Participants may be uncomfortable with their roles</p> <p>Participants may over-develop or under-develop the role while attempting to meet scenario specifications</p>  |



## Appendix E

### Faculty Teaching Tips for Role Play Implementation

*Note.* Role play is a teaching technique used in education. Role play can be a valuable learning experience for students, but it requires some basic steps of planning by faculty. The following list is a collective tip sheet for faculty to be aware of before and while implementing role play.

Resources: Billings & Halstead, 2009; Joyner & Young, 2006; McKeachie, 2002; Northcott, 2002; Ments, 1999:

- 1) Plan thoroughly for role play, including trying to anticipate potential problems and evaluating if the learning objectives can be met. Be sure to allow adequate time for all stages of role play in addition to in the moment actions and reactions for students.
- 2) Situations that provide conflicting emotions, optional choices, or intriguing motives are the best scenarios for role play. However, avoid emotionally significant or situations of morals such as sexual taboos due to the chance of being traumatic to some students. Be sensitive to student diversity, informing him/her in the briefing session of “time out” rights, “opt out” clause, and “follow up” counseling alternatives. As the facilitator, follow-up with any student who uses any of these alternatives.
- 3) Role play should involve 4 stages: briefing, running, self-closure, and debriefing.

**Briefing** involves setting the stage and clearly explaining the objectives to learners. This phase of role play needs approximately 10 minutes of total time. **Running** is role play acted out, requiring about 15 minutes of total time. **Self-closure** is personal student reflective time to think about the activity that he/she just completed or participated in, requiring about 5 to 15 minutes (measurement tools can also be implemented if applicable). And finally, **debriefing** is the group discussion, analysis, and evaluation of

the role playing exercise, which necessitates the most role play time. This phase of role play averages approximately 30 minutes or longer (Billings & Halstead, 2009; Joyner & Young, 2006)

- 4) Role play works best with small groups of students so that all students can be active in either role play or observation.
- 5) Students should be encouraged to respond naturally or spontaneously, avoid melodrama, and abstain from inappropriate laughing or silliness in the role play situation in order to avoid stereotyping, reinforcing prejudices, and preconceptions. This is possible when students have a clear understanding of their characters and the role play parameters.
- 6) Debriefing is the most important stage of role play enabling students to clarify actions, consider alternative decisions, enhance observational skills, and participate in interpersonal reactions.
- 7) All students, including those in the Observer role, must be strongly encouraged to present their observations and evaluative findings during debriefing in order to further explore learning objectives, issues and problems.
- 8) In some instances, instructors may assume characters in role plays but usually character roles are given to students. Students may also be given the opportunity to play different roles in the same situation in order to see and feel different reactions. “Repeating a scenario with the same or different characters can sometimes afford a more in depth examination and add to the experience” (Lowenstein, 2011, p. 194)
- 9) Criticism should be avoided by all; emphasize positive behaviors.

10) The facilitator is charged with channeling the role play discussion and should terminate the play when the objectives have been met or the emotional climate calls for intervention.

## Appendix F

### Checklist for Orienting Students to the High fidelity patient simulation Experience

- 1) Simulation Technology
  - a. Features of the simulator manikins (physiologic responses, voice responses)
  - b. Limitations of the simulator manikins (mechanical sounds, special handling required)
  - c. Control room activities during simulation
  - d. Use of videotaping
- 2) Simulation Process
  - a. Pre-briefing
  - b. Role assignment (primary nurse, secondary nurse, family members, Observers and/or interdisciplinary professionals)
  - c. Length of simulation scenario
  - d. Debriefing
  - e. Informed consent
  - f. Accessing the web link for the study
  - g. Observer role interviews
- 3) Resources (location and how to access)
  - a. Supplies and equipment
  - b. Human resources (“physician, “pharmacy”)
- 4) Expectations
  - a. Description and assignment of roles during simulation
  - b. Nursing skills to be performed

- c. Knowledge needed
  - d. Pre-simulation assignments
- 5) Simulated Patient Information
- a. History
  - b. Sources of information

## Appendix G

Dear Simulation Lab Coordinator,

I, Christine L. Hober, am a doctoral student at the University Of Kansas School Of Nursing attempting to complete my research in nursing simulation. I have been given permission by your program director to contact you via e-mail.

The purpose of my research is to examine the perceptions of nursing students who role play in high fidelity patient simulation (HFPS), with particular attention to the Observer role. Using a descriptive, exploratory approach, the factors related to role play and Observer role enhancement will be described including the Observer's perception/experience of completing guided observer activity in the Observer role. Additionally role play practice experiences will be compared among the primary, secondary, family and Observer roles. The participants for this will include any senior Baccalaureate degree nursing student from your nursing program who have participated in HFPS and will be participating in an upcoming scheduled simulation course experience. The student will be randomly assigned to role play as the primary nurse, secondary nurse, family member, or Observers.

I will be contacting you about the dates and times that would most likely provide the best opportunities to access qualified participants for this study. Once we have determined this, I will ask you to forward a specific e-mail to the students requesting his/her participation in this study for me. This e-mail will include information about the study.

I appreciate any assistance you can provide me and I am looking forward to working with you and your institution in the completion of my research.

Sincerely,



Christine Hober, MSN, RN-BC, CNE, Doctoral student

[chober@kumc.edu](mailto:chober@kumc.edu)

Home phone: 785-743-5650

## Appendix H

Dear Potential Student Participant,

I, Christine L. Hober, am a doctoral student from the University Of Kansas School Of Nursing planning to complete research in nursing simulation. This e-mail is intended to let you know I will be attending one of your upcoming clinical simulations in your (medical surgical) nursing course. At this time I will request your participation in my study.

Please read the attached letter explaining my research plans. I am looking forward to meeting you and asking for your participation in my upcoming research.

If you have any questions, please do not hesitate to ask.

Sincerely,

A handwritten signature in cursive script that reads "Christine".

Christine Hober, MSN, RN-BC, CNE, Doctoral student  
Home phone: 785-743-5650  
[chober@kumc.edu](mailto:chober@kumc.edu)

## Appendix I

## Informative Letter for the Student Participants

Dear Nursing Student,

You are being invited to participate in a study. I am a doctoral student at the University Of Kansas School Of Nursing conducting research with Principal Investigator, Wanda Bonnel, RN, PhD. Participants in this study will be senior nursing students who have experienced high fidelity patient simulation (HFPS). The purpose of this study is to examine your experiences as nursing students with the various roles played in HFPS to better understand how to optimize the HFPS learning experience.

If you agree to participate in this study, your total participation will take approximately 30 minutes to complete the consent form and on-line surveys. Some students will also participate in a 30 minute taped interview. You will indicate your consent by signing a consent form and then completing on-line and in person questionnaires that ask about your experiences with simulation. Your participation in this study is voluntary and the choice not to participate or to quit at any time can be made without any penalty to you. There are no identified risks to you related to your participation in this study. You are unlikely to benefit from participating in this study, although you may benefit through improved understanding of role play in high fidelity simulation. This study is in no way associated with your coursework or grades, and none of the information you provide will be accessible to any of your nursing faculty. Please find the consent forms attached.

If you have any questions you may address them to me at my home phone (785) 743-5650 or [chober@kumc.edu](mailto:chober@kumc.edu). Please print a copy of this letter so that you may contact me should you have further questions about the study at a later time.

Sincerely,

Christine Hober, MSN, RN-BC, CNE, Doctoral student  
Home phone: 785-743-5650  
[chober@kumc.edu](mailto:chober@kumc.edu)



## Appendix J

**RESEARCH CONSENT FORM**

Form I of II

**TITLE: Experiences in the Implementation of a High fidelity patient simulation in Baccalaureate's Degree Nursing Programs**

You are being asked to join a research study. You are being asked to take part in this study because you are a senior student nurse with experiences within high fidelity patient simulation (HFPS). The main purpose of research is to create new knowledge for the benefit of future societies. Research studies may or may not benefit the people who participate.

Research is voluntary, and you may change your mind at any time. There will be no penalty to you if you decide not to participate, or if you start the study and decide to stop early. This consent form explains what you have to do if you are in the study. It also describes the possible risks and benefits. Please read the form carefully and ask as many questions as you need to, before deciding about this research.

You can ask questions now or anytime during the study. The researchers will tell you if they receive any new information that might cause you to change your mind about participating.

This research study will take place in your nursing school simulation lab with Christine Hober and Dr. Wanda Bonnel as the researchers. About 60 people will be in this study.

**BACKGROUND**

Research has shown multiple benefits of high fidelity patient simulation (HFPS) such as improved critical thinking, increased self-confidence, improved psychomotor skills, advanced communication skills, and increased awareness of patient safety and care issues. HFPS commonly employs role play (primary, secondary, family and Observer roles) to interconnect experiences, theory, and learning outcomes. As HFPS use continues to augment learning and clinical practicum preparation, it is important to learn more about this experience.

**PURPOSE**

Researchers need to evaluate specific processes and outcomes in HFPS role play. It is important to understand how to optimize the processes for engaging the varied roles of students in HFPS.

**PROCEDURES**

After completing your normally scheduled medical-surgical HFPS experience, and prior to the debriefing, all students will have opportunity to complete three surveys. These three surveys include: one about your background, a second about your simulation experiences, and a third on best practices in HFPS. Only the Observer students will be asked to complete a guided observation activity and participate in an interview with Christine Hober at the end of the situation experience. Aggregated, de-identified data will be reported in this study.

**RISKS**

Participation in this study does not involve physical risk or discomfort. You will be asked to describe personal experiences and opinions. If you are embarrassed or uncomfortable with any questions the researcher asks, you are free not to answer. In addition, this study has no course grade implications. There may be other risks of the study that are not yet known.

**NEW FINDINGS STATEMENT**

You will be told about anything new that might change your decision to be in this study. You may be asked to sign a new consent form if this occurs.

**BENEFITS**

You may or may not benefit from this study. For example, you may become more comfortable in simulation experiences and/or become more aware of role play in simulations. However, the researcher is hopeful that the information from this study will be useful in raising awareness about outcomes and processes of the Observer role in HFPS.

**ALTERNATIVES**

Participation in this study is voluntary. Deciding not to participate will have no effect on your education or course requirements in order to graduate from nursing school.

**COSTS**

There is no cost for being in the study.

**PAYMENT TO SUBJECTS**

There is no payment for this study.

**IN THE EVENT OF INJURY**

If you experience a problem during this study, you should immediately contact Christine Hober at her home number of 785-743-5650 or Dr. Wanda Bonnel at 913-588-3363.

If you have any bodily injury as a result of participating in this study, treatment will be provided for you at the usual charge. Treatment may include first aid, emergency care and follow-up, as needed. Claims will be submitted to your health insurance policy, your government program, or other third party, but you will be billed for the costs that are not covered by the insurance. You do not give up any legal rights by signing this form.

**INSTITUTIONAL DISCLAIMER STATEMENT**

If you think you have been harmed as a result of participating in research at the University of Kansas Medical Center (KUMC), you should contact the Director, Human Research Protection Program, Mail Stop #1032, University of Kansas Medical Center, 3901 Rainbow Blvd., Kansas City, KS 66160. Under certain conditions, Kansas state law or the Kansas Tort Claims Act may allow for payment to persons who are injured in research at KUMC.

**CONFIDENTIALITY**

The researcher will protect your information, as required by law. The researcher may publish the results of the study using aggregate, de-identified data. Your name will not be used in any publication or presentation about the study.

**QUESTIONS**

Before you sign this form, Christine Hober will answer all your questions. You can talk to her if you have any more questions, suggestions, concerns or complaints after signing this form. If you have any questions about your rights as a research subject, or if you want to talk with someone who is not involved in the study, you may call the Human Subjects Committee at (913) 588-1240. You may also write the Human Subjects Committee at Mail Stop #1032, University of Kansas Medical Center, 3901 Rainbow Blvd., Kansas City, KS 66160.

**SUBJECT RIGHTS AND WITHDRAWAL FROM THE STUDY**

You may stop being in the study at any time. Your decision to stop will not prevent you from getting treatment or services or from completing your nursing course. The entire study may be discontinued for any reason without your consent by the investigator conducting the study.

**CONSENT**

Christine Hober has given you information about this research study. She has explained what will be done and how long it will take. She has explained that only aggregate, de-identified data will be reported. Additionally, she has explained any inconvenience, discomfort or risks that may be experienced during this study.

By signing this form, you say that you freely and voluntarily consent to participate in this research study. You have read the information and had your questions answered.

*You will be given a signed copy of the consent form to keep for your records.*

Print Participant's Name

\_\_\_\_\_

Signature of Participant

Time

Date

\_\_\_\_\_

Print Name of Person Obtaining Consent

\_\_\_\_\_

Signature of Person Obtaining Consent

Date

## Appendix K

**RESEARCH CONSENT FORM**

Form II of II

**TITLE: Experiences in the Implementation of a High fidelity patient simulation in Baccalaureate's Degree Nursing Programs**

You are being asked to join a research study. You are being asked to take part in this study because you are a senior student nurse with experiences within high fidelity patient simulation (HFPS). The main purpose of research is to create new knowledge for the benefit of future societies. Research studies may or may not benefit the people who participate.

Research is voluntary, and you may change your mind at any time. There will be no penalty to you if you decide not to participate, or if you start the study and decide to stop early. This consent form explains what you have to do if you are in the study. It also describes the possible risks and benefits. Please read the form carefully and ask as many questions as you need to, before deciding about this research.

You can ask questions now or anytime during the study. The researchers will tell you if they receive any new information that might cause you to change your mind about participating.

This research study will take place in your nursing school simulation lab with Christine Hober and Dr. Wanda Bonnel as the researchers. About 60 people will be in this study.

**BACKGROUND**

Research has shown multiple benefits of high fidelity patient simulation (HFPS) such as improved critical thinking, increased self-confidence, improved psychomotor skills, advanced communication skills, and increased awareness of patient safety and care issues. HFPS commonly employs role play (primary, secondary, family and Observer roles) to interconnect experiences, theory, and learning outcomes. As HFPS use continues to augment learning and clinical practicum preparation, it is important to learn more about this experience.

**PURPOSE**

Researchers need to evaluate specific processes and outcomes in HFPS role play. It is important to understand how to optimize the processes for engaging the varied roles of students in HFPS.

**PROCEDURES**

You have completed the normally scheduled medical-surgical HFPS experience. Within this experience you had the opportunity to complete three surveys and the Guided Observer activity. As an Observer student, you are now being asked to participate in an interview with Christine Hober. Only aggregated, de-identified data will be reported in this study.

**RISKS**

Participation in this study does not involve physical risk or discomfort. You will be asked to describe personal experiences and opinions. If you are embarrassed or uncomfortable with any questions the researcher asks, you are free not to answer and can leave the interview session at any time. In addition, this study has no course grade implications. There may be other risks of the study that are not yet known.

**NEW FINDINGS STATEMENT**

You will be told about anything new that might change your decision to be in this study. You may be asked to sign a new consent form if this occurs.

**BENEFITS**

You may or may not benefit from this study. For example, you may become more comfortable in simulation experiences and/or become more aware of role play in simulations. However, the researcher is hopeful that the information from this study will be useful in raising awareness about outcomes and processes of the Observer role in HFPS.

**ALTERNATIVES**

Participation in this study is voluntary. Deciding not to participate will have no effect on your education or course requirements in order to graduate from nursing school.

**COSTS**

There is no cost for being in the study.

**PAYMENT TO SUBJECTS**

There is no payment for this study.

**IN THE EVENT OF INJURY**

If you experience a problem during this study, you should immediately contact Christine Hober at her home number of 785-743-5650 or Dr. Wanda Bonnel at 913-588-3363.

If you have any bodily injury as a result of participating in this study, treatment will be provided for you at the usual charge. Treatment may include first aid, emergency care and follow-up, as needed. Claims will be submitted to your health insurance policy, your government program, or other third party, but you will be billed for the costs that are not covered by the insurance. You do not give up any legal rights by signing this form.

**INSTITUTIONAL DISCLAIMER STATEMENT**

If you think you have been harmed as a result of participating in research at the University of Kansas Medical Center (KUMC), you should contact the Director, Human Research Protection Program, Mail Stop #1032, University of Kansas Medical Center, 3901 Rainbow Blvd., Kansas City, KS 66160. Under certain conditions, Kansas state law or the Kansas Tort Claims Act may allow for payment to persons who are injured in research at KUMC.

**CONFIDENTIALITY**

The researcher will protect your information, as required by law. The researcher may publish the results of the study using aggregate, de-identified data. Your name will not be used in any publication or presentation about the study.

**QUESTIONS**

Before you sign this form, Christine Hober will answer all your questions. You can talk to her if you have any more questions, suggestions, concerns or complaints after signing this form. If you have any questions about your rights as a research subject, or if you want to talk with someone who is not involved in the study, you may call the Human Subjects Committee at (913) 588-1240. You may also write the Human Subjects Committee at Mail Stop #1032, University of Kansas Medical Center, 3901 Rainbow Blvd., Kansas City, KS 66160.

**SUBJECT RIGHTS AND WITHDRAWAL FROM THE STUDY**

You may stop being in the study at any time. Your decision to stop will not prevent you from getting treatment or services or from completing your nursing course. The entire study may be discontinued for any reason without your consent by the investigator conducting the study.

**CONSENT**

Christine Hober has given you information about this research study. She has explained what will be done and how long it will take. She has explained that only aggregate, de-identified data will be reported. Additionally, she has explained any inconvenience, discomfort or risks that may be experienced during this study.

By signing this form, you say that you freely and voluntarily consent to participate in this research study. You have read the information and had your questions answered.

*You will be given a signed copy of the consent form to keep for your records.*

Print Participant's Name

\_\_\_\_\_

Signature of Participant

Time

Date

\_\_\_\_\_

Print Name of Person Obtaining Consent

\_\_\_\_\_

Signature of Person Obtaining Consent

Date

\_\_\_\_\_

## Appendix L

## Hoher Student Demographic Questionnaire

## Participant Demographics

Personal Identifier: \_\_\_\_\_

Which school of nursing do you attend:    1 = FHSU    2 = KUMC

Age: \_\_\_\_\_

Gender:    \_\_\_\_\_ Male    \_\_\_\_\_ Female

Race:    \_\_\_\_\_ Black or African American    \_\_\_\_\_ White

\_\_\_\_\_ Hispanic or Latino    \_\_\_\_\_ Asian

\_\_\_\_\_ other, please specify \_\_\_\_\_

How many high-fidelity simulation experiences (with SimMan or a similar manikin) have you been involved in during your nursing education? Please specify the number of times: \_\_\_\_\_

What is your comfort level with high fidelity patient simulation in educational settings? Please rate –

Low (1)

Medium (2)

High (3)

On a scale of 1 to 5 (1 being dissatisfied and 5 being satisfied), please circle the number which best expresses how satisfied you are with your past simulation experiences:

1

2

3

4

5

## Appendix M

## Hober Written Survey

## High Fidelity Patient Simulation (HFPS) Experience

Personal Identifier: \_\_\_\_\_

Number of Observer(s) in today's experience: \_\_\_\_\_

1) In today's simulation experience, what role did you play?

\_\_\_\_\_ Primary nurse

\_\_\_\_\_ Secondary nurse

\_\_\_\_\_ Family member

\_\_\_\_\_ Observer

\_\_\_\_\_ other, please specify \_\_\_\_\_

2) What does role play mean to you in HFPS?

3) What were three important themes learned during the HFPS experience today?

4) What were three key assessments of the HFPS experience today?

5) What were three key interventions of the HFPS experience today?

6) In looking back at the HFPS, what is one nursing action that should have been completed differently today?

a. Why?

7) What does clinical judgment mean to you?

8) Were you able to use clinical judgment in the HFPS experience today?

a. Why or why not?

9) If you could redo one part of the HFPS experience today, what would it be?

a. Why?

10) Is there anything else you would like to comment on about today's experience?



11) Thinking back to a recent experience where you were the Observer in HFPS, what was the best or most challenging aspect?

## Appendix N

## Hober Qualitative Interview Prompts

## Observer Open-Ended Interview Guide

Personal Identifier: \_\_\_\_\_

Number of Observer(s) in today's experience: \_\_\_\_\_

- 1) How would you describe your experience as an Observer?
- 2) In your experience, what is the most beneficial aspect of being an Observer?
- 3) In your experience, what is the most challenging aspect of being an Observer?
- 4) What is one thing that happened today that made you feel you were part of the simulation?
- 5) What is one thing that happened today that best helped you understand the HFPS experience?
- 6) What is one thing that happened today that helped you react to the simulation?
- 7) Upon analyzing the HFPS experience, what would you recommend doing differently?
  - a. Why?
- 8) What was it like to do the Guided Observer Activity?
- 9) What recommendations would you suggest for making the Observer role more meaningful in HFPS?
- 10) Thinking back to a recent experience where you were the Observer in HFPS, what was the most engaging aspect?
- 11) Is there anything else you would like to say before leaving?

## Appendix O

## Hober Guided Observer Activity

## Observer High Fidelity Patient Simulation (HFPS) Activity

Personal Identifier: \_\_\_\_\_

Number of Observer(s) in today's experience: \_\_\_\_\_

In the simulation experience you are observing today:

- 1) Are appropriate introductions made and descriptions of what is to be done?
- 2) What are at least three patient safety issues you noticed?
- 3) What specific nursing skills are demonstrated?
- 4) What patient outcomes are noted?
- 5) What best practice recommendations would you make to the team?
- 6) What were the team's biggest challenges?
- 7) What did the team do best in their performance?

## Appendix P

## NLN Permission to Use the Educational Practices in Simulation Scale

From: Christine Hober Saturday - April 30, 2011 6:18 AM  
To: [research@nlm.org](mailto:research@nlm.org)  
CC: Wanda Bonnel  
Subject: Release of EPSS-S tool

Attachments: NLN\_Requestform COMPLETED.doc (136 KB) [\[View\]](#) [\[Open\]](#) [\[Save As\]](#)

Good Day,

I am formally requesting the release and permission to use the tool **Educational Practices Questionnaire Student Version (EPSS-S)**. I plan on using the tool with **approximately 60** nursing students for my Dissertation work in the Midwestern United States. The NLN/Laerdal Simulation Project Instrument Request Form is attached. My check was cashed for \$50.00 on 3-31-11 according to my bank records.

Thank-you,

Christine Hober

**REPLY:**

From: "Nasreen Ferdous" <nferdous@nlm.org> Monday - May 2, 2011 1:02 PM To:  
<chober@kumc.edu> Subject: Regarding: Request for NLN Survey Instruments Attachments:  
Instrument 1\_Educational Practices Questionnaire.pdf (20 KB) [\[View\]](#) [\[Open\]](#) [\[Save As\]](#)  
Mime.822 (45 KB) [\[View\]](#) [\[Save As\]](#)

It is my pleasure to grant you permission to use the "Educational Practices Questionnaire, NLN/Laerdal Research Tool. In granting permission to use the instrument, it is understood that the following assumptions operate and "caveats" will be respected:

1. It is the sole responsibility of (you) the researcher to determine whether the NLN questionnaire is appropriate to her or his particular study.
2. Modifications to a survey may affect the reliability and/or validity of results. Any modifications made to a survey are the sole responsibility of the researcher.

3. When published or printed, any research findings produced using an NLN survey must be properly cited as specified in the Instrument Request Form. If the content of the NLN survey was modified in any way, this must also be clearly indicated in the text, footnotes and endnotes of all materials where findings are published or printed.

I am pleased that material developed by the National League for Nursing is seen as valuable as you evaluate ways to enhance learning, and I am pleased that we are able to grant permission for use of the “Educational Practices Questionnaire,” instrument.

Nasreen Ferdous | Grant Assistant | National League for Nursing | [www.nln.org](http://www.nln.org)  
nferdous@nln.org | Phone: 212-812-0315 | Fax: 212-812-0391 | 61 Broadway | New York, NY  
10006

## Appendix Q

## Educational Practices in Simulation Scale (Student Version) (EPSS-S)

## Educational Practices Questionnaire (Student Version)

In order to measure if the best practices are being used in your simulation, please complete the survey below as you perceive it. There are no right or wrong answers, only your perceived amount of agreement or disagreement. Please use the following code to answer the questions.

| Use the following rating system when assessing the educational practices:   |                         |                         |                         |                         |                         |                          | Rate each item based upon how important that item is to you.                                      |                         |                         |                         |                         |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|--------------------------|---|-------------------------|-------------------------|-------------------------|-------------------------|
| 1 - Strongly Disagree with the statement<br>2 - Disagree with the statement<br>3 - Undecided - you neither agree or disagree with the statement<br>4 - Agree with the statement<br>5 - Strongly Agree with the statement<br>NA - Not Applicable; the statement does not pertain to the simulation activity performed. |                         |                         |                         |                         |                         |                          | 1 - Not Important<br>2 - Somewhat Important<br>3 - Neutral<br>4 - Important<br>5 - Very Important |                         |                         |                         |                         |
| Item  | 1                       | 2                       | 3                       | 4                       | 5                       | NA                       | 1   | 2                       | 3                       | 4                       | 5                       |
| <b>Active learning</b>  |                         |                         |                         |                         |                         |                          |   |                         |                         |                         |                         |
| 1. I had the opportunity during the simulation activity to discuss the ideas and concepts taught in the course with the teacher and other students.   | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 | <input type="radio"/> NA | <input type="radio"/> 1   | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 |
| 2. I actively participated in the debriefing session after the simulation.  | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 | <input type="radio"/> NA | <input type="radio"/> 1   | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 |
| 3. I had the opportunity to put more thought into my comments during the debriefing session.  | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 | <input type="radio"/> NA | <input type="radio"/> 1   | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 |
| 4. There were enough opportunities in the simulation to find out if I clearly understand the material.  | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 | <input type="radio"/> NA | <input type="radio"/> 1   | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 |
| 5. I learned from the comments made by the teacher before, during, or after the simulation.   | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 | <input type="radio"/> NA | <input type="radio"/> 1   | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 |
| 6. I received cues during the simulation in a timely manner.  | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 | <input type="radio"/> NA | <input type="radio"/> 1   | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 |
| 7. I had the chance to discuss the simulation objectives with my teacher.   | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 | <input type="radio"/> NA | <input type="radio"/> 1   | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 |
| 8. I had the opportunity to discuss ideas and concepts taught in the simulation with my instructor.   | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 | <input type="radio"/> NA | <input type="radio"/> 1   | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 |
| 9. The instructor was able to respond to the individual needs of learners during the simulation.  | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 | <input type="radio"/> NA | <input type="radio"/> 1   | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 |
| 10. Using simulation activities made my learning time more productive.  | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 | <input type="radio"/> NA | <input type="radio"/> 1   | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 |

## Educational Practices Questionnaire (Student Version)

| Use the following rating system when assessing the educational practices:<br>1 - Strongly Disagree with the statement<br>2 - Disagree with the statement<br>3 - Undecided - you neither agree or disagree with the statement<br>4 - Agree with the statement<br>5 - Strongly Agree with the statement<br>NA - Not Applicable; the statement does not pertain to the simulation activity performed. |                         |                         |                         |                         |                         |                          | Rate each item based upon how important that item is to you.<br>1 - Not Important<br>2 - Somewhat Important<br>3 - Neutral<br>4 - Important<br>5 - Very Important |                         |                         |                         |                         |
|--|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|--------------------------|---|-------------------------|-------------------------|-------------------------|-------------------------|
| Item   | 1                       | 2                       | 3                       | 4                       | 5                       | NA                       | 1   | 2                       | 3                       | 4                       | 5                       |
| <b>Collaboration</b>   |                         |                         |                         |                         |                         |                          |   |                         |                         |                         |                         |
| 11. I had the chance to work with my peers during the simulation.  | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 | <input type="radio"/> NA | <input type="radio"/> 1   | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 |
| 12. During the simulation, my peers and I had to work on the clinical situation together.  | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 | <input type="radio"/> NA | <input type="radio"/> 1   | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 |
| <b>Diverse Ways of Learning :</b>  |                         |                         |                         |                         |                         |                          |   |                         |                         |                         |                         |
| 13. The simulation offered a variety of ways in which to learn the material.   | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 | <input type="radio"/> NA | <input type="radio"/> 1   | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 |
| 14. This simulation offered a variety ways of assessing my learning.   | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 | <input type="radio"/> NA | <input type="radio"/> 1   | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 |
| <b>High Expectations</b>   |                         |                         |                         |                         |                         |                          |   |                         |                         |                         |                         |
| 15. The objectives for the simulation experience were clear and easy to understand.  | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 | <input type="radio"/> NA | <input type="radio"/> 1   | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 |
| 16. My instructor communicated the goals and expectations to accomplish during the simulation.   | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 | <input type="radio"/> NA | <input type="radio"/> 1   | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 |

## Appendix R

## Hober Cliff Notes

## Transcribing Key Meanings from the Taped Interview Notes

Chart 6: Observers 11, 12, &amp; 13

Date: October 16, 2011 Discussion

Key: ReP = Reflective Practitioner

Theme Development? Balancing benefits of Observer role and challenges of Ob role = *seeing the experience good but at same time sitting back hard*

| Topic of Discussion<br>For MEANINGS              | Observer 11= Kate   | Observer 12 = Luke   | Observer 13 = Mark   |
|--|---|--|--|
| 1) Description of experience                     | <p>“good to see the steps that she would take and then think differently about things she should do”</p> <p>ReP = Meaningful: think about different routes to fix problems</p>    | Great experience – able to describe asthmatic patient experience             | Described Nurse flow from wondering to flustered to centered patient care (HOB elevated) and transfer to ICU |
| 2) Act of being Observer, most beneficial aspect | <p>Seeing it from the outside &amp; being able to think it through;</p> <p>think about different aspects in “controlled stress levels” before you are put into that situation</p> | Seeing it firsthand how physical it can be for Nurse, how <b>crazy</b> it is | Yes – no pressure, think clearer; Lines 41-43 process  |



|                                    |   |  |   |
|------------------------------------|---|--|---|
| <b>3) Most challenging</b>         | <p>Not being able to intervene, wanted to help Nurse</p> <p>Reflection good = allows you to remediate and lines 67-71</p> | <p>Sitting back and letting it happen; wanted hands on; Observer role still good = reflection can help you</p>   | <p>Watching Nurse go through “horrible” situation; wanted to help Nurse</p> <p>RELATED to Nurse role – would likely do same – awkward to later educate on could have done ...</p> |
| <b>4) Feel part of simulation</b>  | <p>Yes = worksheet: focus on scenario &amp; safety to benefit Nurse and patient</p>                                       | <p>Simulation no; reflection yes</p>   | <p>Simulation no; debriefing yes “<i>being brought into it by being able to talk about what I would do in that situation</i>”</p> <p>RELATED to Nurse = lines 72-75</p>           |
| <b>5) Best understand scenario</b> | <p>Being able to see it</p>   | <p>Physiologic responses to meds</p>   | <p>Debriefing – going over it and saying how we did things and what made pt better</p>  |
| <b>6) Helped student to react</b>  | <p>Physically react = No.</p> <p>Mentally going through scenario in head</p>  | <p>Physically react = No.</p> <p>Let Nurse do her simulation; put 2 cents in later – did “<i>not want to overstep my boundaries and do it because they need to learn themselves and do it themselves to see what happens</i>” line 67+</p> | <p>Physically react = No.</p> <p>Communication – wanted to decrease her anxiety</p>   |

|   |  |   |  |
|---|--|---|--|
| <b>7) Recommend changing</b>                                      | <p>N/A.</p> <p>Beneficial to “. . . enter into that environment without it being actually life-threatening <i>[that one would be]</i> in anyway”</p> | <p>N/A.</p> <p>Adequate prep needed</p>   | <p>N/A</p> <p>Simulation design adequate, supplies available</p>   |
| <b>8) Thoughts of Guided Observer Activity (GOA)</b>              | <p>Provided focus – ideas, pick out parts of scenario important, enhanced effective use of time</p>  | <p>Easy to do, self-explanatory; activity that mattered;</p> <p>everyone get use because of different views</p>   | <p>Nervous, once started pretty easy to write down on</p> <p>Change – biggest challenges question and add microphone</p> <p>Communicate = feel like part of the team</p> |
| <b>9) Recommendations for Observer role to be more meaningful</b> | <p>Ability to interject, communicate</p> <p>Later conclusion: microphone too disruptive; with glass wall, just do GOA</p>                            | <p>Letting Observer say something during activity, like communication</p>   | <p>No suggestions</p>  |
| <b>10) Past experience of Observer role</b>                       | <p>N/A Observer in Sim</p> <p>Yes = patient code; adrenaline rush being there and learned importance of fast reactions</p>                           | <p>N/A Observer in Sim</p> <p>Yes Observer for skills = liked to watch peers and help if classmate struggling</p> | <p>N/A Observer in Sim</p> <p>Yes Observer in clinical – vagal response; good to be Observer and know their thought processes and what</p>                               |

|                           |  |  |   |
|---------------------------|--|--|---|
|                           |  |  | they did; could evaluate = asked why  |
| <b>11) Closing remark</b> | Observer role meaningful = 2 perspectives = things done (all do things differently) and what else could have been done | Great experience; helps you understand it all better.<br><br>Flip roles – new simulation activity so that Observer Role remains meaningful | Observer role meaningful in some spots “... <i>making notes on what to do and what you would change even though you are note physically doing it you are thinking in your head like what you I do ...</i> ” Lines 208-211 |

## Appendix S

## High Fidelity Patient Simulation Activity for Site One

**Medical-Surgical Simulation Activity with Course Modifications**  
NLN/Laerdal ©**Learning Objectives:**

- 1) Identify important elements of the patient history
- 2) Perform clinical assessment skills to manage acute asthma
- 3) Demonstrate appropriate cardiac and respiratory monitoring
- 4) Demonstrate patient safety
- 5) Implement effective patient and team communication

**Brief Description of Client:****Name:** Isaac Morris**Dx:** Acute Asthma**Age:** 26 y/o**Gender:** M**Race:** Caucasian**Marital status:** Single**Weight:** 69 kg**Height:** 67 inches**Religion:** Catholic**Major Support:** Brother Jeffrey, roommates**Allergies:** NKDA**Immunizations:** Up to date. Flu vaccination current**Attending Physician/Team:** Dr. Modester

**Past Medical History:** History of asthma since infancy, medically controlled. Nonsmoker. Intermittent onsets of acute respiratory distress since age 17. Current home medications include albuterol inhaler BID and prn and Ipratropium inhaler BID.

**History of Present illness:** History of asthma, otherwise healthy. NKDA. Non-smoker. No past hospitalizations. Requires occasional oral steroids for mild to moderate acute exacerbations, last occurrence one a year ago. Currently uses B2 agonist inhaler prn.

**Social History:** Lives with brother Jeffrey in rented apartment downtown. Works part time as waiter, attending college full time.

**Family History:** He has two grown healthy sisters living out of the state. Father deceased AMI one year ago. Mother works as grade school teacher with history of medically controlled asthma. Grandparents live in area, poor health, retired.

**Situation:** Developed URI 3 days ago, and needing to use inhaler more frequently. This am he awoke with marked worsening in his breathing, unresponsive to his own B2 agonist inhaler. He has productive cough, pink tinged. Alert and extremely anxious, pale, using accessory muscles to breath. VS = 98.6F, 128, 32, 145/90. 86% on 10 LPM nonrebreather.

**Physician Orders:**

- Vital signs per routine
- Continuous pulse oximetry
- Oxygen per nonrebreather mask, titrate to keep oxygen saturation (SpO<sub>2</sub>) 92%
- Regular diet
- Up ad lib
- Incentive spirometer and flutter valve 10 times per hour while awake
- Respiratory txs BID and prn
- Obtain stat ECG for chest pain
- AM labwork ABG, CBC.
- Continue medications

**Other assessment data to initiate simulation:**

**1) AM Labwork:**

**ABG:**

pH (7.34 -7.46) = 7.25  
 HCO<sub>3</sub><sup>-</sup> (22-26) =26.5mEq/L  
 Base excess (+/-2) =-2.4  
 pCO<sub>2</sub> (33-46) =69.8mmHg  
 pO<sub>2</sub> (75-100) =41.8mmHg  
 SaO<sub>2</sub> (<95) =75%  
 Lactate (0-1) =2.5mM  
 HCT (0.4-0.45)= 0.44mEq/L  
 K<sup>+</sup> (3.6-4.6) =4.1mEq/L  
 Na<sup>+</sup> (133-143) = 135mEq/L  
 Cl<sup>-</sup> (60-100) =98.2mEq/L  
 Ca<sup>++</sup> (4.4-4.9) = 6.1mg/dl  
 Glucose (70-110)= 79.6mg/dl  
 Hg (10.-14.5) =14.83g/dl  
 Co-Hb (<3) =0.00%

**CBC:**

Hg (13.5-17.5) =14.84  
 HCT (40-45) =45

WBC ( $4 - 10 \times 10^9$ ) =  $8.2 \times 10^9$

Platelets ( $150 - 400 \times 10^9$ ) =  $279 \times 10^9$

## 2) Medications:

### **Routine per MAR:**

albuterol (nebulized)

Ipratropium (Nebulized)

magnesium sulfate 1g, (IV/IO bolus)

Methylprednisolone 100mg IV/IO bolus

Propofol (IV/IO bolus)

Normal Saline infusion

Succinylcholine (IV/IO bolus)

Terbutaline (IV/IO bolus)

Thiopental IV/IO bolus

### **PRN:**

Morphine sulfate 4mg/ml

fentanyl 50mcg/ml

Naloxone 0.04mg/ml

Amiodarone 1.2mg/ml

Lorazepam 2mg/ml

Hydromorphone 8mgpo, IV, IO bolus

Diazepam 5mg /ml

Budesonide (inhaler/nebulized)

## Appendix T

## High Fidelity Patient Simulation Activity for Site Two

**Brief Description of Client:****Name:** James Robinson**Gender:** M**Age:** 76 yr      **Race:** Caucasian**Ethnicity:** Caucasian**Marital status:** Married**Weight:** 100 kg      **Height:** 71 inches**Religion:** Christian**Major Support:** Wife**Allergies:** NKA**Immunizations:** Up to date. Flu vaccination last Fall.**Attending Physician/Team:** Dr. Grey

**Past Medical History:** Fractured left arm in 1964 and Laproscopic cholecystectomy last year. He has congestive heart failure. His home medications are carvedilol, lanoxin, furosemide, lisinopril, and Simvastin which was recently added to his medication regimen by his cardiologist.

**History of Present illness:** Client is a 76 year old 65 kg male admitted to Emergency Department with left arm and chest pain. A STAT ECG was obtained and the client received oxygen 2 L/NC, aspirin 81 mg, nitroglycerine 0.3 mg SL every 5 minutes x 3, morphine sulfate 2 mg IV x 2. Pain relieved with NTG and morphine. No previous history of chest pain. Client reports indigestion 2-3 times per week.

Vital Signs upon admission: 37 °C oral: BP 142/84, HR 72, RR 18, T 37, SpO2 92%.

Labs:

Troponin < 0.2 mcg/L

CPK (total) 124 international units/L

CPK-MB: 5.4

Brain natriuretic peptide (BNP): 75 ng/L

**Social History:** Lives with wife in single family dwelling. He has two grown children with families. They live in the area. His elderly mother lives in an assisted living facility. He is retired, but had worked as a welder.

**Family History:** Mother is living, she has NIDDM and PVD. Father died at 88 from heart failure. He has one brother with hypertension and BPH.

**Physician Orders:**

- Vital signs per routine
- Continuous pulse oximetry
- Oxygen per NC, titrate to keep oxygen saturation (SpO<sub>2</sub>) 92%
- 2 gm Na, low cholesterol diet
- Fluid restriction 2L per day
- Meticulous I & O
- BR with BRP
- TED hose
- Saline lock with flushes every 8 hours
- Lanoxin (digoxin) 0.25 mg PO daily
- Lasix (furosemide) 40 mg PO daily
- Carvedilol (Coreg) 12.5 mg PO daily
- Lisinopril 5 mg PO daily
- ASA (aspirin) 81 mg po daily
- Nitroglycerine 0.3 mg SL every 5 min prn angina, may repeat twice
- Morphine 2 mg IV for pain not relieved by nitroglycerine
- Obtain stat ECG with chest pain
- NPO after 0600 for cardiac catheterization in AM



## Appendix U

## Total Sample Characteristics

Observers who completed the Hober Qualitative Interview Prompts:

|          | Site One | Site Two |
|----------|----------|----------|
| Observer | 13       | 10       |

Participants who completed the on-line Hober Written Survey & EPSS-S\* tool:

|                 | Site One | Site Two |
|-----------------|----------|----------|
| Observer        | 10       | 6        |
| Primary Nurse   | 12*      | 15       |
| Secondary Nurse | 1        | 6        |
| Total           | 23*      | 27       |

Note. \*One Primary Nurse from Site One completed the on-line Hober Written Survey but did not complete the EPSS-S tool.

## Appendix V

### Qualitative Findings: Themes and Categories Described by the Interviews

Theme I: Conceptualizing the learning experience – captures the participants’ ability to minimize stress and learn by analyzing the performances of peers.

Three categories of Theme I:

- 1) Minimizing the stress for applied learning - a decrease in stress knowing that the focus of the simulation experience would be on the performance of peers.
- 2) Collecting data and thoughts - noticing, interpreting, and recording peer performance in the simulation experience.
- 3) Contemplating/ calculating – analysis of the risks and benefits of patient care interventions implemented, or not, in the simulation experience by peers.

Theme II: Capturing the big picture – encompasses the participants’ comprehensive grasp of the simulation experience from his/her unique point of view.

Three categories of Theme II:

- 1) Increasing confidence in thinking – verbalizing needed or missing patient care that one would implement in the simulation.
- 2) Gaining a different point of view – surmising patient care needs after viewing the simulation ‘set’ from a unique locus.
- 3) Concluding/ confirming - seeing the pieces of the simulation come together.

Theme III: Connecting with the team – creates the participants’ means for verbal and nonverbal communication with the simulation team.

Two Categories of Theme III:

- 1) Communicating - verbal and nonverbal interconnections between the simulation team occurring during preconference, the main simulation experience, and/or debriefing.
- 2) Consulting - verbal communication in debriefing by the Observer in support of achieving competency skills and learning outcomes for the simulation experience.

## Appendix W

*Comparison of Observer (n=16) and Nonobserver (n=33) Mean, Standard Deviation, and Independent T-Test Significance for Each Presence Question of the Educational Practices in Simulation Scale (Student Version) (EPSS-S)*

|   | Observers<br>n=16<br>Mean (SD) | Nonobservers<br>n=33<br>Mean (SD) |
|---|--------------------------------|-----------------------------------|
| <b>Active Learning</b>  |                                |                                   |
| 1. Opportunity during simulation<br>to discuss ideas **                     | 3.81(1.33)                     | 4.72(.72)                         |
| 2. Active participation in<br>debriefing                                    | 4.63(1.09)                     | 4.58(.83)                         |
| 3. Opportunity to put more<br>thoughts into comments<br>during debriefing   | 4.44(1.15)                     | 4.48(.76)                         |
| 4. Enough opportunities in simulation<br>to clearly understand materials ** | 4.00(1.15)                     | 4.60(.70)                         |
| 5. Learned from teacher comments<br>before, during, and after simulation    | 4.31(1.20)                     | 4.64(.82)                         |
| 6. Received cues during simulation<br>in timely manner                      | 4.44(1.36)                     | 4.18(.85)                         |
| 7. Chance to discuss simulation   |                                |                                   |

|                                      |            |            |
|--------------------------------------|------------|------------|
| objectives with instructor           | 4.25(1.06) | 4.70(.73)  |
| 8. Opportunity during simulation     |            |            |
| to discuss ideas with instructor     | 4.38(1.02) | 4.70(.64)  |
| 9. Instructor was able to respond to |            |            |
| individual needs of learner          | 3.94(1.44) | 4.51(1.03) |
| 10. Simulation activity made my      |            |            |
| learning time more productive        | 4.38(1.02) | 4.24(1.28) |

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### **Collaboration**

|                              |            |           |
|------------------------------|------------|-----------|
| 11. Chance to work with my   |            |           |
| peers during simulation      | 4.38(1.09) | 4.64(.55) |
| 12. My peers and I worked on |            |           |
| clinical situation together  |            |           |
| during simulation            | 4.31(1.14) | 4.61(.50) |

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### **Diverse Ways of Learning**

|                                   |            |           |
|-----------------------------------|------------|-----------|
| 13. Simulation offered variety of |            |           |
| ways to learn material            | 4.31(1.08) | 4.61(.50) |
| 14. Simulation offered variety of |            |           |
| ways to assess my learning        | 4.19(1.11) | 4.51(.57) |

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### **High Expectations**

|                                    |            |           |
|------------------------------------|------------|-----------|
| 15. Objectives for simulation were |            |           |
| clear and easy to understand       | 4.44(1.09) | 4.64(.60) |

|   |            |           |
|---|------------|-----------|
| 16. My instructor communicated<br>goals and expectations to<br>accomplish during simulation | 3.88(1.15) | 4.36(.65) |
|---|------------|-----------|

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Note: \*\* Significant Independent Samples T-Test differences between Observer and Nonobserver at  $p < .05$

## Appendix X

*Comparison of Observer (n=16) and Nonobserver (n=33) Mean, Standard Deviation, and Independent T-Test Significance for Each Importance Question of the Educational Practices in Simulation Scale (Student Version) (EPSS-S)*

|   | Observers<br>n=16<br>Mean (SD) | Nonobservers<br>n=33<br>Mean (SD) |
|---|--------------------------------|-----------------------------------|
| <b>Active Learning</b>  |                                |                                   |
| 1. Opportunity during simulation<br>to discuss ideas                      | 4.25(1.13)                     | 4.52(.67)                         |
| 2. Active participation in<br>debriefing                                  | 4.31(1.08)                     | 4.55(.56)                         |
| 3. Opportunity to put more<br>thoughts into comments<br>during debriefing | 4.31(1.08)                     | 4.48(1.00)                        |
| 4. Enough opportunities in simulation<br>to clearly understand materials  | 4.38(1.09)                     | 4.36(1.19)                        |
| 5. Learned from teacher comments<br>before, during, and after simulation  | 3.88(2.42)                     | 4.48(1.84)                        |
| 6. Received cues during simulation<br>in timely manner **                 | 3.75(1.81)                     | 4.73(.72)                         |
| 7. Chance to discuss simulation<br>objectives with instructor             | 3.38(2.09)                     | 4.24(1.71)                        |

|  |            |            |
|--|------------|------------|
| 8. Opportunity during simulation<br>to discuss ideas with instructor | 2.81(2.81) | 4.01(2.12) |
| 9. Instructor was able to respond to<br>individual needs of learner  | 4.25(1.06) | 4.33(1.11) |
| 10. Simulation activity made my<br>learning time more productive     | 4.31(1.08) | 4.24(1.09) |

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### **Collaboration**

|   |            |            |
|---|------------|------------|
| 11. Chance to work with my<br>peers during simulation                               | 2.81(2.81) | 3.64(2.52) |
| 12. My peers and I worked on<br>clinical situation together<br>during simulation ** | 4.25(1.06) | 4.73(.52)  |

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### **Diverse Ways of Learning**

|   |            |            |
|---|------------|------------|
| 13. Simulation offered variety of<br>ways to learn material     | 4.25(1.18) | 4.58(.97)  |
| 14. Simulation offered variety of<br>ways to assess my learning | 3.31(2.21) | 2.79(2.23) |

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### **High Expectations**

|  |            |            |
|--|------------|------------|
| 15. Objectives for simulation were<br>clear and easy to understand | 4.12(1.50) | 4.24(1.32) |
|--|------------|------------|



|   |            |            |
|---|------------|------------|
| 16. My instructor communicated<br>goals and expectations to<br>accomplish during simulation | 3.75(1.81) | 4.06(1.68) |
|---|------------|------------|

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Note: \*\* Significant Independent Samples T-Test differences between Observer and Nonobserver at  $p < .05$