Affective Domain Learning in High-Fidelity Simulation: Students’ Perspectives

Ketty M. Holt

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UNIVERSITY OF NORTHERN COLORADO

Greeley, Colorado

The Graduate School

AFFECTIVE DOMAIN LEARNING IN HIGH-FIDELITY SIMULATION: STUDENTS’ PERSPECTIVES

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

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ABSTRACT


Affective domain learning is an integral element to developing nursing students who can provide holistic, patient-centered nursing care. Often an invisible objective in nursing education, affective learning is rarely described beyond the first two levels of the domain: receiving and responding. In this phenomenological inquiry, the experiences of undergraduate nursing students, while participating in high-fidelity simulation, were examined and described for affective domain learning. In addition, this study compared the descriptions of third- and fourth-year students in an effort to understand the progressive nature of affective learning. Twenty-five third- and fourth-year students from the baccalaureate nursing programs of two universities, one private and one state-supported, shared their experiences during individual interviews. The following themes emerged from the data: anxious about not knowing; confidence to create meaning; excited by growing and developing; enjoyed learning; pressured by being observed; ambivalent when relating to the manikin and/or scenario; and values, beliefs, and attitudes about nursing. The findings support the developmental nature of affective learning. Both junior and senior participants described anxiety anticipating their first simulation experiences. Generally, anxiety decreased and confidence grew with more simulation experiences. A noteworthy finding related to six students (four
seniors, two juniors) who described persistent anxiety at a level that interfered with their learning. Junior participants described their first experiences with simulation as following a checklist and were concerned about making mistakes. Fourth-year students described simulation as more about learning and less about performing perfectly. They connected simulation with their future career as nurses and the complex scenarios they participated in as important to affective learning and the ethical issues significant to nursing. Future recommendations for nursing education include explicitly including affective learning expectations in preparing students for simulation and making affective learning visible during the debriefing phase of simulation. Nurse educators are encouraged to develop and adopt a more individualized approach to simulation participation and consider ways to incorporate affective learning elements in basic scenarios.
ACKNOWLEDGMENTS

A hospital administrator once challenged, “What brings you joy? Whatever it is, make sure you do some of it every day.” The answer to that question involved learning, and I give the credit to my parents who were both educators and instilled in me the love of learning at an early age. I’m grateful for others who have encouraged and nurtured me by their words and example: the first nursing instructor, Ran Norman, who showed me how much satisfaction I could experience by putting together the puzzle of the human response to illness; to Carlene Jamerson, who gave me the freedom to write my own job description as a bedside nurse educator; and to Peg Bear, who pushed me into my first research project and advanced degree. I’m grateful for the students I’ve encountered who asked questions, displayed their vulnerabilities, and challenged my presuppositions. I am grateful for Karen Drake, my current mentor and encourager, and the research committee led by Lory Clukey who have read and advised throughout the duration of this final project. Thanks to my sons, Andrew and Jason, whose own education and experience in healthcare make them well suited to listen and sometimes challenge my thinking. Most importantly, I am grateful for the loving support, patience, and expertise of Jerry, my husband. He listened well, responded wisely, and always believed in my ability to complete this project.
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CHAPTER I

INTRODUCTION

Affective domain learning is integral to the development of nursing students who can provide holistic nursing care. Historically, nursing education has concentrated on a competency-based curriculum filled with cognitive objectives to facilitate knowledge acquisition and assessment necessary for passing high-stakes exams. Many factors including a knowledge explosion, better understanding of learning theory, changes in the healthcare delivery system, and the nursing shortage have all contributed in various ways to a reevaluation of the way nursing education is provided. Rather than utilize the teacher-focused strategies of the past, a learner-focused pedagogy is being adopted. Students are taught that nursing requires life-long learning and that they must learn to take charge of their own growth and development as professionals. This strategy necessitates providing nursing students opportunities to explore the values, attitudes, beliefs, and ethical comportment of their chosen profession. Attending to affective learning encourages nursing students to become self-aware and to use this personal knowledge in forming connections with their patients to provide care to body, mind, and spirit (Miller, 2010).

Learning to be a nurse necessitates opportunities for students to practice caring for patients and clients in the environments where illness occurs. Schools of nursing negotiate with healthcare agencies for the chance to provide clinical learning for pre-
licensure students under the supervision of nursing instructors. Recently, a well-publicized nursing shortage has resulted in increased enrollment in schools of nursing, putting a strain on the agencies providing clinical placements. As a consequence, some schools have difficulties in obtaining adequate sites for clinical learning to occur. In recent years, nursing education has come to rely on high-fidelity simulation (HFS) to create a clinical learning environment for students. Schools of nursing have expended significant resources to create simulation environments that mimic the hospital, clinic, or home care setting. These created environments are an effort to make an “as if” experience for students and at the same time reduce the anxiety and potentially harmful effects to patients encountered in reality. Simulation learning can be conceptualized as a bridge between the classroom as a learning environment and the real world clinical setting.

In simulation, scenarios are designed to represent patient care situations to which the students respond as if they were practicing nurses. While a single student may be interacting with the patient, peers observe or participate as nursing colleagues or family members. The complexity of the situation often requires the nurse to consult with peers to solve problems or perform a task, and the group work involved encourages the development of collaborative practice and communication skills similar to the conditions of the workplace (Cannon-Diehl, 2009; Jeffries, 2005).

After completing the scenario, a debriefing allows students and educators time to deliberate and reflect on the process of learning. Jeffries (2005) suggested that the time provided for debriefing after the scenario is completed should be at least as long as the scenario itself and is essential to effective learning. During this time, students reflect on their learning aided by questions asked by a faculty facilitator. The
debriefing process allows students to connect simulation learning with future nursing practice to improve the care they give to patients (Parker & Myrick, 2009).

Thus HFS exemplifies active learning (Cannon-Diehl, 2009; Waltz, Jenkins, & Han, 2014) with the student both engaged in the scenario as well as being the focus of the learning. Grounded in a constructivist perspective, students make meaning from participating in HFS. This research project paralleled simulation learning with data collection similar to debriefing between the researcher and the student. The researcher asked open-ended questions, and as the student reflects and provides answers, meaning was created. Participants were also engaged in the research by member checking, the process where participants review and respond to the data analysis.

**Purpose**

The purpose of this research study was to explore affective learning from the perspective of nursing students participating in HFS. I sought to understand the developmental process of affective learning by comparing the descriptions of junior and senior baccalaureate students. I explored the level of affective learning the students described and attempted to understand how simulation contributes to the development of their attitudes, beliefs, and values about nursing. Simulation may provide a rich learning opportunity for nursing students as they transition from the cognitive focus of classroom learning into the practice of holistic nursing.

**Significance of Study**

While numerous calls to transform nursing education to learner-centered pedagogy exist (Stanley & Dougherty, 2010; Tanner, 2010), there persists a lack of theoretically-based research to support learning. Kaakinen and Arwood (2009) reviewed the nursing literature for learning theory in simulation design and found 16
of 120 articles referenced learning theory. The same review found 94 instances where simulation was designed as a teaching strategy rather than having a learner focus.

Since HFS is widely used as an alternative learning experience, it is important for educators to understand the theoretical frameworks they are employing when they create scenarios to maintain philosophical consistency. Rourke, Schmidt, and Garga (2010) called for nursing research to use theoretical frameworks in the “formulation of hypotheses, collection of data, and interpretation of results” (p. 1) to improve the quality of the findings and their generalizability. And finally, because students and educators do not always interpret the emotional reactions elicited by affective learning in the same way (Brien, Legault, & Tremblay, 2008), it is vital to include the students’ perspective in curricular planning and placement. The knowledge revealed from this study will contribute to the development of philosophically consistent, evidence-based teaching/learning strategies that address affective domain learning.

While immediate benefits to the nursing profession may not be readily apparent, Miller (2010) noted parallels between affective learning problems encountered in nursing schools and complaints against practicing nurses received by regulatory agencies. Because affective learning is often the implicit or poorly articulated agenda of nursing curricula, nursing faculty have a difficult time assessing the resulting student behaviors. Miller believed the profession would benefit by addressing these issues early during pre-licensure learning. Affective learning objectives should be clearly stated and understood by both nursing educators and students to improve accountability for professional behaviors. The profession will benefit from research addressing affective learning that will influence the comportment of future professional nurses.
Research Questions

Q1 How do nursing students describe their affective learning experiences when participating in high-fidelity simulation?

Q2 Is there a difference between the descriptions of affective learning of senior bachelor of science in nursing students as compared to junior bachelor of science in nursing students?

Q3 What levels of affective learning do the students describe?

Limitations

Learning is a complex process not easily reduced into the three domains described by Bloom’s taxonomy. Krathwohl, Bloom, and Masia (1964) recognized the arbitrary nature of the classifications and described overlapping characteristics, particularly between the cognitive and affective domains. Hence the data generated may be interpreted in various ways and will, to some extent, reflect the perspective of the researcher.

Finally, defining affective learning is difficult for nursing faculty (Taylor, 2014) and also proves challenging to participants. While seeking precision in description, the definitions and terms required may be difficult for students to differentiate. I attempted to use language that reflects the understanding of students while being as precise as possible.

Terms and Definitions

The following key terms are used in the research questions and are defined here to provide clarity throughout the project.

Affective learning. This relates to development of attitudes, values, and beliefs about nursing (in this context). Affective learning “emphasize[s] a feeling tone, an emotion, or a degree of acceptance or rejection” (Krathwohl et al., 1964, p. 7).
**High-fidelity simulation.** This is a teaching/learning technique, whereby programmable manikins replace humans, and students practice providing care as though they were registered nurses. The experience is designed to mimic reality by the use of created learning environments that replicate healthcare settings whether in the hospital, home, or clinic.

**Levels of affective learning.** First described in Bloom’s taxonomy, they are receiving, responding, valuing, organization, and characterization by a value or value complex.
CHAPTER II

LITERATURE REVIEW

This research study was grounded in the philosophical perspective of constructivism. Constructivism includes “the assumption that knowledge is constructed by learners as they attempt to make sense of their experiences” (Driscoll, 2005, p. 387) and situates the learner as the focus. This basic tenant contrasts with objectivism, the belief that knowledge exists independently, and learning happens when an expert shares knowledge with a novice. This is not to say constructivism does not recognize the role of others in knowledge development; learners test their ideas against those of others. When discrepancies occur, the learner reconstructs meaning to accommodate the new, expanded understanding.

Affective learning may be viewed as constructivist in nature. As described in Handbook II of Bloom’s taxonomy (Krathwohl et al., 1964), the creation of new attitudes and values require recognition and reorganization of previous beliefs. Krathwohl et al. (1964) believed learning experiences involving the interaction of the educator and student were more likely to result in observable behavior change, an outcome of affective learning. They also believed affective learning is most likely to occur in a new environment.

The constructivist learning theories of Lev Vygotsky provide an excellent framework for this research exploring affective learning during high-fidelity
simulation (HFS). Vygotsky was an interactional theorist (Driscoll, 2005), and his beliefs about learning and the development of the mind were influenced by the historic and social climate of Revolutionary Russia where he lived. Three core beliefs undergirded his work: Cognition is a developmental process, social interactions are the primary activities of humans, and tools (play or other activities) and signs (language) mediate learning (Driscoll, 2005). Scaffolding learning, the zone of proximal development, and the knowledgeable other are familiar theoretical concepts to educators and are among Vygotsky’s considerable contributions to learning theory.

Scaffolding learning shares analogous features with construction scaffolds “where the instructor or more advanced peer operates as a supportive tool for learners as they construct knowledge” (Driscoll, 2005, p. 257). The scaffold not only provides a strong platform for the learner, but it allows the learner to work beyond his or her normal ability. The zone of proximal development also involves the learner reaching beyond expectations with the help of a more knowledgeable peer or adult. The zone of proximal development is the gap between where a learner can independently function and his or her potential level of functioning. It is the social interaction between the learner and the knowledgeable other working in the gap that boosts cognitive development. The knowledgeable other has an understanding of the level of the learner and is careful to give learning cues appropriately to enhance curiosity and confidence. Vygotsky said, “The only good kind of instruction is that which marches ahead of development and leads it” (Driscoll, 2005, p. 255).

Recently, Paige and Daley (2009) proposed the use of situated cognition as a framework for HFS. Situated cognition emphasizes learning that occurs during everyday activities, and because nursing is a practice discipline, Paige and Daley
believed it to be an appropriate perspective for the learning that occurs outside of the classroom. Situated cognition is primarily an adult learning theory, and it is presumed that principles for psychomotor skill and cognitive developments are already understood. Thus in utilizing situated cognition in HFS, the teacher creates “conditions in which learners will experience the complexity and ambiguity of learning in the real world” (Paige & Daley, 2009, p. e98). In essence, the framework is a more appropriate perspective for teachers rather than learners who are not creating the simulation environment but are entering the environment created by the teacher. However, I believe it is an important perspective to consider when planning research utilizing HFS as it has ramifications for scenario development and learner instructions. In addition, there are overlapping characteristics with Vygotsky’s core beliefs—the importance of social interaction in learning and the construction of meaning—that lend credence to its consideration.

Simulation provides a rich, social context for learning among peers and with the support of an expert, the clinical instructor. To facilitate learning, clinical instructors must understand the learning needs of their students (Parsh, 2010; Schoening, Sittner, & Todd, 2006) and provide clearly articulated learning objectives for students. Best practices for simulation scenario development encourage the use of skills and cognitive challenges just beyond the learner’s usual level of functioning to encourage each to expand his or her efforts and develop abilities (Clapper & Kardong-Edgren, 2012; Jeffries, 2005).

**Affective Learning**

One of the best-known strategies for describing and classifying “human behavior characteristics” (Krathwohl et al., 1964, p. 3) addressed in education,
Bloom’s taxonomy, identified three domains: cognitive, psychomotor, and affective. In 1948, the initial group of psychologists began creating the common language of the taxonomy, believing their efforts would facilitate sharing of achievement test items and encourage educational research. The results produced a taxonomy widely used to create instructional objectives for the benefit of educators and students alike.

Sixteen years later an affective domain handbook was specifically created. Organized into five levels, the affective taxonomy reflects a developmental approach. The five levels—receiving, responding, valuing, organization, and characterization by a value or value complex—have subdivisions to further delineate each level. In general, affective objectives “emphasize a feeling tone, an emotion, or a degree of acceptance or rejection” (Krathwohl et al., 1964, p. 7). Internalization, the term chosen to reflect the developmental nature of affective objectives, is at first tentative, and then progresses to the adoption of the value in question. Internalization differs from socialization, which connotes learning to behave like another but without necessarily adopting the values. Krathwohl et al. (1964) also noted changes in the emotional tone as internalization progresses. Initially, there is little emotion. During the middle levels, the emotion builds and then tapers off during the final levels of internalization.

In an effort to understand the maturation of the term, affective learning, I located literature from the past 15 years using PsycINFO and Education Resources Information Center (ERIC) databases and reference lists. I was interested in the literature from disciplines other than nursing and found research in education, psychology, environmental studies, architecture, library science, communications, English, agriculture, physics, ethics, and physical education. Out of the 20 articles I reviewed, 16 explicitly defined affective learning. Several researchers customized
definitions to fit the context of their research and did not directly attribute their definitions to the work of others (Hansen, 2009; Pogue & Ahyun, 2006; Prescott, 2012; Savic & Kashef, 2013). Some cited Richmond and McCroskey’s 1992 research when defining affective learning (Frisby & Martin, 2010; Martin & Mottet, 2011; Martin, Mottet, & Myers, 2000; Weber, Martin, & Myers, 2011). The majority credited Bloom’s taxonomy as the source of their definitions (Boyd, Dooley, & Felton, 2006; Buissink-Smith, Mann, & Shephard, 2011; Hsu, 2012; Jagger, 2013; Linder & Kung, 2011; Olatunji, 2014; Rimland, 2013). Throughout the literature, common terms appeared and included attitudes, values, emotions, feelings, behaviors, beliefs, and motivation. All these terms frequently appear in the Krathwohl et al. (1964) work, and I believe Bloom’s original taxonomy continues to be the authoritative voice in defining affective learning.

From the beginning, Krathwohl et al. (1964) recognized that affective objectives were difficult to measure, especially in the fields of physical and biological sciences, mathematics, and social studies. Educators often design their course content with affective learning in mind, but after failing to find satisfactory methods to evaluate progress, they minimize or abandon the affective components. Thus affective objectives become the “hidden agendas” of many courses (Krathwohl et al., 1964, p. 48).

Krathwohl et al. (1964) believed “each affective behavior has a cognitive behavior counterpart of some kind and vice versa” (p. 62). They admitted “even the separation of objectives into these two groups is somewhat artificial” (p. 85) and cited the theory of cognitive dissonance as an example of how the two domains overlap. Cognitive dissonance posits that humans need to be consistent in beliefs and will work
to achieve harmony (McLeod, 2014). Even without the emotional discomfort elicited
by cognitive dissonance, knowledge of a topic contributes to interest, motivation, and
eventually, valuing. Thus meeting cognitive objectives often leads to affective
achievement.

The recognition of the relationship between the domains provides an
explanation of why some researchers seeking to study affective learning utilize a
cognitive construct as the dependent variable. Cognitive constructs may produce
visible behavior change and a logical assumption is then to believe affective learning
has occurred. Depending on the level of affective learning desired, this is true
(Krathwohl et al., 1964). Affective learning results in behavior at the second level,
responding, with subcategory 2.1, acquiescence in responding, implies obedience or
compliance. At this low level, the learner does not embrace the full expression of
valuing the construct. While the cognitive domain is focused on whether the student
can do a task, the affective domain focuses on does she/he do it. From the educator’s
perspective, a marriage of the two is often the desired outcome, especially if higher
levels of affective learning beyond subcategory 2.1 are preferred.

Some educators use reflective writing assignments to assess affective learning.
Boyd et al. (2006) asked students in an agricultural education class to participate in an
interactive virtual simulation involving an impoverished farmer in a developing
country. Afterwards, students wrote about the experience, and the researchers used
content analysis to evaluate their writings for evidence of affective learning. They felt
the students’ writing revealed affective learning at the first two levels of the domain—
receiving and responding—but higher level learning was less evident. When present,
the three highest levels of affective learning corresponded with a reflective writing
style called critical reflection (Hatton & Smith, as cited in Boyd et al., 2006). Critical reflection includes contextualizing the incident in a wider social, political, or historical arena. The researchers suggested higher levels of affective learning improved the students’ reflective writing skills. This conclusion is another example of the connection between cognitive and affective domain learning.

**Affective Learning in Nursing Literature**

Within nursing education, affective learning “relates to the development of values, attitudes and beliefs consistent with standards of professional nursing practice” (Oermann & Gaberson, 2009, p. 29). The goal is the internalization of the professional values of nursing until it is part of the student’s personal philosophy and functions to guide their nursing practice.

**Research**

Nursing literature includes few studies where affective learning, in general, is the topic. In most cases, it is a specific outcome of an educational strategy such as self-confidence or attitude toward poor people. One exception is a dissertation by Linda Taylor (2014). Taylor conducted an exploratory qualitative study using naturalistic inquiry and interviewed 15 nurse educators to ascertain their perspectives on affective learning. She concluded that the nurse educators in her study were highly motivated to teach in the affective domain and felt passionately about the topic. Participants described affective learning as “a complex and cyclical process” and involved “self-reflection, student self-reflection, facilitating learning, application to the patient, [and] development of attitudes and professional values for future practice” (Taylor, 2014, p. 121). While educators relied on reflective assignments to help students learn in the affective domain, they all agreed use of a rubric, outline, or
questions were necessary to guide students. Some believed they could identify progress in affective learning through observation of students’ attitudes, but none of them felt confident that affective learning could be measured. Storytelling and exposing students to new experiences were two strategies the educators used when teaching in the affective domain. “Storytelling assisted students to form a memory and helped to facilitate recall” (Taylor, 2014, p. 118). Exposure to new experiences helped develop empathy in students, a professional value that was beneficial to patients. Taylor identified three subthemes educators were most concerned with: attitudes, values, and ethics. In summarizing her findings, Taylor wrote, “As learning moves into the digital age, new strategies for developing values and ethics may need to be developed” (p. 126). Taylor’s work illuminated the need for further evidence-based teaching/learning research in the affective domain. Adding the student perspective will contribute a missing dimension.

In a study reported by Dearing and Steadman (2009), 28 student nurses extensively chronicled their experiences developing empathy through a voice simulation experience. The students listened to a 45-minute audiotape to simulate auditory hallucinations that included “whispers, noises, and intrusive words or messages” (p. 176). Participants were asked to concurrently answer math questions, create shapes from toothpicks, interact with a healthcare provider, and complete a questionnaire. The data generated from the students’ reflections followed the principles of hermeneutical interpretive analysis, and the researchers concluded that the participants gained insight into “what hearing voices must be like for people with mental health problems” (p. 180). Furthermore, the participants believed they were
“able to change their thinking and attitudes to truly focus on the development of therapeutic relationships” (p. 180).

Sideras, McKenzie, Noone, Dieckmann, and Allen (2015) expanded the auditory hallucination simulation as described by Dearing and Steadman (2009) into a two-part simulation by adding an unfolding simulation scenario involving a young male experiencing a psychotic break to help students explore their attitudes towards patients with schizophrenia. Using a quasi-experimental design with 145 participants at four sites, all participants completed four questionnaires in this quantitative study. The researchers evaluated students’ fear and intention to interact with patients with schizophrenia, negative attitudes toward patients with schizophrenia, empathy, and knowledge of schizophrenia. Students participating in the two-part simulation experience showed a significant reduction in negative attitude, especially those who reported little prior exposure to people with mental illness. While not reaching a level of statistical significance, students in the intervention group also were less fearful and indicated an increased willingness to interact with patients, a result associated with behavior change, according to Sideras et al. There was no difference between the two groups in regard to empathy, and the researchers did not report findings of the knowledge assessment tool because of its unreliability in this study. These two studies are illustrative of qualitative and quantitative research designed to measure an affective learning outcome, but neither offers insight into how the affective learning process was facilitated.

In a qualitative study by Cazzell and Rodriguez (2011), two 30-minute focus groups with a total of 20 participants were queried about their experiences with an objective structured clinical evaluation, an evaluation strategy utilizing simulated
patients. Three affective domain questions used in the focus groups were designed to ask about feelings, beliefs, and attitudes and were asked in identical order to each of the groups. These provided a structure for use by an inexperienced researcher (a student facilitator who had completed the objective structured clinical evaluation earlier in the same semester) and were reflected in the themes the researchers reported. The three themes described were feelings of loss of control and anxiety; beliefs that immediate professor feedback would have been beneficial, and their own reactions to pressure affected their performance; and attitudes of putting safety first while giving medications, and that the objective structured clinical evaluation did not relate to either previous or future learning experiences. The use of a student facilitator to conduct the focus groups was an attempt to eliminate the power differential between the educator/researchers and the student participants. However, it inadvertently appears to have limited the findings through the enforced structure of the inquiry (no mention is made of follow-up questions being asked), although the researcher reported member checking on the identified themes. In addition, there is no mention of data saturation to attest to the dependability of the conclusions, and the researcher noted the data may have been dominated by the opinions of some of the students, thus concluding consensus may not have been reached. By collecting data through individual interviews in this research design, I ensured each participant had a voice.

**Expert Opinions**

Zimmerman and Phillips (2000) described their work with senior baccalaureate students in a rehabilitation nursing class using journaling, case studies, and role-play. Working from the premise that affective learning is necessary to both caring and critical thinking in students, Zimmerman and Phillips encouraged the students to
examine their feelings and attitudes about chronic illness. The process involved tension, anxiety, and confusion in students as they encountered the reality of living with disabilities. Many students described the learning and growth they experienced as life changing and expressed the expectation that they would care for patients with disabilities with greater understanding and empathy in the future. While this descriptive report clearly illustrates active learning from a constructivist perspective, the lack of data collection relegates this report to expert opinion status, a lower level of evidence in the hierarchy of knowledge development for evidenced-based nursing education. This research includes qualitative data collection methods (to be described in more detail in Chapter III), providing a higher level of evidence in developing evidence-based nursing knowledge.

Student nurses role-playing either a patient with urinary incontinence or with an ostomy was the educational strategy to increase empathy in a report by Panosky and Diaz (2009). The students completed a care plan prior to the experience and a reflective journal entry afterwards and were encouraged to identify how their priorities had changed. Although no data were collected, the authors believed students changed their perceptions of living with either condition, an opinion based on observing the students’ initial reactions to the proposed experience. This example illustrates the difficulty educators experience as they evaluate affective learning experiences. Basing success on the observation of a student’s initial reaction to a situation is a strategy subject to misinterpretation without verification by member checking. This research provides opportunities for participants to validate or amend the researcher’s data interpretation.
Brien et al. (2008) described the experiences of educators and students while evaluating a program teaching end-of-life care. While educators expected students to encounter uncomfortable feelings, they were not prepared for their own feelings of failure when students either did not engage with the experience or became overwhelmed by the topic. In contrast, the students reflected, “the activities most appreciated and richest in learning where those that involved an emotion, introspective and reflective dimension” (p. 612). It appears affective learning is difficult for both educators and students, and the perspectives of both should be considered when designing curricula. This research added students’ point-of-view and helped educators devise effective teaching strategies to teach in the affective domain.

**High-Fidelity Simulation**

The HFS has been used in training airplane pilots for years and even after receiving their credentials, pilots are expected to log a prescribed number of hours in flight simulators every year. The objective is to provide exposure to emergency situations that are rarely encountered in reality and allow pilots the opportunity to practice their responses. Medical education, especially anesthesia, follows a similar strategy. Writing in the medical literature, Bryson and Levine (2008) defined the purpose of simulation designed to mimic environmental reality to “be human behavior and interaction” development (p. 185). In their theoretical discussion, which focused on aspects of simulation that enhance learning, they identified the participant’s emotional response to be motivating, particularly when an error occurs and the patient is harmed. They described basic science research by McGaugh to support the role of emotional arousal in memory. When the amygdala is stimulated by emotions, it mediates the creation of memory in the hippocampus, striatum, and neocortex. They
concluded, HFS is “an ideal environment for presentation of material with emotional content.” Because affective learning is characterized by “a feeling tone, an emotion, or a degree of acceptance or rejection” (Krathwohl et al., 1964, p. 7), their conclusion supports the value of simulation as an affective learning strategy in this research.

**High-Fidelity Simulation in Nursing Education**

In the most ambitious research to date, Jeffries and a multisite team of researchers organized by the National League for Nursing collaborated with the Laerdal Corporation to study simulation. Jeffries (2005) described a framework for simulation as an outgrowth of the project which addressed student and educator factors, theoretical issues, simulation design, and outcomes. Called the nursing education simulation framework in subsequent writings, Jeffries based the framework on empirical and theoretical literature. Simulation is described as student-focused, active learning where the learner is self-directed, motivated, and has had an opportunity to prepare. The educator facilitates and establishes a safe, non-competitive environment for learning. Jeffries suggested educators who participated in simulation workshops and experienced a level of apprehension similar to students would be able to relate to their feelings of anxiety. The outcomes Jeffries included were knowledge, skill performance, critical thinking, learner satisfaction, and self-confidence. While focusing on cognitive and psychomotor skills, affective domain learning is limited to self-reported satisfaction and confidence, two constructs for which the National League for Nursing study developed a validated tool. Important to keep in mind when utilizing the framework is that Jeffries was discussing all forms of simulation and not just HFS. While this research utilized simulation scenarios based on the nursing
education simulation framework, the research was founded on constructivist learning theory.

Cant and Cooper (2009) conducted a systematic review of the literature to determine what is known quantitatively about the efficacy of medium-fidelity simulation to HFS. Initially, they identified more than 2,000 articles spanning a 10-year period from 1999 to 2009 that compared simulation to other educational methods in healthcare. They retained only 12 studies for analysis, and each of these provided evidence that simulation was “an effective teaching and learning method when best practice guidelines are adhered to” (p. 3). Assessment of learning varied and included expert observation and tools to measure knowledge and skills. Cant and Cooper noted that seven studies used validated tools, but where they were not available they used “additional assessments aimed at assessing clinical preparedness” (p. 6). While this vague and generalized statement does not engender confidence in the application of the studies’ findings, it does reinforce the belief described by nursing educators in Taylor’s (2014) doctoral dissertation that affective learning is difficult to evaluate. This research helped determine, from the student’s perspective, what elements of affective learning are present for evaluation in simulation.

Skrable and Fitzsimons (2014) identified five themes in their literature review of both published peer reviewed articles and dissertations of simulation use in associate degree nursing curricula from the years 2010 through 2013. These five themes were critical thinking, knowledge acquisition, clinical skill performance, learner satisfaction and confidence, and student anxiety. While they noted that critical thinking scores were improved after simulation, the improvement was not statistically significant when compared with other teaching strategies. They also concluded that
tools to assess skills and knowledge acquisition in simulation are inadequate. Finally, students reported high confidence and satisfaction levels with learning through simulation as assessed by self-report. This research extended the Skrable and Fitzsimons work by exploring baccalaureate students’ perspectives of affective learning beyond confidence and satisfaction.

In a grounded theory research study, Cordeau (2012) utilized data from interviews with 30 participants who had participated in two high-stakes simulations during their junior year. Her goals were to explicate the transition they experienced from functioning as a student nurse to providing care as a nurse during high-stakes (graded) simulation into a middle-range theory and to “identify how this theory can be used as a framework for [sic] foster the situational transition to the professional nursing role” (p. E91). It is important to understand that while the simulations were high-stakes, students could repeat the scenarios multiple times in order to obtain the requisite passing grade. While relying on transitions theory, Cordeau identified the “basic social psychological problem is caring as a professional nurse” (p. E97), thus engaging the affective domain in this research even though she did not identify it as such. Data were collected from interviews with students either during their junior or senior year, although the data were reported in aggregate. Cordeau’s resulting middle-range theory of linking included this definition of linking: “Linking is the ability to interact with the simulator either as a mannequin or as a patient, assess the patient, determine the mannequin/patient needs, and implement the nursing interventions to meet identified needs” (p. E97). The four stages identified were managing simulation-hype, encountering barriers, focusing and zoning, and integrating. The first two stages included the learner dealing with the emotions of anticipation and anxiety before
simulation and how emotions can become unmanageable during the learning process, impeding success. The third stage included focusing which described students who are completing tasks to meet the scenario’s cognitive and psychomotor outcomes but are avoiding immersion into the scenario and are limiting affective domain learning. When students see the manikin as a patient, they are said to be zoning. The fourth and final stage is described as interconnecting—integrating all three domains of learning in order to use clinical reasoning and implement skills into patient care.

Cordeau’s (2012) findings provide fascinating evidence of student learning during a high-stakes simulation. Whether or not the findings are applicable to formative learning is unknown, and Cordeau suggested further research is needed. An additional limitation to the contributions of this study is its theoretical foundation. Situating the learner’s perspective within constructivism maintains consistency between theory and practice and advances the evidence-based foundation for nursing education. Future research, such as my study, included this connection.

Advancing the work of Cordeau (2012), a study of nursing students’ perspectives by Najjar, Lyman, and Miehl (2015) relied on data from 26 participants. In this grounded theory study using interviews from three focus groups representing three levels of a bachelor of science in nursing program, the authors utilized a larger, more diverse group of participants than had Cordeau. The study’s aims were to describe the experience of the students with HFS and develop a model to explain their findings. Five themes were explicated: “emotional processing, anxiety, making connections, fidelity, and learning” (p. 3). The emotional processing of the experience was important for the cognitive learning to occur, and there were several ways in which this was expedited. For some students, it occurred almost immediately as a sigh
of relief, while others desired the validation of peers or to self-evaluate by watching their performance on video. Students described that making connections between what they experienced in simulation and prior clinical experiences, classroom learning, and anticipated future practice facilitated their learning. The researchers organized their findings into a conceptual model called the simulation learning model—student experience. It shows anxiety and fear as barriers to learning that are overcome by use of emotional processing. Simulation fidelity and making connections between simulation and other learning experiences facilitates learning.

While providing rich data that validate the intuitive understanding of many nursing educators working with students in simulation, there are two important limitations to the Najjar et al. (2015) research. First, while seeking to advance evidence-based teaching/learning, the researchers did not report a connection to learning theory in designing this study. Furthermore, the data collected from three levels of students were reported in aggregate and fail to demonstrate the progressive nature of learning. This research addressed both of these issues. The theoretical framework is constructivist learning theory, appropriate for advancing nursing education knowledge. Furthermore, the second research question in this study compared the affective learning descriptions of junior and senior bachelor of science in nursing students and allowed the researcher to explore the progressive nature of affective learning through simulation.

**Expert Opinions**

In a review offering rationale for simulation’s use in healthcare and healthcare education, Cannon-Diehl (2009) included Gaba’s definition of simulation. Simulation is a “technique, not a technology, to replace or amplify real experiences with guided
experiences, often immersive in nature, that evoke or replicate substantial aspects of the real world in a full interactive fashion” (p. 128). Citing the focus on patient safety after the report by the Institute of Medicine in 2001, Cannon-Diehl viewed simulation as an active learning opportunity where learners can engage with risky patient care situations without harm to the patient. Her observations echo those of Bryson and Levine (2008) as to the potential benefit of learning through the use of emotional engagement. She summarized by saying, “simulation should be viewed as an affective component to learning and a social process” (p. 129). Speaking to a clinical audience, Cannon-Diehl emphasized the importance of developing standards and metrics for evaluating competence as the next steps in enhancing the effectiveness of simulation as a teaching and learning technique.

From reviewing the nursing literature on affective learning and HFS, there does not appear to be research connecting affective learning and HFS that is theoretically grounded in a learner-focused paradigm, reflects the students’ perspective, and articulates affective learning as a developmental process. This research attempted to bridge this gap and clear the way for future work to advance the development and assessment of evidenced-based learning strategies focused on developing beliefs, attitudes, and values in the future nursing workforce.
CHAPTER III

DESIGN AND METHODOLOGY

Qualitative Paradigm

To guide the research process, clearly stated questions provide focus and determine the methodology. Research questions that elicit linguistic descriptions fall into qualitative design paradigms (Munhall, 2012). Furthermore, qualitative research focuses on understanding the experience of the participant. The purpose of this research was to explore nursing students’ perspectives of learning in the affective domain while participating in high-fidelity simulation (HFS). Therefore, a qualitative paradigm focusing on the perspectives of the participants and utilizing language rather than statistical findings was most appropriate.

A salient feature of qualitative research is its focus on the participant’s perspective. Called the emic, or insider’s perspective, the researcher recognizes one’s perspective (etic) is different and does not assume to understand the participant’s experience (Merriam, 2009). Nurse educators currently have a limited understanding of students’ perspectives of learning in the affective domain through HFS and may make assumptions about the “what” and “how” of affective learning in this setting. By soliciting the students’ perspectives, this study contributes a description of what affective learning occurs in HFS and provides a beginning understanding of how affective learning develops over the course of the educational curriculum. Affective
learning is frequently part of the hidden curriculum and though valued by faculty, they agree that it is difficult to define and impossible to measure (Taylor, 2014). Describing emotional components that contribute to students’ development of attitudes, values, and beliefs about nursing in the language of students will assist faculty in communicating with students about affective learning. Revealing the hidden curriculum to students will illuminate the role of the nurse, help them envision themselves as nurses, and understand the professional behaviors they will need to develop. Miller (2010) noted parallels between affective learning problems encountered in nursing schools and complaints against practicing nurses received by regulatory agencies and believed the profession would benefit by addressing these issues early, during pre-licensure learning.

Another characteristic of qualitative research is its ability to elicit rich descriptions and encompass multiple perspectives (Merriam, 2009). Building on a constructivist foundation, qualitative inquiry recognizes the meaning of an experience is constructed by individuals and when querying more than one participant, more than one experience and meaning will be described. Rather than looking for an average experience, qualitative methodologies recognize the value of multiple perspectives in knowledge development (Munhall, 2012). Many voices provide richness and depth to the data and reflect the complexity of the lives of the participants (Creswell, 2007). Quotations from the participants are included in written reports of the research. This project to understand affective learning is best described through a qualitative methodology that embraces subjectivity and nuance as a reflection of the population under study.
In qualitative research, the researcher becomes the instrument of research (Creswell, 2007). While the participants chiefly rely on oral language to describe their experience, the researcher is present to observe nonverbal communication, too. Because the researcher is collecting data in real time, he or she is present to ask for clarification or elaboration when necessary and is able to be flexible and “responsive to changing conditions of the study in progress” (Merriam, 2009, p. 16). Affective learning is often part of the hidden curriculum, and the process of reflection is helpful in making it visible. In this study, the researcher was present during the participants’ reflections about their learning and was witness to new awareness and meaning making of the experience.

Qualitative research is inductive by nature. Data are collected to “build concepts, hypotheses, or theories” (Merriam, 2009, p. 15), moving from the particular data of an individual to the collective themes identified through aggregate data. While theory development was beyond the scope of this research project, an understanding of affective learning in the context of HFS can contribute to future research by suggesting further research questions and helping to develop the concept of affective learning in the context of nursing education.

**Descriptive Phenomenology**

Descriptive phenomenology is based on the work of Edmund Husserl, a 19th century mathematician whose interest in philosophy influenced his decision to give up a career teaching science (Laverty, 2003). He came to believe that scientific methodologies emphasizing objective measurements were inadequate to describe and evaluate the human experience. He understood human experience to include context and perception, not measurable by instruments but requiring a data collection strategy
that relied on the recounted experience of individuals. Husserl has become known as the father of phenomenology, a nod to both the philosophy and the methodology for data collection he described.

Phenomenology is “the study of the lived experience” (Laverty, 2003, p. 23). Focusing the mind on the experience, a process called intentionality by Husserl, results in conscious awareness. Through conscious awareness, we begin to know reality and can describe its essence. Husserl believed it was necessary to set aside previously held ideas, biases, and judgements in order to prepare to know the phenomena with naïve and pure perception. This perception he called epoche after the Greek word that means “to stay away from or abstain” (Moustakas, 1994, p. 85).

To describe phenomena from a fresh perspective, there exists the issue of preexisting experience on the part of the researcher. Descriptive phenomenology calls for setting aside preconceptions, a process Husserl labeled bracketing. Identified as having two parts by Polkinghorne (as cited in Laverty, 2003), the researcher brackets by describing the essential structures (or invariant constituents) of the phenomena and then focuses on the experience itself to see how phenomena developed. This process helps the researchers to identify their own understanding of the phenomena so that it can be set aside. Once identified, the researcher is then free to see things “as they are” (Laverty, 2003, p. 23). To avoid bias that may occur as previously held beliefs or experiences to influence the data collection or analysis procedures, some researchers choose to avoid reviewing literature on the research topic before researching the phenomena (Lopez & Willis, 2004).

Another feature of phenomenology, called phenomenological reduction (Merriam, 2009), is the process of continually referring back to the “essence of the
experience to derive the inner structure or meaning in and of itself” (Merriam, 2009, p. 26). In the process of data analysis, the researcher’s task is to describe what is seen through a textural account. Both bracketing and horizonalizing (a term referring to the idea of initially looking at each statement as having equal value) (Moustakas, 1994) are components of phenomenological reduction.

Imaginative variation is the step in data analysis where the structural description is developed and is a salient feature of descriptive phenomenology. In the process, the phenomenon is viewed with imagination and from many perspectives in order to seek underlying meaning. The perspectives (or structures) may include “time, space, bodily concerns, materiality, causality, relation to self, or relation to others” (Moustakas, 1994, p. 99). This step is meant to answer how the phenomenon came to have the meaning it does, and when combined with the textural description, it will lead the researcher to the essence of the phenomena.

A basic assumption of descriptive phenomenology is that common features exist, and all people’s experiences will include these features. Thus descriptive phenomenology aims to describe the experiences of people with the goal of discovering commonalities and the “essence” or “true nature” of the phenomena (Lopez & Willis, 2004, p. 728). Embracing this assumption, Wojnar and Swanson (2007) noted descriptive phenomenology can contribute to nursing knowledge by explicating concepts that are troublesome and to stimulate problem solving and the development of interventions.
Data Collection

Population and Sampling Strategies

The participants were students enrolled in baccalaureate nursing programs in two universities, one private and one public, with both utilizing HFS in their curricula. Including multiple sites increases the opportunity for a wide representative sample of nursing students in terms of age, gender, ethnicity, and prior experience working in healthcare. Because it is essential that the students have participated in HFS, the sample was described as purposive, meaning the participants had information to share about the topic under study (Merriam, 2009). Purposive sampling is an essential component of phenomenological methodology.

Participants

After recruitment (see Human Subjects Consideration section), 25 students agreed to participate. The 25 participants were either current students or recent (within three months) graduates of two universities’ baccalaureate nursing programs. Thirteen participants—eight juniors and five seniors—attended a state-supported university in a western state. Twelve participants—five juniors and seven recent graduates—were from a private university in a mid-western state. All junior participants had completed two days of simulation, and the seniors had participated in at least one day of simulation per semester throughout the course of their nursing programs.

The participants ranged in age from 20 to 25 years with a mean age of 21.5 years. When asked about prior experience working in healthcare, 44% ($n = 11$) indicated they had not worked or had worked for less than six months in healthcare. The work settings described by those employed included nursing homes, assisted
living facilities, group homes for adults with developmental and physical disabilities, and hospitals. All of the participants had completed a nursing assistant course prior to enrollment in their nursing programs; none of them had training beyond (see Table 1).

Table 1

\textit{Participant Demographic Data} (\(N = 25\))

<table>
<thead>
<tr>
<th>Level</th>
<th>Age</th>
<th>Gender</th>
<th>Ethnicity/race</th>
<th>Healthcare experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Juniors</td>
<td>(M = 21.5)</td>
<td>Female</td>
<td>Caucasian</td>
<td>&gt; 6 months</td>
</tr>
<tr>
<td>52%</td>
<td>96%</td>
<td>88%</td>
<td>56%</td>
<td></td>
</tr>
<tr>
<td>Seniors</td>
<td>Male</td>
<td>Hispanic</td>
<td>&lt; 6 months</td>
<td>44%</td>
</tr>
<tr>
<td>48%</td>
<td>4%</td>
<td>8%</td>
<td>4%</td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>4%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Ninety-six percent of the participants in this study were female. Published demographic data from the National League for Nursing (2017) website indicated 15% of nursing students in baccalaureate nursing programs in the United States are male. The mid-western university reported 7% males for the class of 2016 and 8.5% males for the class of 2017, about half the national average. The percentage of males in the western university averaged between 7% and 10% of their students. This sample included only 4% male participants. Unfortunately, 66% of the males in the mid-western university class of 2017 were not eligible to participate in this project because
I had an evaluating relationship with them at the time of data collection. Three participants identified as Hispanic or Black in this study. Nationally, 20.3% nursing students in baccalaureate programs identify as either Hispanic or Black. The mid-western university class of 2016 included only 4% non-White and the class of 2016 had 7% non-White students. The minority representation in the western university campus was very similar.

**Researcher’s Role**

When research involves participants who have a potential relationship with the researcher, it is essential to clarify the relationship and examine it for potential conflicts of interest. While I am the researcher, I am also a faculty member. Therefore, students currently in a position to receive a grade or evaluation from me were excluded from participation. I informed all others that participation was strictly voluntary and willingness or reluctance to be involved would not influence their grade or standing in any of their nursing courses. The voluntary nature of participation was included in the informed consent document each participant signed prior to the interview process.

The success of this research project was dependent upon gaining access to students through obtaining permission from faculty at the schools of nursing and the cooperation of the participants. I recognized that people were granting me the gift of their time and their personal stories. In exchange for their participation, I provided the students an opportunity to voice their opinions and in the reflection process to become more self-aware. I offered to present my findings to the faculty at the schools of nursing after the data had been analyzed, providing informal feedback and potential strategies to enhance their students’ affective learning experiences in HFS.
Human Subjects Consideration

This research project was approved by the Institutional Review Boards of the University of Northern Colorado and Bethel University (see Appendix A) with the applications completed and applied for under the expedited process. In addition to signing informed consents (see Appendix B), participants were assured that the information they shared would be kept confidential. The recorded interviews were destroyed after they had been transcribed, and the transcribed documents were stored in a safe, password protected database during the data analysis and writing process. Signed consent forms will be retained for three years and stored on the University of Northern Colorado campus by the research advisor. Participants’ identities were protected through use of pseudonyms in any reports generated from the research. Because participants attended two different universities, anonymity of specific situations was enhanced.

After approval from the Institutional Review Boards (see Appendix A), I solicited volunteers to participate through an invitation extended in class and/or an e-mail sent to their school e-mail accounts from a forwarding faculty member (see Appendix C). My e-mail address was provided as a way for them to respond if they would like to set up an appointment for an interview. During in-class recruitment, I provided a sign-up sheet for them to supply contact data. I had permission to solicit research participants pending Institutional Review Board approval from both schools of nursing (see Appendix D).

Interviews

Individual interviews with the 25 participants provided the data for this research study. Sixteen interviews were conducted on the two university campuses in
small conference rooms in the library or nursing department, in offices in the nursing departments, or in the student lounge. The interview rooms provided a quiet and private setting for the participants to share their perspectives, and all participants verbalized their comfort with the environment before the interviews began. The interviews were recorded with digital recording equipment for later transcription by a professional company that utilizes a secure file transfer service.

Eight of the participants (seven juniors and one senior) requested electronically conducted interviews via either FaceTime or Skype. This change to the design of the study required an additional approval from the universities’ Institutional Review Boards (see Appendix A). The interview appointments for this group of participants were either arranged face-to-face or through e-mail. The participants were at their homes at the time of the interviews, and I talked to them from my home office. Others entering the room, a telephone call, or an alarm briefly interrupted three of the interviews, but in each situation the participant was able to refocus and continue the conversation. One participant appeared distracted throughout the interview, asked for questions to be repeated, and provided short answers with little detail. The electronically conducted interviews averaged five minutes shorter than those of the same level students who participated in face-to-face interviews. All interviews ranged in duration from 15 to 84 minutes, with senior participants averaging 10 minutes longer than junior participants. I believe the senior participants’ additional experience with simulation accounted for the longer duration of their interviews.

A semi-structured interview format utilized an interview guide that included eight open-ended questions (see Appendix E). I began by asking participants about previous healthcare experiences they had prior to their experiences with simulation.
Understanding the types of patient encounters and the duration of their experience helped identify possible differences between the participants. Other basic demographic data (see Appendix F) such as age, gender and ethnicity was also important when describing the results of the research and contributed to the transferability of the findings.

The interview proceeded in a semi-structured format following a plan described by Gardner (2010) as a funnel approach, with initial questions (see Appendix E) being broad and general. Originally, 10 questions were devised but these were reduced as it became evident the participants preferred to frame their responses based on a specific simulation scenario. They were asked to recall the most recent simulation experience they remembered, and the conversation began based on their description of that event. Subsequent questions were easily answered within that context, although other scenarios were referenced, too. Question 8 was also eliminated as redundant because that information was spontaneously provided. I followed a format of questioning to provide the best chance of using non-judgmental language and open, straightforward questions that did not lead the participants to answer in a predetermined way (Banner, n.d.). Follow-up questions sought clarification, encouraged elaboration, and explored novel lines of thought (Gardner, 2010). Prior to data collection, I tested the questions by asking three students to respond to them in an informal interview, and their responses helped refine the final interview guide.

As a whole, participants were willing to talk about their experiences with simulation, and some of them had been thinking about the topic ahead of time. Preparation was evident as Charlene responded to the query about relating to manikins as patients by saying, “This is where I have few good things to say.” While the
consent form specified “affective learning” as the topic of inquiry, none of the participants asked for that term to be defined, and only one participant referred to it at all during the course of the interview. Near the end of her interview, Sophia asked if the research was studying “how it [simulation] helps affect students’ learning?” It seems likely from her question, she did not understand the term “affective learning.” Because the interview guide did not use this terminology, it was not essential that the participants have a clear understanding of the definition in order to answer the questions.

In addition to interviewing participants about their experience with HFS, and immediately after the interview, I asked them to write a brief statement summarizing their thoughts about affective learning in HFS. I left them alone to write, allowing an opportunity for quiet reflection to be a component of the process. Because the participant summaries were brief and did not contain new information, they served to confirm the verbal interview. I made brief field notes after the interviews, and occasionally these provided additional information about the responses or body language of the participants. On one occasion, after stopping the audio recorder, a participant made additional remarks about one of her responses that I felt was relevant in providing contextual information. These were included as a separate memo in NVivo© and coded along with the original statement. Several participants answered follow-up questions via e-mail after reviewing summaries of their interviews and these, too, were downloaded into NVivo© and coded.

Throughout the period during which I interviewed participants, I maintained a journal. It was important for me to examine my own thoughts and feelings about the project so I could be aware of any areas in which my own preconceptions or
judgments might have affected the project. Immediate reflection also helped me to identify areas I had missed and needed to revisit through additional interviews (Banner, n.d.).

**Phenomenological Data Analysis**

In qualitative research, data analysis occurs simultaneously with data collection. Because affective learning is a difficult concept to describe, I did not expect participants to shape their responses to match the research topic. When analyzing the statements participants made, I attempted to keep affective learning as the guiding framework.

I organized and analyzed the data using the process outlined by Moustakas (1994) for phenomenology. After verifying the transcribed interviews for accuracy, I coded them for significant statements using the highlighting and comment features of Microsoft Word® and NVivo© software. This process occurred concurrently with data collection and helped me identify differing areas of the simulation experience when interviewing juniors as compared to seniors. The process of reviewing the transcript multiple times deepened my understanding of the participant’s perspective and decreased the chance that I might overlook a statement of significance. Because affective learning includes a feeling tone, I especially watched for the expression of emotion in the transcript. When coding in NVivo®, a node was created for a significant statement using the participant’s own key word or phrase to keep the meaning as close to the original as possible. At this point in the analysis, all statements were viewed as equally valuable in the process called horizontalization.

After coding all the interviews, there were 90 separately labeled nodes denoting a significant statement made by one or more of the 25 participants. To
eliminate duplicate or overlapping ideas, I reread the statements in each node and combined nodes when appropriate. When a statement was vague, I referred to the original transcript to seek clarity before assigning it to a new node or eliminating it altogether. Occasionally, I listened to portions of the original interview, seeking inflection or nuance to guide my decision. Thirty-five nodes included a word describing a feeling such as anxious, nerve-racking, grateful, or confused. The feeling words seemed to fall into three emotional states: excited or enjoying, anxious or nervous, and confused or doubting. This observation allowed me to group nodes and eventually was helpful in identifying the invariant constituents (Moustakas, 1994). Invariant constituents, also called horizons of the experience, contained an idea that was crucial to understanding the experience and were condensed into an abstract.

The next step involved grouping the invariant constituents into core themes. NVivo© is especially designed to facilitate the identification of themes and was utilized at this point alongside a manual process. Because phenomenology seeks to describe the individual’s experience while also looking for those parts of the experience that are held in common, the feeling tone of the theme reflects the general attitude of the participants to the topic. When a participant’s viewpoint differed, the description of their experience was reported under the corresponding theme and may appear incongruent. For example, Olga reported that she was not “stressed out” or “fazed” by simulation and wondered if this response was related to her background in theater. While most of her peers did experience anxiety or nervousness participating in simulation and the theme describing their experiences was labeled, anxious about not knowing, Olga’s experience was also discussed in this section.
After themes were labeled, I compared the themes with the original transcript of the participant and excluded any that were not either explicitly stated or compatible. By returning to the original transcript, I provided the inquiry with a form of validity. Another step I used to get close to the data involved summarizing each transcript following an outline created by the seven themes that emerged from the data. I felt this was important to help me remember the early interviews I had completed, because data collection stretched over a five-month period. Using this summary document, I wrote a description of the experience with the phenomenon from each participant’s perspective using the themes identified as the outline. This is the textural description and included verbatim examples from the transcript. I looked for examples that were rich and vivid, painting word pictures that captured the experience of the participant. From the textural description, I created an essence of each participant’s experience. After developing individual textural descriptions and essences, I asked each participant to review his or her own and validate whether or not they agreed that it represented each one’s perspective. Their feedback strengthened the trustworthiness of the research.

The individual textural descriptions were combined into composite descriptions that represented the two (junior level participants and senior level participants) groups. These descriptions focused on the commonalities identified in the individual participants’ experiences. It was necessary to construct two distinct descriptions so that a comparison of the two levels could be made as specified in Research Question Q2. Answering Research Question Q2 also required explicitly identifying the affective learning encompassed in each theme, a process that required iterative reading of the transcripts in its construction (see Chapter IV, Comparisons).
Member checking, a process whereby participants are asked to review the researcher’s interpretation as a form of validation, occurred throughout the data analysis process (Merriam, 2009). I gave all participants the opportunity to read and comment on the textural descriptions I had developed from their interviews. Their feedback was imperative in ensuring their individual perspectives were accurately reflected as I constructed the textural composite descriptions. Member checking enhanced the trustworthiness of the study data and the conclusions. I wanted my interpretations to be recognizable to the participants, and I incorporated their feedback into the final report. All participants had the opportunity to review the final research report. For me, holding the knowledge that their perspectives were precious experiences shared with me, motivated me to represent them with honesty and fairness.

Merriam (2009) suggested the audit trail created by journaling should be continued throughout the research process and not be limited to the data collection phase. Throughout the coding and analysis process, I maintained a journal to capture my thoughts as I had new insights about the data and the decision-making process related to coding. Journaling encouraged me to slow down the analysis process and helped me avoid premature conclusions. Audit trails during data analysis provided documentation about how categories were determined and decisions were made about problems that occurred during interpretation of the data.

I was committed to a process of transparency and shared my thoughts with my research advisor during frequent Skype conferences. With her expertise in phenomenology, she acted as a resource, helping me to monitor my personal responses to avoid biasing the interpretations and conclusions I reached when analyzing the data.
A colleague with expertise in simulation and qualitative research read a sample of the transcripts and provided feedback. Her experience with simulation helped her recognize the authenticity of the data.

**Procedures to Address Trustworthiness and Credibility**

According to Merriam (2009), while all researchers desire to contribute trustworthy knowledge, the language that best describes the standard processes supporting its creation are in debate. Credibility, transferability, dependability, and confirmability are the qualities Lincoln and Guba research (as cited in Merriam, 2009) purposed as the correlates of internal and external validity, reliability, and objectivity in quantitative. Because reliability and credibility are familiar terms to most researchers, Merriam suggested their continued use. In addition, Merriam noted, the ethical behavior of the researcher provides additional credibility to the study.

The credibility of the research is a reflection of the personal ethics of the investigator. Ethical behavior is dependent upon educational preparation and training, experience, and “methodological competence” (among other things) for its development (Merriam, 2009, p. 228). Attention to the documentation of the research process and the detailed descriptions of the findings helps readers have confidence in the research and supplies information for them to determine whether the research has been conducted ethically (Merriam, 2009).

In qualitative research, the researcher is the tool and merely saying one is reliable is inadequate (Marshall & Rossman, 2016). When the researcher is the data collection tool, a primary threat to the credibility of the study is the introduction of personal bias. Bias occurs when the researcher introduces one’s own opinions, viewpoints, or conclusions into the study rather than letting the research data speak for
itself (Merriam, 2009). Bracketing (as described in the Descriptive Phenomenology section) helps alert the researcher to areas of potential bias from the onset. Throughout the research project, I used reflexivity, a term used by Lincoln and Guba (as cited in Merriam, 2009) to mean “the process of reflecting critically on the self as researcher, the ‘human as instrument’” (p. 219). Keeping a research journal helped me be able to recognize when my own opinions had been introjected. Foremost, I wanted to ensure the participants’ voices were heard. The research journal also provided an audit trail of the procedures I followed and the decisions I made that could potentially affect the findings and the reliability of the study.

Another strategy to address credibility is based on the researcher asking, “How well do these findings represent reality?” Because qualitative research embraces multiple realities from the multiple perspectives of the participants, the approach to address credibility refers back to the participants. I conducted member checks, also called respondent validation (Merriam, 2009), by e-mailing each participant asking for them to review an attached transcript summary and the essence of their interview for accuracy. I asked follow-up questions and gave the opportunity to share other thoughts about their simulation experiences, too. The responses I received were included in NVivo© memos, coded with the original interview data, and provided additional insight and clarification. The participants who responded agreed with and recognized their experiences in the summaries I shared with them. While the primary data collection method is the individual interview, some people are more articulate when writing. In addition to interviewing participants about their experience with HFS and at the end of the interview, I asked them to write a brief statement summarizing their thoughts. Along with the interview transcript, this served as a method to verify the
data when developing invariant constituents. Supporting conclusions by using multiple data collection strategies is one form of triangulation and a common strategy used to enhance reliability (Merriam, 2009).

The researcher must be prepared to spend adequate time in collecting data. To avoid missing important information about the phenomena, the researcher should continue interviewing participants until the same facts are related repeatedly (Merriam, 2009). The interviews were conducted over a five-month period with the first interviews occurring in mid-June and the final interview completed on November 1. The final interviews were redundant in content and confirmed that data saturation had been achieved.

I have provided a description of the research design and analysis procedures in an effort to maximize the dependability of the research. The interview guide I used to promote consistent findings is available for examination in Appendix E. In addition, the peer review process as described in the previous section (Phenomenological Data Analysis) also helps establish the reliability of the study. By choosing a sample of nursing students from two sites, one public and one private, I improved the transferability of the findings. When writing my final research reports, I included demographic data (see Table 1) describing the sample as well as rich descriptions and details from the in-depth interviews I conducted to further enhance transferability. Enough detail allows readers to ascertain whether the findings fit in their circumstances (Merriam, 2009).

Peer review is essential to the integrity and credibility of a research project. I am grateful for the guidance and feedback I received through discussions with my research advisor and dissertation committee. I solicited additional feedback during the
data collection, analysis, and final writing processes through e-mail, Skype conversations, and face-to-face discussions. The peer review process helped me find answers to procedural questions, suggest alternative interpretations to those I had proposed, as well as provided confirmation when my conclusions were appropriate.

Summary

The purpose of this research was to explore nursing students’ perspectives of learning in the affective domain while participating in HFS. The nature of the guiding questions for this research lent themselves to a qualitative paradigm and a phenomenological methodology as described by Husserl (Laverty, 2003; Lopez & Willis, 2004). Thus I solicited the perspective of nursing students through individual interviews utilizing open-ended questions. A purposive sample of both junior and senior level baccalaureate nursing students at two universities were interviewed to obtain a representative sample.

The data collected were analyzed following the steps outlined by Moustakas (1994) to derive a description of the affective learning experiences of nursing students. Currently, nurse educators have a limited understanding of students’ perspectives of learning in the affective domain through HFS and may make assumptions about the “what” and “how” of affective learning in this setting. By soliciting the students’ perspectives, this study contributes a description of what affective learning occurs in HFS and provides a beginning understanding of how affective learning develops over the course of the educational curriculum.
CHAPTER IV

RESULTS

The following chapter contains the findings of the 25 interviews conducted to explore the perspectives of affective domain learning experienced by nursing students who have participated in high-fidelity simulation (HFS). Using the phenomenological perspective and methodology described in Chapter III, the individual interviews were analyzed using the process described by Moustakas (1994), and composite descriptions of affective learning of senior level students and junior level students were developed. The affective domain learning experiences were identified, and by comparing the descriptions given by the participants with three authoritative sources who gave voice to the attitudes, beliefs, values, and ethical considerations of nursing, their importance was acknowledged. The experiences of junior level students were compared with senior level students to identify similarities and differences, and selected examples of affective learning were evaluated to isolate the levels of affective learning that had been achieved through the participants’ experiences with HFS.

Senior Themes

The themes that emerged from the interview data are presented in the following section and provide the means to answer the first research question.

Q1 How do nursing students describe their affective learning experiences when participating in high-fidelity simulation?
Because the participants represent two educational levels, juniors and seniors, and their experiences were compared to answer the second research question, the description of the themes is separated into data provided by juniors and that provided by seniors.

**Theme 1: Anxious About Not Knowing**

The first theme, anxious about not knowing, includes subthemes that correspond to specific facets of the emotional response to simulation described by these participants. Feeling nervous or anxious before simulation is well-documented in the simulation literature (Cordeau, 2012; Najjar et al., 2015; Skrable & Fitzsimons, 2014), and the participants in this study concur to varying degrees. In an NVivo® word frequency search, the word nervous occurred 137 times, more than any other word with a feeling tone. Because anxiety occurs as a mental health diagnosis, it is important to recognize the limitations of this study and the language of the participants. First, this research study does not attempt to use anxiety with clinical specificity or to refine the common usage of the word anxiety. I did not expect the participants to stipulate the degree of anxiety they felt when describing their simulation experiences nor to consider whether anxiety was the accurate term to use in the context of simulation. Finally, it is beyond my scope of practice and educational preparation to diagnose generalized anxiety disorder in the participants while listening to them talk or reading the transcripts of their interviews. What is important to this research is to use the words as the participants use them and to recognize how significant anxiety can be for learning from the participant’s perspective (see Table 2).
Table 2

*Themes and Subthemes*

<table>
<thead>
<tr>
<th>Themes</th>
<th>Subthemes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxious about not knowing</td>
<td>Nervous anticipating simulation&lt;br&gt;Uncomfortable in the new environment&lt;br&gt;Shared anxiety&lt;br&gt;Worried about now knowing what to do or making mistakes&lt;br&gt;Persistent anxiety&lt;br&gt;Relief and perspective&lt;br&gt;Managing anxiety</td>
</tr>
<tr>
<td>Confidence to create meaning</td>
<td>Connecting to previous experiences or learning&lt;br&gt;Applying learning to future clinical experiences&lt;br&gt;Connecting clinical experience to simulation&lt;br&gt;Discovering nursing role and scope of practice</td>
</tr>
<tr>
<td>Excited by growing and developing</td>
<td>Grateful for feedback&lt;br&gt;Challenged through personal critique&lt;br&gt;Comforted by the risk-free environment</td>
</tr>
<tr>
<td>Enjoyed learning</td>
<td>Being the nurse&lt;br&gt;Watching others interact&lt;br&gt;Playing the family member</td>
</tr>
<tr>
<td>Pressured by being observed</td>
<td>By faculty who have expectations&lt;br&gt;By peers who were supportive or judgmental&lt;br&gt;Suggestions for decreasing pressure</td>
</tr>
<tr>
<td>Ambivalent when relating to the manikin</td>
<td>Awkward conversations with manikin&lt;br&gt;Disappointed by limitations&lt;br&gt;Surprised when experiencing connection with manikin and/or scenario&lt;br&gt;Emotionally affected by family interactions</td>
</tr>
<tr>
<td>Affective learning outcomes</td>
<td>Communicating and working with teams&lt;br&gt;Teaching patients and families&lt;br&gt;Life-long learning through novel experiences&lt;br&gt;Confronting ethical issues&lt;br&gt;Empathy for patients, families and peers&lt;br&gt;Self-confidence</td>
</tr>
</tbody>
</table>
Nervous anticipating simulation. Leah recalled her first experience with simulation this way: “I remember being really nervous, because I just really had no idea what to expect.” Others made similar statements about not knowing what to expect despite a preparatory tour and access to information about the patient. Amanda elaborated on feeling anxious about not knowing. “I think simulations are always a little bit nerve-wracking or they induce some anxiety, just because you know that they have something planned out, and so you’re just waiting.” Beth experienced less anxiety before and increased anxiety during the simulation: “Prior to my first simulation, I obviously was very scared because I didn’t know what to expect; but once I got in the room, I was even more scared.” She remembered her hands visibly shaking as she prepared an injection. “I didn’t realize how much pressure . . . and how much I didn’t know until I stepped into that room.”

While Olga stated that simulation usually did not stress her out, she did remember some nervousness before the first simulation because she did not know what to expect. As she continued talking, she came to this conclusion: “This might sound weird, but I was actually more excited for the first simulation. I think I kind of had higher expectations for it at that point. I was really excited about it.”

Uncomfortable in the new environment. For Amanda, the new and unfamiliar environment played a role in creating nervousness. “They always try to show you where things are, where they’re going to be; things you might need. But it still feels like I’m scrambling, like I’m always looking for something or it’s just not what I’m used to,” she reported. Olga wished she’d been more comfortable with some of the supplies she needed to use in simulation.
I remember feeling really unfamiliar with the syringe and the capsule that we used to give one of the meds [medications] and just how everything was like—so, in some ways I felt kind of unprepared for just that physical skill and knowing my equipment and what I was using. I kind of wish that I had more practice with that before the sim [simulation] so that it would just be more fluid and natural.

Eva remembered a situation where she used the wrong supplies.

They kind of have us going into a scavenger hunt first semester, to know where everything’s located, but after you come back a semester, I don’t remember where anything is. So something’s going on with your patient, and you need to get them something, and I’m going through the drawers, I’m like, “I don’t know where any of this stuff is!” I told them out loud, I’m like, “Hey, I’m grabbing an insulin syringe,” but it was really a TB [tuberculosis].

Charlene reflected on her earliest simulations and shared these thoughts:

I felt like most of the time in the early simulations I was too focused on I’m really unfamiliar with this environment to focus on the skill of—I don’t even know—administering an IV [intravenous] drug. I think simulation should really be about those skills and ways of thinking, and not about where’s the drug cart? Where are the things I need to administer? Where’s the oxygen?

Deb shared similar thoughts. “You have no idea what to expect in there and how everything operates, all the machinery, let alone what you need to do as a nurse. You barely have stepped into nursing.”

**Shared anxiety.** Charlene recalled feeling anxious before simulation as a group activity, and the memory caused her to laugh nervously. “Each time it seemed like you’re full of anxiety at the beginning and you’re like ‘I don’t know what to do.’ Everyone else is nervous so we feed off each other, and we’re kind of in this turbulent sea of not knowing what to expect.” Taylor talked about her anxiety before simulation extensively. “I wonder if other students feel as nervous or anxious about sim [simulation] as I do. I’ve always wondered that. When we’re all in there before the professor comes in, we’re all like, ‘I hope they don’t pick me today.’ We all say that to each other.” Leah talked about shared anxiety, too.
I remember I was sitting at the table, and we were all looking at each other, and we were asking ‘who’s going to go first?’ . . . We all talked about how nervous we were, and I think that also helped, because I realized other people were also worried that they were going to mess up, and other people also felt like they didn’t know what they were doing.

**Worried about not knowing what to do or making mistakes.** Some participants admitted the source of their anxiety as fear of making mistakes or not knowing the correct action to take. Leah told me, “I think I was just really nervous that I’d do something wrong, or I’d mess up, or I wouldn’t know what I was doing, and I’d look stupid, and they’d all judge me, and I’d be that stupid person in the clinical group.” Yasmin had a similar response. “I feel like we always feel, as students, we don’t want to look dumb.” Morgan agreed.

I think it’s just knowing that they’re going to be watching you and evaluating you, and tell you what you’re doing wrong and right, and so just [having the mentality that] I want to do everything right, and not wanting to think oh no, you did this wrong and everyone saw.

Charlene remembered lacking confidence in the skills she needed for simulation and referred to it as “flying by the seat of my pants.” Deb experienced anxiety when taking a history from her patient in triage during the code simulation. She realized she did not know all the right questions to ask even though she knew what to do for the chest pain her patient was experiencing. She felt her anxiety was magnified because she was questioning a live actor at that point in the simulation. Beth took a philosophical perspective about making mistakes: “When people are asking you things and you don’t know the answer, it's, obviously, disappointing that you don’t know the answer, and it sucks. But if you’re looking at it from a learning aspect, you’ll always remember it.”
Because she was working with a manikin and not a live patient, Norah was surprised to discover feelings of anxiety about her patient’s welfare.

I think being really worried about the patient was surprising to me, because it’s a simulation, and it’s a doll, but still being really concerned about, “Am I doing this right? Am I being careful? Am I double checking? Am I triple checking?” All of those feelings were still there, even though I knew it was just a doll, and I knew the stakes were low. I definitely still was hyper-aware of what I was doing and nervous that I would mess it up and things like that, which is a good thing, because it teaches you kind of that real situation thinking.

**Persistent anxiety.** While most of the participants found the levels of anxiety they experienced with simulation decreased over time, four participants described persistent anxiety. When asked if simulation always made her nervous, Eva replied, “Yep. I hated it. I freaked myself out. Gosh, I think even one time I caused myself to get sick . . . my nerves always stayed with me all the way across.” Taylor said, “I hate simulation. It gives me so much anxiety. It really does.” While Morgan knew some of her feelings about simulation were related to her personality—“I kind of always feel anxious”—she did not remember the first simulation she participated in, but she remembered the emotions she felt clearly. “I just remember being very scared and actually hating it. . . . Looking back I really didn’t have a positive outlook on it. I always dreaded it until more [towards] the end. I never wanted to be the nurse; I just didn’t like it.” Yasmin simply said, “I feel like that’s always.”

While Morgan credited her personality and Yasmin was not surprised at her anxiety, Eva and Taylor had other explanations for the continued anxiety they felt. Eva told about five members of her nursing class being expelled and while she did not know the details, she suspected at least one of them had performed poorly in simulation. When classmates left the code simulation crying, she immediately thought
they had performed poorly, “I thought that it was hard and there was really tough feedback and like people weren’t going to pass.”

Taylor related her experience with an unsympathetic peer. “I had a girl jump down my throat during debriefing and make personal comments about me, so I feel like maybe that’s why I don’t like simulation as much as other people.” She remembered the simulation was complicated by a malfunction and because the manikin was not responding as expected, she did not know what more to do. “It was to the point where I had done everything I could think of, and I felt like I was just waiting and waiting for the sim [simulation] to end, and I didn’t know what to do any more.” She was shocked by her classmate’s comments. “I didn’t know what to say or how to react. But maybe that's a good thing, because I didn’t really say much about it, and I just kind of let it go. But that’s probably why I don’t like simulation very much.”

When her instructor complimented her calm demeanor during the crisis, she felt like others found positive comments to say. “People have always told me in sim [simulation], during debriefing, that I’m incredibly calm and I don’t look nervous; but inside, I feel so nervous and anxious, and I just want to get out of there.”

Morgan, Eva, and Taylor experienced symptoms that seemed to interfere with their ability to do their best in simulation. Eva was so anxious she became ill. Morgan said there were times when she felt “the adrenaline kick in” and “sometimes like a blank mind, like ‘oh no, what am I supposed to do right now,’ and then having to get reoriented.” Taylor also talked about forgetting what she had learned. “I feel like, right before, you forget a lot of things; at least that’s how it is for me. A lot of the prep, right before I go in, I feel like I’ve forgotten it all.” She felt her nervousness “probably blocks a lot of my doing well when I’m in there.” Eva, too, remembered forgetting
part of the assessment she needed to do during her first simulation. Yasmin expressed surprise by feeling confident “even though people were watching me and I was anxious and just like how that feels like, ‘Oh, that felt good.’”

**Relief and perspective.** Eva talked about the relief she felt afterwards and the way she talked to herself. “Okay, done; we have three left to do. I never want to do this again.” Taylor used similar self-talk to manage her anxiety. “I’ve been here before. I know this is just how it is, and we just have to get through it, and it will be a good learning experience. I don’t like it, but I know I have to do it, so I’ll just do it and it’ll be over and done with soon.” Morgan, too, was able to gain perspective on the anxiety. “Towards the end, it was okay, it’s simulation and yeah, it’s not my favorite thing, but I’m going to grow and learn.”

Experiencing a sense of relief was not unique to Eva, Taylor, and Morgan. Amanda, Beth, Charlene, and Deb used similar words to describe how they felt afterwards. In Deb’s words, “I always know that I’m going to be stressed and then I’m going to be fine once I’m in there, and then I’m going to be relieved afterwards.” Charlene remembered, “It’s going to feel real bad for the next 15 minutes, and then we’ll get through it.”

**Managing anxiety.** Norah found sharing the nursing role helped her manage her emotions and thinking, “The nice part is they started us off with two of us in the room, which is really comforting, so if I blanked and didn’t know what was happening, maybe my partner could help me out for that.” Eva recalled less anxiety when she was partnered with her best friend.
For some participants, once the simulation had started, the anxiety level decreased. Yasmin noted that anxiety was always present before but “you’ve just got to go and once you’re in it’s fine.” Morgan used the adrenaline kick to “just go for it.”

**Connections to the literature.** The experience of anxiety in simulation is well documented in the nursing education literature (Cazzell & Rodriguez, 2011; Cordeau, 2012; Leigh, 2008; Najjar et al., 2015; Nielsen & Harder, 2013). Hollenback (2016) studied anxiety levels in junior baccalaureate nursing students before and after a simulation experience designed to prepare them for an obstetrical rotation. Using the Spielberger State Trait Anxiety Inventory to measure students’ levels of anxiety, the simulation experience was effective in reducing anxiety but the effect did not carry over to the anticipation anxiety students felt before their obstetrical rotation one week later. Hollenback posited the scores could have been affected if some of the students had a history of anxiety and suggested that further research query for such information. This study provided the students’ perspectives of experiencing anxiety related to simulation and differentiated between anxiety that arose from not knowing what to expect, being unfamiliar with the environment of simulation, not knowing what to do or making mistakes, persistent anxiety, contagious anxiety, anxiety relief, and management of anxiety.

**Theme 2: Confidence to Create Meaning**

The second theme identified, confidence to create meaning, included connecting the simulation experience with past learning events and looking forward to the future when the lessons learned in simulation would be important to the
participants in their nursing roles. The act of creating meaning is constructivist in nature and is learner focused (Driscoll, 2005).

**Connecting to previous experiences or learning.** Taylor connected her classroom learning with debriefing in simulation. “I like doing the concept maps on the board, just talking through the disease and how everything’s playing out in the scenario and writing it on the board. I think that’s really helpful.”

Beth and Deb both referenced work experience as important to their simulation learning. Beth felt the code scenario did not have the emotional impact on her that it did on some of her peers because she had already performed cardiopulmonary resuscitation (CPR) at work. She had seen a social worker console a family member and felt prepared to practice similar behaviors. Deb remembered having a limited role in codes at work and simulation provided the opportunity to advance her experience and comfort level with the situation.

I have the benefit of having worked at a hospital, so I’ve seen codes and I’ve participated in doing the crash cart and that sort of thing, but I’ve never actually been the physical nurse in there doing chest compressions and CPR and doing airway and all that. I’ve never seen how that actually happens, so now I feel way more prepared going into a real job. Like I’m going to know at least somewhat what to expect.

Olga and Leah credited their experiences with theater and dance in high school with their ability to be comfortable with role-playing and being observed by others. “I had done dance and theater, so the concept of having people watch me didn’t bother me,” Leah stated. Olga enjoyed playing a family member for her peers in simulation. “I kind of got into the role” playing the wife of a dying man.

When the discussion focused on providing feedback to peers, Sophia remembered, “There are always like more compliments than critiques kind of
approach.” She felt monitoring how she gave feedback was strategy she learned from coaches while participating in sports.

Olga, Charlene, and Leah talked about the influence of experiences with family and friends. Olga felt the emotional impact of playing the wife of a dying man “hit home a little bit more, because I am married.” Reminded of her life experiences with death, Leah said, “It brought you back to your own experiences with family members or friends that had passed away.” Charlene said it this way: “You think about your own life and the sadness you’d go through if a family member was dying.”

**Applying learning to future clinical experiences.** Often, participants made a strong connection between their simulation experiences and the clinical experiences they had in the hospital. Morgan shared her perspective this way:

I think when I would be in simulation I would learn things and they would stick a little bit better. So then in real situations, sometimes you can look back on that and be like “oh yeah, we did that so now this is what we do,” or “this is what I assessed in that situation, so now I’m going to look for that.”

Norah gave a specific example: “We did something diabetes management-wise in simulation, and then it was about teaching with insulin and things like that. I remember then using those exact teaching points with patients in clinical relatively soon after.” Yasmin also talked about diabetes and the connection between simulation and clinical patient care.

I remember things about sim [simulation] when I’m in clinicals . . . even just being more comfortable . . . with someone who has diabetes. Diabetes can be an intimidating thing to deal with, . . . even if not all the skills are the same that I do in sim versus clinical, but having been in that environment or like prepped on diabetes so I have somewhat of a background to go off of to then deal with a patient with it.
Eva found the code scenario directly applicable to her next clinical learning setting. “I am very thankful for it [the code simulation], because it helped me, because I had my preceptorship in the ER [emergency room].”

Deb thought others watching her in simulation reminded her of clinical experiences.

You’re constantly feeling like you’re in an interview all the time, so you’re always having to perform at a high level, and that’s very much like simulation. . . Just like when I would go to clinicals, you have a nurse watching your every move and expecting you—as a fifth semester student especially, to know somewhat what you’re doing, but still ask questions.

Charlene had a different perspective as she described how simulation was not like clinical experiences for her.

I feel like with a manikin you get practice expecting not to get a response, if that makes sense. So you walk into the room, you introduce yourself, and you ask for patient identifiers but you expect not to hear it. You go right to the wristband to check it so that the people behind the windows see that you’re checking identifiers.

Then you go into a real patient’s room. You go into the room and introduce yourself and ask for two patient identifiers, and when you actually get a response I feel like it just puts your mind on a different track. You’re like okay, moving out of simulation into something else, like this is no longer a related experience.

Charlene referred to simulation as a performance as opposed to providing patient care. “It’s weird because I feel like I’m doing a bit of a performance; whereas, every time I’ve been in a clinical situation with real patients, I don’t feel like it’s a performance. I feel like I’m building a relationship.”

Discovering nursing role and scope of practice. For Deb, the experiences she had in simulation helped her discover her role as a nurse. Initially, she remembered having “no idea what to expect in there and how everything operates, all the machinery, let alone what you need to do as a nurse. You barely have stepped into
nursing.” At the time of the interview with me, she was feeling more confident but with reservations. “I definitely feel like I don’t know nearly half of what I need to know to go out into the field, but I feel like I can hold myself better; I could actually be a nurse maybe.” Sophia recognized it was important to “move past the student piece” in adopting the nurse role. In other learning settings, such as the classroom and the hospital, the student role dominated. She felt simulation “gave you the space and environment to fully dive into that position, which I found super helpful.”

Leah, Norah, and Yasmin referenced the independence they experienced being a nurse in simulation rather than a student. Yasmin said,

Sometimes in clinical, because I like hadn’t experienced something before, I felt like I had to go ask to make sure I could do it or make sure I didn’t have to have a professor or nurse with me; whereas here, we are the nurse so it’s our decision so we have the freedom to do that.

I did have autonomy in sim [simulation] and it gives me confidence like, “Well, I did it there so I can do it in real life,” and just even like to have a taste of what it feels like to have autonomy while still being a student, just like a little glimpse of what it will be when I’m done with school

Norah shared a specific instance in simulation to illustrate further her developing role as a nurse with independence to make decisions.

One of my simulations, the patient had an allergic reaction, starting with a rash around his abdomen . . . I’m like, “Okay, he must be having an allergic reaction.” So instead of just like going to get someone, like “Oh, what do I do next?” I just called the provider right away, dialed the number, called the provider, got new orders, administered med [medication] like all really quick, and at the same time, instead of like in reality, not knowing hospital procedure, I would have gone out and been like, “hey, this is happening. Can you come look at the patient? What do I do next?” As a student, that’s what you would do versus playing the actual nurse, you can do all of that yourself.

Leah’s experience was almost humorous. “You’d have those moments where the patient seemed like they were decompensating, and you’d have that panic of ‘Oh my gosh, what do I do, what do I do? Where’s the nurse? I’m the nurse!’”
Norah and Olga found their growing confidence inspired independence in simulation. “I felt more comfortable with sim [simulation] itself; it was kind of nice to be able to go and try things with just me in the room, too,” Norah remarked. She also reflected, “I learned the best when it was just me and the family members and the manikin in the room.” Olga’s thoughts had a plaintive tone. “I just wanted to be the nurse for a little bit, just me.” She wanted to be able to solve patient care problems for herself without anyone else to lean on “like a crutch” because that “is what we do as nurses every day in the actual hospital.”

Charlene also talked about independence, but her experience had a different angle. She described her role in the code scenario and relating to the provider who was giving orders.

I definitely felt really dependent on him at that point. So my role was pretty much I felt like taking orders because I wasn’t quite prepared to follow protocol without having some type of verbal order to start this . . . it gave me more confidence with what I was doing, knowing that someone else told me what to do. Not that I didn’t have to think of it by myself, but that someone agreed with me that that was the right thing to do. I think especially as a student I don’t expect—this might sound bad—I don’t expect to get anything right the first time.

So it’s always good to have someone there telling me this is the right thing to do or something like that so that as I start to form how my brain works, how I start to think the right way, it’s like positive feedback, someone saying/affirming that it’s the right thing to do.

Connections to the literature. Confidence to create meaning is similar to what other researchers have described as connections (Cazzell & Rodriguez, 2011; Najjar et al., 2015). The participants were able to verbalize the similarities between their experiences in simulation and clinical or what they expected to experience as nurses in practice. This study supports the current research and the philosophical tenets of simulation as a learner-centered strategy.
The participants made connections with what they had previously experienced and verbalized how their simulation experiences were giving them confidence to imagine themselves as nurses. Sedgwick and Kellett (2015) noted the importance of nursing students connecting to the role and reframing one’s identity to include the culture of nursing.

**Theme 3: Excited by Growing and Developing**

In the third theme, excited by growing and developing, the participants shared a general sentiment regarding the value and importance of debriefing to bring the pieces together and create meaning. Olga was surprised to realize, “I learned the most from the debriefings and the discussions that we had after the simulations.” Amanda said, “Things that we didn’t understand we get to talk about.” Yasmin felt there was value in “picking apart the situation to like understand the big picture.” Beth talked about gaining a new perspective. “Just having them have you look at things in a different light, or, ‘You could have done this,’ kind of thing, you just think about things in a different way after that.” Later she said about debriefing, “I love the collaboration of ideas. People have such different ideas about what you could have said, what you could have done, and when you put all of that together, you can come up with the perfect situation.”

Faculty who facilitated the debriefing played a key role in creating a positive environment for learning to occur. Leah recalled that, “my instructor was great with introducing everybody and making it a learning experience and not an ‘I expect perfection.’” Morgan shared her opinion about faculty and debriefing. “The professors here do a good job of being positive and presenting it in a positive way.” “It’s a very
safe space,” Sophia remembered. “Most of them, almost all of them, were just super good, all about learning, would break it down, talk through it.” Even though Taylor felt attacked by a peer in debriefing, she agreed. “I learn a lot in debriefing. I like it because it’s so open, and anyone can share anything.”

**Grateful for feedback.** Amanda expressed the sentiment of many when she said, “[when] you get to sit down with your peers and your teachers . . . and get feedback . . . that’s the most important part is[sic] talking about it afterward.”

Leah remembered receiving feedback from peers in debriefing and the deliberate way her instructor facilitated the process.

I remember one of the simulations, my clinical instructor had us go around and everybody said one good thing that the nurse had done in that simulation, and so that was really helpful, because even though you have things that you could work on, you also knew you were doing so much stuff right.

Amanda felt debriefing was a time when she and her peers “can be a little bit more candid with each other.” Eva appreciated the honesty, too. “Everyone was very supportive and thankful for telling the truth and not trying to sugarcoat it and not tell them.” Morgan had this to say, “I think when it comes from your peers, you’re like oh yeah, that is something I should’ve done. It doesn’t feel serious. It’s a nice reminder.”

Several participants remarked on the self-confidence boost of receiving and providing positive feedback. “It’s nice to be able to tell someone that they’re doing a good job with something,” was the way Charlene described it. Olga said, “I think simulation is a great opportunity to really build each other up and ‘you know that you can do it’ and be able to give feedback to each other and support each other.” In Beth’s words, “I may comment on things that I thought that they could have done
better, but I will always say the things that I think that they did well. Because to me, as a classmate, I just want them to know that, like, ‘You guys are awesome.’”

When the feedback involved constructive criticism, Sophia framed it from a learning opportunity perspective. “If you break it down, you’re not at all critiquing them or judging them, you’re just looking for learning opportunities.” Eva gave an example:

I always started out with the positive stuff first, like, “You guys have great communication and you were great with the family, answering their questions, and you were multitasking, but you were always double checking like your doses, being sure that while you were talking to them you weren’t giving the wrong dose, the wrong medication, but just don’t forget to wash your hands beforehand.”

Taylor talked about how careful she was in sharing feedback. “If I’m trying to make a point, like maybe they should have done something else, I just try to say it the best and most respectful way possible. But a lot of times I feel like I would have done the same as them, so I always add that in.” Deb echoed Taylor’s remark by putting herself “in the same boat.”

Our peer-to-peers will write down what they saw us do right, like really good things that they saw and things that they would have done differently or things that we missed. That’s always good, because peer-to-peer interaction is like okay, “Here’s someone in the same boat; how would they have done it differently?”

Several participants like Leah could not recall specifically giving “negative feedback” but felt that she probably had “because a lot of the time it’s just kind of an open discussion.” Charlene said, “I have a really hard time giving negative feedback . . . usually I leave negative feedback up to the faculty.” Yasmin remembered,

I don’t know that the students really say, “Hey, you did this wrong.” I don’t know if we all felt confident enough to be able to say that, but mostly faculty and maybe a student would pipe in saying, “Well I noticed this.” Just
observations more than “You did this” or “You didn’t do this” or something like that.

Olga talked about the situation, too.

When people would give suggestions for how to do things, they were always very respectful and they didn’t really give feedback to each other that would single that person out. It was always more kind of like a generalized suggestion that everyone could benefit from.

Charlene wanted feedback that was specific. “I was pretty grateful for the feedback that I did receive. The more personalized the comments were to me the better.” She liked giving specific examples, too. “When they pick out a specific action, it’s really reaffirming for me. So I know that when I can pick out a specific action for someone else, I know that it must be really reassuring for them.” She summed up any negative feedback by concluding, “as long as it’s corrected by facing the future knowing that I know what to do next time, that’s a positive thing.”

Olga, Charlene, and Yasmin recalled agreeing with the feedback they received from peers. Olga said, “More of the things that were mentioned I would agree with like, ‘Oh yeah, definitely. I should have done that this way’ or ‘yeah, we probably could have picked up on that sooner.’ So it was good.” Charlene thought the feedback she received helped her be honest about her own actions.

It’s good when you are thinking in the back of your mind like I know I did this wrong and you’re afraid to admit it, but then someone tells you “there was this one moment when you really should’ve done this.” And they hit the nail on the head and you’re like, yes. And then it’s kind of a relief to get that out in the open.

Yasmin’s experience was similar.

Sometimes I would know if I had done something wrong; I was kind of expecting them to say something. Or in the situation if I didn’t know it was necessarily wrong, but I was like, “Yeah, that didn’t go so well,” I didn’t feel like let down if they told me I did it wrong. It was nice to hear that I was doing
things right, so that made me feel better, but I wasn’t like—I took it constructively if someone told me, “You should probably do this differently.”

She concluded by saying, “I would rather be told it here than have it happen in real life and have worse things happen.”

Deb felt hearing constructive criticism was preparing her for the future. “So I feel more prepared going into the real world and have constructive criticism from it.”

While simulation feedback is generally reserved for debriefing after the scenario concludes, some of the participants discussed an exception. During the code scenario, it was customary for team members to provide on-the-spot feedback about the quality of the chest compressions in CPR. Beth found several faculty remarks to bring doubt to her mind about her skills and her knowledge. “There were moments when they were jumping in and correcting us and that was stressful because it felt like we were not doing anything wrong.” During the debriefing when faculty explained their actions, she was able to understand but in the moment, she felt scolded.

While the participants had positive things to say about receiving feedback from faculty in debriefing, Eva could not help but remark that receiving faculty feedback still made her nervous. She attributed her feelings to their experience level as compared to her peers. Deb’s comment was, “When you hear criticism from them, you know it’s very loving criticism. So I felt like every time I’ve learned from them.”

Later in the interview, she made a similar remark. “The professors are always just so nice; they’re never like, ‘You really should not go into this profession!’” In the context of debriefing, Beth’s comment was similar to Deb’s. “No one’s ever like, ‘You’re just never going to make it as a nurse. I hope you know. You’re just not going to be a good nurse,’ kind of thing. No one’s ever like that. It’s always what went well, what went
bad.” Morgan agreed. “I don’t think I’ve ever had someone be rude about it, or anything, so it’s a good learning opportunity.” Taylor’s experience with feedback from faculty was different from what she experienced from her peers. “They’re nice about it [giving feedback]. I think they just bring out the positives. And they’ll say if I made a mistake, or if I didn’t choose the correct thing to do, they just point out, ‘Maybe it’s best to do this, because of this.’” The approach they take allowed her to process her mistakes in a constructive manner. Charlene said, “It felt to me reassuring to hear from the faculty in debriefing that when they said, but ‘these are the things that you did right, and these were the things that you could work on.’” She appreciated their attention to the details. Deb made these concluding remarks: “I don’t feel like simulation is ever meant to tear you down; it’s always there to build you up.”

**Challenged through personal critique.** Some participants reflected on the inner voice or self-talk they would hear before simulation and its significance to them. Deb remembered “constantly thinking about, ‘What do I need to do to perform well?’” Because her role in the code scenario was to do chest compressions, that became her focus and she rehearsed the steps she would need to follow. She heard, “Just do good chest compressions, bare minimum.” Afterwards, she asked herself, “If I would have done something different, would it have saved them?” Deb also talked about watching a video of her own performance in simulation early in the program. She was amazed. “Do I really do that? Do I really stand that way? Do I really ask that question? That was dumb.” She wished she could have repeated the exercise later in her education. “I feel like if I would have watched myself now, I would have been more impressed with where I’ve come in just patient care.”
Charlene recognized her own ability to evaluate but wanted more input from others. “It’s true that in your own mind, you do a lot of self-feedback. So you don’t necessarily need someone telling you every single thing you did right or wrong. But it would have been helpful to have a little more input at the end.”

Leah referred to her inner voice as her “gut.” She felt simulation provided an environment for her to develop the ability to make decisions and trust her “gut” because she could not ask for help from the nurse or her instructor.

You just have to make the decisions and go with your gut, and I think the simulations made us feel more confident going into clinical, at least for me, because I noticed more times than not my gut was right, and so then I felt better in clinical because I definitely had more confidence because I realized I knew more than I thought I did.

Sophia reflected on the change she had noticed in her ability to accurately evaluate her own judgment in simulation. In the beginning, you walked out questioning your own actions; “Should I have done something different?” You were surprised by the compliments you received in debriefing; “Oh wow! I didn’t think I did that well” or “I didn’t think I was actually doing anything for him.” At the end “you could tell if you did well or not, rather than having to wait for debriefing” to have someone else validate your actions.

**Comforted by the risk-free environment.** Whether participants referred to it as a “safe zone” or “a low risk environment,” they were all comforted by learning where patients would not suffer because of mistakes they had made. Sometimes it took some of them awhile to believe others were not judging them for their actions. Yasmin recalled,

The first time we were told “This is a safe zone. You can mess up; it’s okay. We’re just going to have fun with this,” and you’re like “Yeah, yeah, okay, but people are still watching me” and not believing it. Whereas this last time it was
like we all ended up laughing at one point because it was like just a safe zone and it was fine and we were all comfortable with it. I don’t know, that was a piece, too, of just getting comfortable with “Yeah, okay, this is a safe zone. I can mess up, it’s fine. We can all laugh about it.”

The comfort of the safe zone allowed Norah to be more confident in her ability to problem solve and willing to try when she was not certain of the outcome.

I also didn’t mind performing when it was challenging. I didn’t mind being the nurse when it was like a more challenging sim [simulation], because I knew that I would learn better if it was a more challenging simulation. So even though my chances of messing it up were higher, I didn’t necessarily mind that, because I thought, “The stakes are really low; it’s not a real patient. I don’t mind going in there and trying something to see if that would be the right thing, on my feet.” . . . I am a lot more risk-taking, I guess you could call it, in simulation, because again, the stakes are really low.

Yasmin expressed similar thoughts. “I feel like I’m a little more confident; I don’t know if that’s in my skills or just because it’s a safe zone. I feel like I can have a little more freedom maybe.”

Charlene talked about being grateful to experience new situations in the safe environment. Her comments were specifically in reference to the death of her patient in the code scenario. When Yasmin talked about the postpartum hemorrhage, she commented, “I would be a little more relaxed, I think, if it happened in real life since I did it first in sim [simulation]. It was nice to be able to do it where we could ask each other questions and be in the safe zone, I guess you could say.”

**Connections to the literature.** The participants in this research valued the feedback they received from faculty and peers and the risk-free environment provided by simulation. These findings are well-documented in the nursing education literature (Clapper & Kardong-Edgren, 2012; Jeffries, 2005; Parsh, 2010).

Research by Cushing, Abbott, Lothian, Hall, and Westwood (2012) specifically addressed peer feedback with findings congruent with this group of study
participants. Cushing et al. studied medical and nursing students through an interventional design with the aim of teaching skills in communicating feedback. While the study utilized an objective structured clinical examination format using learning stations, live actors, and an evaluator rather than HFS, their findings frequently paralleled those described by the participants in this study. Some of the themes and subthemes were participants gained a new perspective from providing feedback, participants found it easier to give appropriate and sensitive feedback when peers were well known, and affirmative feedback was offered more frequently and was easier to give and built confidence and self-esteem. Participants were divided in their opinions whether peer or instructor feedback was preferred. The Cushing et al. findings are extended by the current research to include the experience of students in HFS.

In a pre- and post-test study designed to examine the ability of senior nursing students to evaluate their own performance in responding to emergencies, Baxter and Norman (2011) utilized objective structured clinical examinations and observation by two independent examiners. The examiners rated each participant’s performance using the same tool participants later used to provide a self-evaluation. Baxter and Norman discovered a “negative correlation between the nursing students’ perceived confidence and their actual clinical ability as evidenced by the score achieved on their objective structured clinical examination” (p. 2412). Furthermore, while instruction and practice increased the students’ confidence, their performance as rated by the examiners did not improve to the same extent. This research does not include independent data to validate the participants’ self-reported assessment of their skills but does point out the importance of feedback from faculty to guide student learning.
Theme 4: Enjoyed Learning

Theme 4 encompassed the roles a participant might play in the scenario, being the nurse, watching others interact, and playing the family member. To the uninitiated, this period would appear to be when the richest learning occurs. The descriptions from these participants provided some surprising insights.

Being the nurse. In the broadest sense, the purpose of simulation is to provide an environment for students to practice “being the nurse.” While they may be anxious before the scenario begins, many of them described how once they have entered the room with the manikin, in Morgan’s words, “it just flips on.” She went on to say, “as soon as the simulation starts, and you get into it, then it goes fast and it’s a lot easier to be the nurse.”

For Beth, being the nurse was memorable even when she made mistakes.

I can think back to any simulation that I’ve ever been the nurse in. For example, in first semester—I’m so embarrassed at this now—the simplest thing: our guy was short of breath. I put oxygen on him, I had the pulse ox [oximeter] on, his oxygen was dropping, and I didn’t even raise the head of his bed. I had him lying completely flat. But now, any single time someone is short of breath, the first thing I do is raise the head of the bed. The first thing I do. Because I learned from my mistake.

Beth also talked about how important it was for her to do the role she was assigned in the code scenario. She reflected that because her function as the family support was assumed by the faculty member, she missed some of the learning she would have otherwise experienced. “I listened to her talk, but I feel like I don’t remember the things she said as much as I would have had I said them and she gave me feedback.”
Norah liked being the nurse in complex, challenging scenarios. “I didn’t mind being the nurse when it was like a more challenging sim [simulation], because I knew that I would learn better if it was a more challenging simulation.”

**Watching others interact.** While most students expect their learning in simulation will be most significant when they are playing the role of the nurse, these participants were able to verbalize how important observing their peers was to their learning. Leah said, “I think it was amazing when you weren’t in the room how much you could anticipate what needed to be done when you’re just sitting in a conference room watching a screen. You could see the whole picture.” She felt “everything kind of slowed down when you were watching it from the outside.” She described her thoughts. “I hope they’re going to check the incision site, I think there’s something going on with that, and you’d be waiting, and then they’d check it, and you’d [cheer] and think I knew that was what needed to be done. That was fun.”

Sometimes, Leah and others who were observing would talk about what their peers should do. She felt her confidence build when she “cracked the code.”

Beth was amazed by the actions of her peers as she watched them from behind the glass. “A lot of times, I’m learning from them. When I’m behind that glass, I’m like, wow, I never would have thought to do that, and they knew to do that. They’re awesome.” Sophia also found observing others helpful. “Just seeing how they interacted, and being able to get that third person perspective, like how compassionate . . . they were. . . . It was very helpful.” For Yasmin, observing others broadened her perspective. “It was interesting to see like how other people did things, like maybe I wouldn’t necessarily do it that way, but the way they did it worked just fine, too.”
Morgan and Taylor talked about their preference for observing. Taylor thought she learned better that way. Morgan said,

I like to observe. I can remember in peds [pediatrics] simulation observing, and being in the back room, and you’re watching them, and they’re nervous at first, and they’re trying to do everything, and I remember it was precautions, and their mask kept coming off, or something, but you kept seeing how they were breaking the precautions. When you’re the nurse in there, you don’t really realize that, because you’re so focused on it, but when you’re observing it, you’re like okay, they’re breaking this all the time, or they don’t have this on, they’re not doing this, or they need to be doing this right now, and they’re just focused on other things. I think you can learn a lot from observation, too.

Playing the family member. In most simulation scenarios, students participate by playing members of the patient’s family. This often involves asking questions, expressing concern for the patient’s welfare and displaying the emotions that family members might have in the circumstances. As might be expected with amateur recruits, the abilities of the students to create a realistic portrayal were variable. Leah and Olga both talked about their backgrounds in high school theater; this was a role they relished. Olga said, “it did surprise me a little bit how much I enjoyed just playing the different roles of the family members and getting into character that way.” Leah recalled a specific role she played that elicited frustration and compassion.

One role stands out to me in particular. It was during our pediatric simulation, and I was the mom of a little baby, and I was a Somali mother, or Muslim. They had me all dressed up and stuff, and they said you can’t really speak much English, you can only use broken English, and you aren’t supposed to speak full sentences, you’re just supposed to try to use hand motions. I was supposed to be a very concerned parent that wasn’t really able to communicate very well, and they said this is what you think is going on with your child, try to communicate to the nurses, but don’t really use much English; use a lot of hand motions. I remember it was so frustrating, because the nurses were trying to figure out what was going on with this patient, and I knew because they had told me ahead of time, and I just wanted to tell them.

It was eye-opening to see what they go through and the frustration that you feel when you can’t communicate what you want to communicate, and it seems like
people aren’t listening to you, and you know but you can’t communicate it well.

Along with Leah, Olga, Sophia, and Norah remarked how playing a family member helped them see the family’s perspective. Olga said, “I’d much rather be a family member and be right there in the room [than simply observe], because I just felt it was a really good inside look from the perspective of the family.” Norah remembered playing a child’s father. The wig she wore helped her “feel like that was really my kid and I got into the role.” Another time she played the grieving wife in the end of life scenario, “I think that was helpful, I think, for my classmates, because I really tried to make it realistic.” In her experience as a nurse, she felt it was “really useful when they [peers] got really into the role, because then I really had to think on my feet and cater to their needs as well as the patient’s.”

Morgan described playing a family member in the end of life scenario. Other classmates were playing their roles so effectively that the scenario took on a realism she had not experienced before. “The family members were fake crying, but people were actually crying, so it was like okay, where’s the line between reality and [simulation]?” While she did not cry, she remembered the experience as “intense” and “very emotional” and felt observing others’ responses heightened her own feelings.

Eva and Charlene recalled playing family members who asked many questions because, in Charlene’s words, “I had seen in my clinical experiences that family members are inquisitive, concerned, and want to express their wishes to the nurse.” Eva characterized playing the family member as “fun” and said, “we always giggle when asking the questions.” Leah also remarked that she and her peers had fun creating roles through clothing and wigs.
For Taylor and Yasmin, it was not always easy. Taylor shared her strategy for getting into the role. “I’ll try and think how I would act in that scenario if that was truly my family member, so that helps me act it out better.” When her plan called for her to imagine herself as a wife with a dying husband, “I just could not picture it . . . it was pretty unrealistic to me; so I was really having a hard time trying to make it seem very dramatic.” Yasmin felt her personality was a factor for her. “I didn’t always like playing the family member because the one I remember playing the family member was the end-of-life one, so it was difficult to pretend to cry or like that, but that’s just I’m a quieter person so I don’t like to act.”

**Connections to the literature.** Role assignment in simulation has been reported by Harder, Ross, and Paul (2013) with the students in their study feeling “the nursing role was the most beneficial to their learning” (p. e332). While this research concurs with the value of playing the nurse, the participants also valued the observer role which is contrary to the findings of Harder et al. but concurs with Thidemann and Soderhamn (2013) and Hober (2012). Thidemann and Soderhamn concluded that students who observed simulation had the “potential for vicarious learning which may increase the learning value” (p. 1603). Hober’s study of 50 baccalaureate student nurses found three themes that included the observer’s “ability to analyze the simulation performance of peers” (p. 74), develop their own “big picture” perspective, and share their thoughts with peers during debriefing. In addition, students in this research found playing family members helped them see that unique perspective, and for some, enhanced their feelings of empathy.

In a study of 15 senior level nursing students acting as standardized patients for first-year nursing students, Mackey et al. (2014) explicated the value for learning for
those in the patient role. They identified four themes: “seeing the nurse through the
eyes of the patient, using observation skills, using reflection and evaluation” (p. 692).
Subthemes included recognizing both good practices and mistakes, comparing and
reflecting on their own practices, and the ability to learn from observing others. The
themes and subthemes of MacKey et al. resemble the comments made by the
participants in this study, although the roles they played, the type of simulation
utilized, and the educational level of the peers were different.

Theme 5: Pressured by
Being Observed

Observation is a characteristic component of simulation learning that elicits an
emotional reaction from participants. In the experience of these participants, it was
significant enough to warrant a separate theme, pressured by being observed. Some
associated their feelings about being watched with their feelings of anxiety about not
knowing what to expect from simulation or the simulation environment. I have chosen
to separate the two whenever it was possible, because for most participants the anxiety
of not knowing diminished by exposure while observation anxiety was more
persistent.

In selected scenarios, faculty may choose to video-record the session. Leah
said,

Knowing we were being videoed made a lot of us nervous, but then when we
saw how the videos were watched, and how we watched them and learned
from them . . . that really helped calm everybody and made it a much more
informative and learning experience.

Yasmin’s feelings about being observed were reflected when she remarked, “knowing
that people were watching me talk to a doll was kind of weird.”
Leah also remembered feeling more anxiety initially because she did not know her instructors or peers well. She felt simulation became a “team-building” exercise. While listening to the stories of the participants, I realized that some of them had different feelings depending on who was observing them. This realization led to the creation of two subthemes with modifiers.

**By faculty who have expectations.** “So it feels like sometimes there’s a lot of pressure, especially if you think maybe you have a high respect for the professor,” Norah remarked. Amanda observed, “There is that factor like you want to present yourself in the best way possible.” Amanda continued,

I think it’s [harder to have] the faculty [observe] because you have them in class as well. There’s already a different relationship there and having them watch then in sim [simulation], you don’t want it to affect how they view you as a student if you do something bad. . . . I want them to think that I’m a good student and that I’m going to be a good nurse . . . if they watch me and I don’t do it right, that [sic] they’re going to think something differently of me.

Deb thought about expectations, too. “Here you have your professors who expect a lot out of you and know what you are capable of, and here you are to perform in front of them.”

Beth felt the faculty had an agenda. “The faculty are looking for you to do something specific, and you’re going in there and trying to piece together the situation and try to figure out what it is the faculty want to see from you.” Taylor expressed similar sentiments.

With faculty, they have a certain standard, I feel like, so they want you to hit everything, so if you don’t, I don’t think they really care; but I’m sure that they wish that you would get those hints and maybe catch on it [sic].

Charlene described simulation as “a performance for the people behind glass.” Consequently, she found it hard to be genuine. She also felt “it was reassuring to know
that they [faculty] were there supporting us and paying attention to what we were doing.”

Yasmin had a definite opinion about who she preferred to watch her. “I would rather be watched by faculty than peers . . . I know they’re there to help me, so I’d rather them see me mess up and be like ‘Hey, by the way you, should do it this way,’ and that’s totally fine, like okay.”

“I just don’t like being watched, I guess, by anyone” reported Taylor. Morgan said being watched was “not my favorite part of it,” and whether it was peers or faculty did not make a difference to her.

I think it’s just knowing that they’re going to be watching you and evaluating you, and tell you what you’re doing wrong and right, and so just [having the mentality that] I want to do everything right, and not wanting to think oh no, you did this wrong and everyone saw.

By peers who were supportive or judgmental. For Norah, “It definitely made me more nervous if I felt like I didn’t know the material as well as some of my classmates.” Yasmin expressed a preference for faculty to observe her rather than peers and then tried to provide an explanation for her feelings.

Not because I think that peers are judging; I feel like maybe just the whole nursing program is super competitive so I just get that like ideal in my head. I don’t know if I can pinpoint why it is I don’t like students watching me, but probably a little bit of the competitiveness. I want to do it right, so yeah.

Becoming comfortable with peers played a major role for participants who were relaxed being observed. Leah reported that initially, she worried that she would “look stupid” in front of others. By the senior year, “I wasn’t worried that they were going to judge me. . . . There was that friendship and support there that I felt like if I mess up it’s okay, because we’re all going to mess up sometime.” Norah remembered
My first clinical group, I’m still really good friends with all of them, so like with that group of people, I really didn’t mind being observed by them because I knew them super well, versus later on when I had an unfamiliar clinical group, that was maybe a little bit more stressful.

Olga never felt “fazed” by simulation even though she tends “to be a perfectionist.” She felt supported by peers and looked forward to spending time with them when simulation rolled around.

**Suggestions for decreasing anxiety.** Two participants shared thoughts about what might make them more comfortable. Taylor suggested, “Maybe if there were a few less people, like one or two people watching me, maybe I’d be a little less [nervous], but to know that everyone is watching you.” Eva would feel better if she knew exactly who was watching behind the glass wall.

**Connections to the literature.** The participants described the pressure they felt about being observed by faculty or peers. The social support component of simulation has been previously discussed in the literature (Cannon-Diehl, 2009; Jeffries, 2005; Najjar et al., 2015; Nielsen & Harder, 2013), and this study provided additional supporting evidence. Previously, Parsh (2010) and Schoening et al. (2006) presented the characteristics of an effective instructor from the perspective of students. Using qualitative methodology, Melincavage (2011) reported the student nurses’ perspective of anxiety in the clinical setting which included themes that reveal the power differential between students, faculty, and nursing staff. This study also supports those findings. In addition, the participants described simulation as either supporting learning through freedom to make mistakes or the expectation that learning has a performance component by which they are evaluated.
Theme 6: Ambivalent When Relating to the Manikin

The participants expressed a variety of opinions about the simulation manikins, hence the sixth theme, ambivalent when relating to the manikin. While they were enamored with the technology that provided realistic heart and lung sounds to assess, they were equally able to share their dismay at how hard it was to relate as though the manikin was a patient.

In simulation literature, the experience of seeing the manikin as a human and the environment as a hospital is referred to as “suspending disbelief.” Only Olga used that terminology in describing her feelings about the manikin, but others shared her opinion in their own words. Amanda said it was “hard to take seriously.” For Beth, “I just found myself ignoring a manikin, almost, and just focusing on, I’m going in, this is the situation, this is what I need to do.” Charlene described it by saying,

It’s really difficult to act like I would really act in a hospital situation in front of the manikin because it just doesn’t seem real enough. . . . There’s kind of a disconnect between how you would care for a real human and when you’re just going through the motions with a manikin, so I have a difficult time relating to a manikin and putting my mind in the place where I think it’s a real person.

Taylor said, “It’s really hard for me to remember that this is a real person,” and Yasmin and Deb agreed.

Leah shared another perspective after experiencing the end-of-life scenario. “You forgot that the manikin wasn’t a real person, because everyone was acting like it was.” She also remembered,

Sometimes in the middle of the scenario, you’d [think] this is still so weird, or you’d kind of start laughing a bit. You’re holding a manikin and you’re like this is so strange, but more times than not, I feel like you really go into the scenario, because everyone else around you was doing it, too.
Morgan shared Leah’s opinion. “I think at first it’s always hard, because you walk in and you know it’s fake. But then once you start getting into it, it’s a lot easier.” Norah added, “then it got really just commonplace.” Sophia said, “I think as you go through the sims [simulations], you get better and better at being more able to focus and not just seeing a manikin.”

**Awkward conversations with the manikin.** Yasmin talked about her first conversation with a manikin.

The first sim [simulation] I had, that was really hard. Never have I ever had experience talking to a manikin, and you have to talk to them like they’re a real person. So definitely hard at first, but by this last sim, honestly it was just kind of natural, maybe because we’d had so many sims . . . it wasn’t weird talking to a manikin.

Norah shared her memories and reflected on what helped her modify her initial response.

It was really strange at first, just not being used to it, then it got really just commonplace, especially when the talking is coming from the manikin itself. That’s really helpful because then you remember to point your questions and your eye contact and everything toward the manikin, just like you would with a patient, and that became a lot easier and natural the more sims [simulations] that we did, for me.

Sophia expressed an optimistic angle.

I think as you go through the sims [simulations], you get better and better at being more able to focus and not just seeing a manikin . . . it wasn’t bad at all. It’s very cool being able to do that. And like the professors can talk through them which is very sweet.

She remembered, “You get used to talking to the manikin as if it is an actual person.”

Deb added, “Just as like a patient you would be asking questions, but they’re usually short answers. It’s just different.”

Many participants talked about hearing their instructors’ voices from the simulator. For Deb, it was a distractor. “The higher tech [technology] it is, I’m sure the
more it will seem fine. But some of our older ones, they just don’t—they look like a man; they sound like Deb [an instructor] and it’s never good.” Amanda had a similar response. She knew “my faculty’s voice, the person who’s voicing the manikin, it’s like I know her voice and I know who it is. So it’s funny that it’s her. It’s not the patient; it’s her to me.”

Charlene’s perspective reflected her concern with the content of the conversation rather than the mechanics. “You don’t really ask like does that hurt, because you know that it can’t feel anything.” She went on. “With a manikin you get practice expecting not to get a response if that makes sense. So you walk into the room, you introduce yourself, and you ask for patient identifiers but you expect not to hear it.”

Leah tried to explain why she felt “communicating with the manikin was awkward because deep down we knew it wasn’t a real person.”

**Disappointed by limitations.** Participants mentioned technical issues with the simulation manikin or computer that influenced the flow of the scenario. Eva and Amanda both described difficulty with hearing the voice of the manikin clearly. In Amanda’s words, “If there’s feedback coming through the manikin and I’m like ugh. There’s this technical issue. It breaks that wall I guess. It reminds you this isn’t real and it’s harder to put yourself in the situation as if it were a real person.” Eva remembered when the microphone didn’t work. “Often times we would get interrupted and someone from behind the glass windows would come out and say, ‘hey, I am doctor so and so, and this is what is going on with your patient.’” Malfunctioning equipment contributed to Taylor’s response in the pediatric simulation. After she ran out of things to do, her peer made disparaging remarks in debriefing that she felt were
a factor in her anxiety and dread of simulation. Morgan mentioned technical difficulties, too, “like you actually can’t feel a pulse, or something like that” but went on to say “but it’s still good practice.” While she felt the experience might have been affected “a little bit, but not too much,” she felt “you can still pretend and still learn from it.”

For Beth,

when it's just a piece of plastic lying there, it’s hard for me to think, “Oh, my God, you’re in so much pain. What can I do for you?” Because they don’t know what I can do for them. It tests your skills, but it doesn’t test how you would react if it were a real patient receiving an NG [nasogastric] tube, getting a cath [catheter], in excruciating pain.

Beth described how a human being would embolden her to ask more questions and try to avoid painful or uncomfortable interventions. “If someone needs a straight cath [catheter], you’re like, ‘Is there any chance you can go to the bathroom? Do you have any urge at all?’ Those kinds of questions that you’re not asking.” In simulation, because “it’s a piece of plastic that you’re putting another piece of plastic into,” you perform the skill.

There’s kind of a disconnect between how you would care for a real human and when you’re just going through the motions with a manikin, so I have a difficult time relating to a manikin and putting my mind in the place where I think it’s a real person.

Amanda described how the limitations affected her as the nurse.

If I’m sitting with a patient and talking to them, I know that I’m going to be present and I care a lot about what they have to say. But when it’s a manikin, it’s a little bit harder because you don’t have that connection. It’s harder to feel like . . . to care as much really, because they’re not a real person.

Olga recognized the limitations of the manikin, too. “The facial expression and just the warmth of their hands, just those slight mannerisms of their body in general, or
how they’re positioned, that can tell you more about how they’re feeling or how physically they’re doing.” She went on to say,

I feel like there is a really huge part that can be missed just as far as psychosocial goes. You know, the manikins don’t have the facial expressions; you don’t see the fear in their eyes or the joy in their eyes when they talk about something.

Leah described a “blank stare,” and Eva and Beth lamented a lack of emotion on the manikin’s face. Taylor, Amanda, Deb, Morgan, Norah, and Sophia talked about difficulties assessing physical changes like skin color. Sophia said, “obviously there are the little cues which you wouldn’t see on the manikin, like become flushed or whatever. It’s hard to pick out some of those things, but like able to talk and relate their symptoms; that was there.”

**Surprised when experiencing connection with manikin and/or scenario.**

Many participants described their emotional responses to either the end-of-life scenario or the code scenario as surprising and unexpected. Leah shared her memories.

I remember my roommates came back from the end-of-life simulation, and they were all teared up, and I [said] are you guys okay, and they said yes, it’s just so sad. I [thought] this is weird, and I thought I’m not going to cry, this is going to be so awkward and weird, but when I went, I [thought] this feels so real and so sad, so I was surprised in that.

She continued, describing her own experience. “As the simulation continued, and people got into their roles more, you felt more of the emotions that you’d feel in that situation. I was tearing up, and some people were crying, and there was that feeling of sadness.” Morgan “didn’t cry, but it was very emotional.” Sophia recalled being caught off-guard.

I was like way more emotional than I think we were all expecting, just because it was very intimate. How like a chaplain came in and prayed over the patient. You could just see how intimate it was, having the family there. See, I wasn’t expecting to like get into it.
She went on to remember how her group discussed their surprise and concern, “what’s going to happen when you actually do have a patient [die]”.

For Deb, the code scenario provoked an emotional response.

The doctor had talked to the family and decided that we need to cease CPR and we need to let her go, so then you feel the emotional side of it. I was doing CPR as he was saying goodbye, so that was a totally different side of it, when to step back and realize no more, a whole lot of emotion.

Like, Leah, Eva had also observed her classmates’ tears and thought they were upset because of the feedback they had received. “But when I went through it, I’m like, ‘Oh wow! That was really challenging emotionally!’” Charlene called it “the most emotionally stirring” simulation she had experienced.

Beth reported,

as far as simulation goes and emotions towards the patient, I didn’t really have any emotions toward the sim [simulation] or the situation, no. It was never towards the situation. I never had problems that they were delivering a baby or that they were coding or that they were having trouble breathing. Those things never bothered me. Mostly just my own thoughts and feelings about how I performed, or how the faculty thought I performed, or my classmates.

She continued, “In simulation, it was mostly about my skills, my performance, my communication, things like that, that I would have thoughts and feelings about either good or bad.”

**Connections to the literature.** The fidelity of the manikin has been described as important in simulation learning (Cordeau, 2012; Najjar et al., 2015; Shepherd, McCunnis, Brown, & Hair, 2010). Fidelity in simulation is the level at which the manikin and the environment replicate reality. The participants in this study described the frustrations they experienced relating to the manikin as humans, because they were heavy, did not change facial expressions, and sounded like their nursing instructors, among other things. Low-fidelity manikins are less life-like with the simulated sounds
having a mechanical quality. High-fidelity manikins have simulated sounds that are more natural and, thus contribute to creating a realistic patient care experience.

Generally, the higher the fidelity, the easier it is for students to imagine themselves as nurses caring for patients. The participants in this research described the challenges of working with manikins while acknowledging the possibility of making connections through specific scenarios. This ambivalence supports current research.

**Theme 7: Affective Learning Outcomes**

Theme 7, affective learning outcomes, is a discussion of the participants’ attitudes, values, and beliefs about nursing and nursing ethics as articulated through the descriptions they provided in their interviews. Sometimes participants explicitly shared affective learning outcomes, but more frequently I have identified the outcomes through reading their interview transcripts.

**Values, beliefs, and attitudes about nursing.** While listening to the participants and reading the transcripts of those conversations, I identified attitudes, beliefs, and values they had about nursing and being a nurse. I referred to the American Nurses Association (2015) Code of Ethics for Nurses, a document provided by the American Association of Colleges of Nursing (2008) called *The Essentials of Baccalaureate Education for Professional Nursing Practice*, and the National Council of State Boards of Nursing website for confirming statements that situated these qualities as important to nurses.

**Communicating and working with teams.** Amanda recognized the code scenario provided her with practice communicating in a specific way. “We got to practice a lot of the closed loop communication,” she remembered. Beth agreed and
provided several illustrations. “It’s important to count out loud your compressions so they know when it’s time to give their breaths. It’s important to say, ‘I’m getting tired. I need relief,’” so that someone else is able to step up and take over.

Beth talked about communicating efficiently with physicians and other providers. “The simulation gets you started thinking about, if you do need to call a doctor, if a doctor is going to start asking you questions, you should already know what they’re going to be asking you.” She referenced using the Situation, Background, Assessment, Recommendation technique and wondered, “Can you come up with that on the spot? That’s scary because you haven’t done it a lot of times, all of these skills; and the communication that you need to have, you haven’t really had enough experience with it.” She went on to describe how unprepared she felt when the physician asked about the patient’s history and she didn’t have the answers. “It is important to look at their history . . . know what their history is, why this is happening to them. We need to figure it out. That stuck with me.”

Amanda described a collaborative scenario she participated in with nurse practitioner students.

this NP [nurse practitioner] student was barking out orders and using all these abbreviations and terms that maybe he uses in the hospital or he hears in the emergency room, but that as students who have not been in the field we didn’t know what that meant. We did have to clarify in the room, “what does that mean?”

She was able to recognize how important it was to “not be afraid to clarify” when she didn’t understand terminology. Deb said, “I definitely feel like we’ve developed a confidence in ourselves enough to be able to interact better.”

Eva talked about how comfortable it was to work with a friend. Because they had worked as nursing assistants together, “we communicated really effectively and
just worked well as a team together. . . we just have each other’s backs, which I feel like that’s how it is in real life.” Taylor and Norah also remembered being comforted by working with a peer who could help you out if you forgot things. Yasmin expressed similar feelings.

I liked it because if I didn’t know what to do we could ask each other and talk about it. If there were lots of things to do in the simulation we could split it up and work as a team like we would in real life. I thought it was helpful to have a second nurse in there.

While working with a friend provided comfort and security, Eva recognized that life also provides opportunities to communicate with strangers. “You could be working with another nurse that you don’t know and don’t really trust and communication is going to be different . . . so it’s good to have that experience.” By way of illustration, Eva recalled working with one peer who had a different approach to simulation. While Eva wanted to divide patient care responsibilities, she was like, “Oh, we should just go in there and it can be whatever.” I know that’s how it is in real life, but I kind of wanted to have a plan, just so we’re not trying to both do meds [medications], or if something happens, one person can talk to the family member and the other person can do this. So, a problem that had occurred was we had pushed Ativan for a seizure. . . . The patient was like freaking out, and we were just standing around, and the vitals were still going crazy, and we were like, “Okay, we’re missing something.” So I re-did a physical and she was just standing over there looking, and I was like, “Come on, do something!” After a couple of minutes, I was like, “oh, do you want to double check the meds? Is there something that we missed?” Because that was what she ended up doing was the meds. A few minutes later, she said, “Oh, we’re supposed to push a second dose!” And I was like, “Okay, cool,” like “go ahead and do that and then I’ll re-check vitals,” and as soon as that happened, we were done. That’s what they were waiting for.

Teaching patients and families. Amanda found simulation provided a great opportunity “to figure out how to answer that [patient’s question] in the best way possible.” She continued. “I learned that it’s okay to say I don’t know the answer to that. Let me find out. That was a big one, and trying not to answer questions/give
information that I didn’t know if it was right or not.” Eva found those kinds of questions sometimes came in the midst of trying to do something else, making the situation harder. Leah’s thoughts about answering questions included family members.

Even though your patient is your patient, your patient is also the family or the friend of whoever else is in the room. So much in real life, too, they have questions, too, so it was good training in that way, because they’d specifically tell the classmates that were being parents or friends, ask some questions like this, or have some concerns about that, so it got you used to communicating with the family, too, which was really nice.

Beth wasn’t convinced that patient education delivered in simulation was good practice for providing education to real patients. From her perspective, the manikin’s inability to display emotion was to blame.

You speak in your medical terms, and everyone in the room, everyone behind the glass, knows your medical terms. They understand what you’re saying, so you don’t get that practice with breaking things down or saying things in simpler terms, how you normally would with your patient.

Amanda contrasted two types of communication with the manikin. “When I’m answering questions, it’s more about what do I know? Do I know the information to tell them in addition to what is the most appropriate way and the best way to tell them this?” She felt that was helpful to practice in simulation. In the second type of communication, missing eye contact makes it “a little bit harder because you don’t have that connection” to communicate caring. She went on to say, “a lot of times providing information does provide comfort, because most people are scared of what they don’t know.”

For Norah, the value of providing information to patients and families lay in strengthening relationships.

I really need to explain what I’m doing before it happens, so that way the family is well-informed, and that way the patient is well-informed, because
that really builds that trusting relationship with the nurse that’s so crucial to any cares that you do.

In one of the more emotional experiences for participants, the end-of-life scenario, Taylor described the tasks of the nurse as caring and communication. “So it [end-of-life scenario] was just more about comforting and communicating, especially with the family members, and making sure that they’re comfortable; it wasn’t necessarily about skills. It was more about communication skills, not hands-on skills.”

**Empathy for patients, families, and peers.** Some of the participants shared Amanda’s sentiments. “Throughout the different simulations I was still able to think about what it would be like for the patients and their families in those particular situations.” Charlene described her feelings: “I think that I felt a little, like when you think about death or dying, you think a little like melancholy. There’s this sense of what is it like at the end of life? Is it lonely for the person going through that?” For Beth, debriefing was the context for reframing her perspective about family involvement in code situations through the questions her instructors posed. “They had me think about, if you were the one dying, would you want your family member holding your hand, or would you just want them there in the room?”

Most frequently, the participants made connections to empathetic feelings through relating to the live participants in the scenarios—the family members. “I think about the people playing family members in the room. What were they thinking?” was the question posed by Charlene. Deb remarked on the actors’ skills to elicit emotion. For Olga and Norah, their own imaginations were engaged in playing family members. Olga said, “when I actually played the wife of the dying man. I think for me
that maybe hit home a little bit more, because I am married.” Norah imagined, “okay, this is my dad in the bed.”

**Self-confidence.** Leah remembered, “There was that kind of moment where you’d be in the room and you’d be like this feels so real, and I’m doing all these nursey things, and I do know things.” Sophia summarized her thoughts: “So I think it’s just having confidence in what you’re doing, following through.”

Eva said, “I could see myself grow each simulation.” Yasmin was surprised at her personal growth in confidence. “Even though people were watching me and I was anxious and just like how that feels like, ‘oh, that felt good.’”

In sharing her experience during the code scenario, Beth related,

My role as the nurse was to console the family members . . . there was a faculty member who was acting as the social worker, and the theatre students directed their questions to the faculty member and not to me . . . I was talking to them, but then they would acknowledge me but then turn right back around to the faculty member.

In the beginning of the simulation they were my responsibility, and I, honestly, to be honest, ended up ditching them, because I felt like—I don’t know what it was. I don’t know if—I just felt like I was needed more with the patient than I was with the family. I felt like my need was greater with my team. . . . I was having a hard time just standing there, and the faculty member was consoling the family members continuously. It was almost as if I didn’t even have a time to jump in.

She continued, “So going into simulation I was confident about my role . . . I have different ideas in my head about what . . . I think people would want to hear, and I guess it would have been nice to have that feedback of ‘that’s a good thing to say.’”

Beth concluded by saying, “I listened to her talk, but I feel like I don’t remember the things she said as much as I would have had I said them and she gave me feedback.”

**Life-long learning through novel experiences.** Participants in this study referenced end of life, myocardial infarction with cardiac arrest and attempted
resuscitation (code), postpartum hemorrhage, and pediatric respiratory arrest as novel clinical situations they were exposed to through simulation scenarios. Amanda described her feelings about the code scenario.

I think this last one was a really good learning experience. We did the mock code simulation, so just being exposed to the whole process of what that looks like so that next time, or the first time I experience that situation, I’ve had some exposure to that and I’m not just freaking out wondering what do I do? I’ve seen it before and I can know what to expect.

Deb identified it as “the most realistic simulation we’ve had, and it was very well put together I felt like.” Eva expressed, “I am so very thankful that they did that.” She felt it prepared her for a final internship in an emergency department.

Through the end-of-life scenario, Morgan reported exploring emotional boundaries she needed to recognize.

Thinking of the end-of-life simulation, especially, it’s allowed me to have that experience and kind of know how I could respond and how I should respond in an actual situation. So now I’ll be okay, this patient’s dying, I need to kind of remove myself as the nurse, but also realize that their feelings are going to be very real, and it could be easy to become emotionally attached, but you have to have a line between the two.

Norah shared Morgan’s perspective. “I’m definitely a feeler, emotion hits me hard, so it was really useful to kind of figure out where professionalism and emotion kind of come together for an end-of-life situation.” Sophia and Taylor described their emotions as “a little uncomfortable.” Olga’s response was different. She felt the scenario was “awkward,” “forced,” and she missed “that closeness that would be in a real hospital-like experience.” Her emotional connection with the scenario occurred when she played the wife of the dying man.

The pediatric respiratory arrest scenario was referenced by two seniors. Leah played the mother of the child who could only communicate with hand signals and
broken English. She felt the frustration of poor communication. Sophia talked about it as “more of a fast pace, intense. . . . We ended up having to call 911, so it was pretty cool.”

Morgan and Yasmin talked about the postpartum hemorrhage scenario and the anxiety and urgency to respond that they felt. Morgan’s thoughts were, “oh no, what do we do, we have to do this quickly.” She followed by saying, “I don’t remember feeling a lot of other emotions, because I think you just let the adrenaline kick in and you just go for it.” Yasmin remembered it was “definitely something that I was glad to do in sim [simulation] before it actually happened.”

**Connections to the literature.** Since the Institute of Medicine’s report highlighting the dangerous conditions that exist in the patient care environment, nursing educators have been developing creative solutions for teaching about safety and error prevention (Tanner, 2010). Anderson and Nelson (2014) identified communication patterns used by novice students in simulation to include focusing on tasks, communicating-in-action, and being therapeutic. The participants in this study talked about using the Situation, Background, Assessment, Recommendation technique, closed loop communication in emergencies, and practicing assertive communication while collaborating with other healthcare professionals to prevent errors. Their reflections demonstrated the angst they experienced when their communication was faulty and the pride when their dialogue was clear. This research connected learning communication strategies for patient safety with the experiences of students learning to communicate and collaborate with peers in simulation. It extends the Anderson and Nelson research to include two stages of students’ educational development through differentiating between junior and senior level students.
Research (Kameg, Howard, Clochesy, Mitchell, & Suresky, 2010; O’Shea, Pagano, Campbell, & Caso, 2013) supports the importance of developing communication skills with patients. As the participants discussed providing patient education to their simulated patients, they were able to find value in educating families as well. Providing education to patients and families was situated as an act of caring and a way to build a trusting relationship. To date, this connection has not been discussed in the simulation literature.

Researchers (Dearing & Steadman, 2009; Noone, Sideras, Gubrud-Howe, Voss, & Mathews, 2012; Sideras et al., 2015) have previously used specifically designed scenarios to teach empathy. The participants in this study described empathetic feelings for patients and family members during end-of-life and code scenarios. While the scenarios were not primarily intended to teach empathy, it became an incidental outcome with the participants describing identification with the family members who were depicted either by live actors or by the participants themselves.

Self-confidence is frequently cited as an affective learning component of HFS (Blum, Borglund, & Parcells, 2010; Jeffries, 2005; Leigh, 2008; Yuan, Williams, & Fang, 2011). The National League for Nursing supports the use of a tool for use with students to measure self-confidence after simulation. March, Adams, and Robinson, (2014) surveyed 854 nursing students to determine how the characteristics of this sample affected their learning and confidence. Using a hierarchical linear model based on Jeffries’ (2005) Nursing Education Simulation Framework, their findings showed student level was related to both perceived confidence and perceived learning. As the students progressed through the curriculum, their confidence and learning increased.
This research supports self-confidence as an outcome of simulation from the student’s perspective and describes a student’s perspective where self-confidence was undermined through circumstances during a scenario. This description provided reflection on the importance of maintaining a learner focus throughout simulation.

The nursing literature contains reports of simulation scenarios created to expose students to novel situations they may or may not be exposed to during their clinical experiences. Smith-Stoner (2009) reported HFS to educate about end-of-life care whether through chronic disease or trauma which included resuscitation attempts. This research supports the literature in the efficacy of such a strategy.

**Confronting ethical issues.** Addressing quality and quantity of care issues, stopping CPR, thinking about mortality and ending relationships with patients (or loved ones), Norah was surprised to discover that although her patient was a manikin, she still was worried about providing quality care. “Am I doing this right? Am I being careful? Am I double checking? Am I triple checking?” In the code scenario, Deb asked herself similar questions. “Did I do everything right? Did I do enough?” Charlene expanded and extended those questions. “Should I have done more? Should I have done less? That sense of is there really a right answer in these situations?”

Deb shared reflections about what it felt to stop CPR when the compressions she was delivering were visible to her on the cardiac monitor.

The monitor [is] going and you can see your CPR causing a heart wave, and you’re just like wanting it to come back . . . The doctor had talked to the family and decided that we need to cease CPR and we need to let her go, so then you feel the emotional side of it. I was doing CPR as he [the family member] was saying goodbye, so that was a totally different side of it, when to step back and realize no more . . . a whole lot of emotion.
Remembering a debriefing conversation, Charlene shared her thoughts about difficult ethical issues nurses face during a resuscitation attempt and beyond. “We considered those topics like what if your patient dies? What if your patient is coding and you have to put them on life support or you have to consider all those end-of-life issues in a split second?” She continued:

I was considering for myself if I was in a car accident tomorrow, what type of decisions would be made surrounding my care? So that was definitely it made you think and it made me . . . like I was forced to draw parallels to my own life because I think it’s dangerous to stay distant from those end-of-life care issues.

**Connections to the literature.** The literature calls for nurses to practice ethically (American Nurses Association, 2015; Rushton, 2016) and includes innovative strategies to encourage moral agency beyond classroom instruction (Robinson et al., 2014). This research provided evidence that utilizing HFS as a context can enhance nursing students’ awareness to ethical issues.

**Essence of Simulation:**

**Senior Level**

Simulation was a collaborative learning experience that included responding as a nurse to patient care scenarios, observing and providing constructive feedback for peers, and playing realistic family members. Senior level participants recalled anticipating their first simulation experiences with anxiety because they did not know what to expect and did not want to be observed making mistakes. With anxiety largely behind them, the senior level participants described simulation as a safe environment to practice independent decision-making skills necessary to their future as nurses. Novel scenarios exposed them to ethical end-of-life dilemmas and elicited surprising emotional reactions similar to those expected with the death of a patient. Simulation
provided new perspectives, sometimes encouraged empathy, and enhanced their self-confidence in the nursing role.

**Junior Themes**

In the following section are the themes and their descriptions provided by the junior participants and, in part, provide data to answer the first research question. The themes parallel those of the senior participants with a few exceptions.

**Theme 1: Anxious About Not Knowing**

**Nervous anticipating simulation.** Gina remembered that she,

didn’t really know anything about it; I knew there was a manikin and we had a situation and we had to act on that, but I didn’t know anything other than that, so I really didn’t have time to think about it beforehand . . . I just kind of went in there with the knowledge that I had and just tried it out. . . . So it was nice not really knowing; otherwise, I think I probably would have psyched myself out wanting it to be perfect.

For Isabella, “I was kind of nervous, I guess, because you want to do a good job and you just kind of don’t know what to expect.”

For some, the initial emotional response changed. “I was terrified the first time I went in there, but I ended up loving [it],” Vanessa said. From Zoe’s perspective:

“when I go in, I’m always pretty anxious—you know you’re prepared—but leaving, I’m always happy I did it.”

**Uncomfortable in the new environment.** The unfamiliar environment accounted for some of the nervousness Gina felt. Lexie “was surprised that I would get so anxious as I did going into the room.”

**Shared anxiety.** Zoe remembered feeling less anxious because everyone shared her feelings before simulation. “When we start our team prep [preparation],
I’m still kind of nervous, but it’s a little bit nicer because everyone’s nervous, so it’s like, ‘So are you guys freaking out, too?’"

**Worried about not knowing what to do or making mistakes.** Holly said, “it was kind of scary not knowing what to do.” Kylie remembered feeling uncertain about what was expected of her, also. “There was a simulation where me and another girl were nurses, and we were like, ‘is this really what they’re asking me, is to just give insulin? Or are we supposed to explain this?’ and then we’re like, ‘I’m not really sure what to explain.’”

There was also concern about making mistakes in front of others. “I don’t like being wrong, so I don’t want to mess up. So to see multiple people see me mess up, I don’t really like,” was how Holly expressed it. Faith talked about mistakes, too. She felt it was “more helpful if you do make mistakes . . . I think my biggest fear is making mistakes and not knowing what they are.” She was grateful for hearing from others afterwards so she could correct herself for the future.

Vanessa expressed an opinion, too: “It was never like, I’m embarrassed that I made that mistake.” Zoe agreed. “If . . . you did make a mistake, it’s not something that’s going to be the worst thing in the world, but it is going to be a building experience.” Gina had a philosophical perspective. “I had to kind of take a step back and realize this is probably how it is going to be, that I’m not going to know the answer all the time to everything.”

**Persistent anxiety.** In Kylie’s experience, the initial anxiety she expected has persisted. “I knew it was kind of going to be an adjustment, because I’ve never done a simulation type thing before. I get nervous and a little fearful through every simulation, and I thought by now that would have been resolved, but it hasn’t.” Zoe
also described, “I’m always really nervous going into simulation . . . there’s just something about simulation that I get really nervous about. She worried that it would affect her ability to function. “What if I just stand there and freeze and I can’t do anything and everybody sees?” While she sees some progress, “they’re still nerve-wracking.”

Relief and perspective. Isabella and Lexie felt nervous beforehand but more comfortable once the scenario started. Lexie remembered, “I think as soon as I started talking with the patient or getting vital signs or asking them about their pain, then it kind of went down, and I felt more relaxed and comfortable.”

Managing anxiety. “The past couple of times I’ve been like with another nurse, and it’s kind of cool,” Reese recalled. Lexie remembered having a chance to make a game plan with her partner before the scenario began and found that was really helpful. Julia also felt a game plan was beneficial.

Connections to the literature. The junior participants’ experience with anxiety is similar to what has been documented in the literature (Cazzell & Rodriguez, 2011; Cordeau, 2012; Leigh, 2008; Najjar et al., 2015; Nielsen & Harder, 2013) and congruent with what the senior participants described (see Senior Theme section).

Theme 2: Confidence to Create Meaning

Connecting to previous experiences or learning. Lexie described learning connections. “It kind of helped me connect what we would be doing in clinical with what we were doing in class.” Lexie continued to expand on the learning connections:

I enjoyed going in and applying all the skills we’ve learned in class to an actual hospital setting. I think that kind of helps get it concrete in my head, so that when I go into a nursing home or into a hospital, the profession, that I have a better understanding of all these things that I can do now.
Two participants, Madison and Lexie, referenced their experience as certified nursing assistants. For Madison, that experience affected her relationships with peers in simulation.

I’ve had a little more clinical experience than a lot of the girls in my group because they haven’t been CNAs [certified nursing assistants] before. There are just certain things that I know that the nurse should do and it’s just because I’ve observed it from working. But I feel like, my position in my group, I’m a little bit more talkative, I’m more readily answering questions so I don’t want to [be] overpowering, because I feel like if I talk a lot and it’s a lot of criticism or suggestions, that it could be discouraging to them.

Lexie was surprised “that I would get so anxious as I did going into the room. Even being a certified nursing assistant, even if I go into a new resident’s room that I’ve never met before, I don’t get that nervous.”

Reese talked about the conversations she has in her head. “I encourage myself a lot in my head, or sometimes I’m like, ‘Okay, come on, you could be doing so much better,’ or stuff like that. It’s kind of come from sports that I do that.”

**Connecting clinical experience to simulation.** Peyton reversed the directionality of the learning by describing how clinical experience influenced simulation. In the scenario he referenced, the patient was experiencing the symptoms of an allergic reaction.

The moment that happened we were able as a group to recognize them and I think that came from just a semester of work at clinical rotations, just being trained in learning about the different things that can happen and different things to look out for with different medications. That actually went really well and made us feel really good, too, that we were able to actually recall and recognize those right away when it happened.

Isabella, who was just beginning clinicals, tentatively proposed this opinion: “I think it [simulation] might be easier to do maybe; I’m not sure, because once you have experience with patient care, you kind of know what to do a little more maybe.”
Applying learning to future clinical experiences. Zoe explained her perspective on connecting simulation and clinical experiences. “Then you go into the clinical setting, and you have situations that are very similar . . . I’ve really enjoyed being able to be like, Oh, I did see that in simulation.” Reese provided a specific example of transferred learning.

It was like three weeks later [after simulation], I had a patient with pneumonia, and I was like, “Okay, these are the drugs they’re going to be on. Here’s what you need to watch for. Here’s what you need to be assessing for, for like sputum and stuff like that, and you need to have these precautions.” So I really liked that, because I went in and I was like, “Alright, got it!”

Although Gina and Julia were just beginning their clinical experiences, Gina reported, “Now that we’ve just started clinicals and working with real patients, I can kind of take some of those simulation skills and confidence that I learned from that and apply that to a real patient.” Julia observed that simulation helped her see where her inability to apply what she’d learned previously could affect the patient care she provided.

We had to use IS [incentive spirometer], I had to explain to the patient what it was, and I guess at that point, we had just learned about it, and I’m like, “Okay, now I really have to be applying what I’m learning,” because I couldn’t really explain what you do with the IS to the patient that well. Someone had to hop in and was like, “This is what you do,” and I’m like okay, this could be real life, you could just learn something and have to apply it when you go to clinical.

Discovering nursing role and scope of practice. While simulation required the participants to play multiple roles, most preferred the nurse role. As Julie said, “The nurse [role] gives me more practice to put on my hat and really feel out the patient as I would in my career, so I enjoy being a nurse.” Peyton said, “It just gives me a positive sense of who I’m becoming as a nurse.” He went on to describe how it felt to be put in the role of the nurse. “There’s definitely a sense of an increased
responsibility. You definitely felt like you’re jumping into the simulation, the situation; you’re kind of in charge.” Reese recalled that when she and her partner had completed their scenario, “there wasn’t like a ton of stuff that we forgot, which was really encouraging, because at that point I was starting to feel like, ‘I can see myself being a nurse now. I can kind of see it happening.’” Peyton reflected on the feeling of accomplishment after the scenario was completed and,

definitely [had] a sense that I’m growing up because you’re starting to get into a place where you’re not always going to have clinical instructors with you; you’re not always going to have students with you, so to be able to interact with patients, families, education doing that, being able to recall things definitely gives you feelings of accomplishment, too.

**Connections to the literature.** The participants’ reflections support the nursing literature (Cazzell & Rodriguez, 2011; Najjar et al., 2015) as described in the Senior Theme section.

**Theme 3: Excited by Growing and Developing**

**Grateful for feedback.** The participants in this project universally reported appreciating the feedback they received from others. Kylie said,

I like getting feedback on things I need to work on, and then things like I did well on. I think a lot of times I over-think things, or I think I did bad throughout the whole thing, then it’s nice to hear, “This went really well for you, but this is what I would work on.”

Peyton referenced the ideas he had about how he did, but found it helpful to have the opinions of others for comparison.

Although no one in this group reported a bad experience receiving feedback, Isabella said, “I didn’t take it too personally, but I’m sure it could be hard to take in.” Reese thought, “It’s a little more difficult, especially if it’s something that I feel very confident about.” Julia reported,
Anyone who gives feedback to me, I know they’re not meaning wrong, even though I might personally be like, Okay, I feel attacked a little bit, but I don’t take that all the way to heart. I know they’re telling me this because I need to change.

Reese provided a perspective that included the ultimate goal of nursing education.

At the end of the day, I try to not take things personally, because you’re learning these things for the patients you’re going to take care of, and they’re the most important. Your ego kind of has to fall aside if you’re going to be a nurse, because the patients matter so much more than your ego. I don’t think I’ve ever like taken it like personally or been like emotionally scarred by people correcting me

When peers were providing feedback, Isabella noted, “it was more of like simple obvious things; whereas, the faculty definitely kind of made you critically think.” Vanessa recalled when her instructor said, “I want to hear more from you guys, what you guys think. . . . You’re not always going to have a teacher or a boss with you all the time.” Whitney’s instructor provided a specific format for providing feedback.

We went around and said a compliment of something that we did well. Everyone said what we did well and then the professor told us what we missed or what we could work on for next time. So I thought it was good that the students just said what we did well, and then afterwards there was time for what we missed.

From Peyton’s perspective, “I think the feedback from the faculty is what I consider the priority because they’ve been there.” Julia agreed and went on to say, “negative feedback from faculty is . . . I can understand that more, but when peers are like, ‘Oh, you didn’t do this right,’ we’re all learning. . . . It just seems a little different when you get it from peers.”

Kylie reflected, “I like the feedback from my peers a lot, because I feel like from my peers, we’re all kind of on the same level.” Peyton noted the equality of knowledge with peers, too, calling it being “in your exact same shoes.” He went on to talk about group learning through observing one another and sharing what had been
noticed. “It’s good to be encouraged to do that because the more we notice, the more we learn.”

**Challenged through personal critique.** Some participants found themselves surprised by their patient care abilities in simulation. Holly and Isabella talked about missing basic things. Isabella said, “after the fact you kind of are like, ‘Oh my goodness, I completely forgot to take vital signs.’ . . . It was kind of surprising, the stuff that you think would be so easy.” Holly provided context by saying, “we all missed something somewhere, you know? So for simulations, I take it all as a learning experience.”

Holly remembered second-guessing herself and so did Vanessa who said, “it’s like, did I forget something? Did I do this wrong?” Zoe’s question was, “What if I just stand there and freeze and I can’t do anything and everybody sees?”

Peyton and Reese talked about doing things right in simulation and how affirming that felt. Reese said, “if you feel like you’re doing something right and in my head I’ll feel like, ‘Yeah, okay, that was good! Let’s keep going!’” According to Zoe, “If you know your stuff, you could really shine.”

**Comforted by the risk-free environment.** Faith provided this reflection.

Such a big part of nursing is experience, so it’s not just something that you can pick up from a textbook; it’s things you have to kind of learn by trial and error, and that’s what this provides for us is a safe space to make errors. We are not going to kill someone.

Gina felt simulation “helped me figure out the steps I needed to take to correct the error without having a serious effect happen, I guess, on a real patient.” Peyton talked about the comfort and the freedom of simulation when he said, “I can be free to do
what I think I need to do and if it’s wrong, great; I can learn from it. There’s not going
to be any severe consequences from it.”

Connections to the literature. The junior participants felt they received
valuable feedback, an experience documented by other researchers (Clapper &

Theme 4: Enjoyed Learning

Being the nurse. Peyton talked about the increased responsibility he felt when
he was the nurse. “You’re kind of in charge, so there’s an increased amount of stress. I
think it’s a good stress, though; it’s not a negative at all. That’s the driving force that
says, okay, I need to start here and I need to just start initiating things.” Zoe
remembered her first experience with simulation. “I think I was like, okay, there’s the
manikin, my professor’s talking, the family’s over there, this is what I need to do. I
was very task-oriented.”

Gina recalled the frustration she felt as the nurse. “I was just kind of frustrated
because I thought it would be easier to try to figure out what is wrong, but I couldn’t,
so it just kind of got frustrating trying to figure it out.” She also talked about her
experience with family members. “I know a couple of the girls that played family
members when I was a nurse asked really good questions that real family members
would ask, so it helped me prepare for the types of questions that would be asked.”

Watching others interact. Holly liked to observe. “I probably got more out of
actually doing it, because it is scarier, but I liked to just watch to see how other people
would do it first.” Gina, Isabella, and Madison all talked about learning from others
while watching. Observing was a comfortable and enjoyable role for Peyton, too. He
said, “being able to watch is a little less demanding for energy, a little less stressful,
because you’re not in there having to . . . care for the patient. . . . It’s nice when you have a couple of students there to talk about things while they’re happening.” Noticing how the scenario was unfolding and what needed to be done was fun for him. He was “proud of myself for being able to notice this when a year ago I might not have been able to detect this.” Zoe found that helpful, too: “I like it because it allows me to see a situation and act as if I’m being the nurse without being the one that’s right there . . . and think about, okay, what would I do? This is what’s going on. . . . I’m mentally going through that process.”

Kylie felt observing “was a little strange.” She and a peer were sitting next to the staff member who knew exactly what needed to be done and, “We . . . were like, ‘I don’t know what I would do from here.’” Lexie felt sitting behind the one-way mirror “was very weird; it was like ‘Oh, I’m here, but I’m not here.’” She began having expectations for her peers just like the faculty. “I was like, ‘okay, this person’s really coughing a lot,’ and in my brain, I was thinking of all these different things that the nurses could be doing.” For Julia,

I only observed with the instructor once, and that was even weird because it’s like you can’t say anything to them. Like, you can’t cue as a family member like, “what about his water?” So you’re just like sitting there staring at them and hoping they do well.

**Playing the family member.** Kylie enjoyed playing the role. “I’d think about how I would want it if I was a family member, so I was having them explain things that they were doing, almost like I wanted them to be like talking to me, too.” Whitney remembered feeling ignored by the nurse when she played the role. Reese felt playing the family member encouraged her to think about their emotions in the situation. It was important to understand them especially when providing discharge education.
Peyton shared his perspective on playing a family member:

The one thing that I’ve really enjoyed is actually role playing in the simulation because you’re actually there right in the room. You’re able to see exactly what the different students are doing, and then also being able to play into your role and see how that affects the student. Because our last simulation, just as an example, the patient’s family member had a bunch of questions on when they go home. To be able to ask those and see how it might trip up a student or how the student could get around it was also really beneficial to see.

Holly liked helping her peers when she played the family member. “I could help my peers because they would say something, like to do an incentive spirometer or something, and if they didn’t explain it, I could help them out and be like, ‘Oh, what does that do for my dad?’” Julia also mentioned helping peers through providing cues with her questions. Faith said, “I don’t really know what kind of questions a family member would ask.” She suggested faculty should play that role because of the experience they have dealing with families.

Vanessa remembered having fun with the role during a lull in the scenario. She was wearing a curly wig and said to the nurse, “I wonder how the weather is outside. Have you seen?” It’s in a room that has no windows, but there’s a little sunshine on the drawing board . . . the girl was like, ‘the humidity must be horrible because your hair is so curly.’” She felt little interactions “made it easier to converse between us and the person playing the nurse. We’ve had people who haven’t really talked a lot and that can make it awkward for the nurse.”

Zoe felt making the role fun helped “calm everyone else’s nerves.” She tried to play the part realistically and sometimes that involved interrupting their routine by asking questions like family members would. “You want everyone to succeed, but you want them to succeed as a nurse, not just today in simulation.” Whitney remembered, “They had us ask a lot of questions, like really simple questions. They’re like it might
not occur to me that some people might not know the answers to those questions, but they had us ask them.”

Connections to the literature. Harder et al. (2013) provided insight into the students’ perspective regarding the nurse role in simulation. The junior level students agreed as to the value of this role, but like the senior participants in this study also valued the role of observer and the family member role to varying degrees.

Theme 5: Pressured by Being Observed

By faculty who have expectations. As the participants talked about being watched, they were more concerned with what the faculty were thinking about their actions than their peers. Holly said, “the instructors—they’re not mean to us or anything, but they just know what they’re doing, so they’re looking for the things that could happen.” Lexie talked about faculty “expecting me to do certain things.” Isabella remembered when the technology was malfunctioning and the observers were not behind the one-way mirror. She could see her instructor’s face; “she kind of had a face like we were missing something.” Isabella felt “they definitely have more experience and know what we should have done, so [I’m] more intimidated by them than my peers.”

Some participants felt the pressure of grades. Julia recalled, “the faculty, definitely, [make me more nervous] . . . even though they’re there to help and they’re supportive, it’s like, ‘okay, this could be a grade or this could be a pass/fail.’” Madison had similar sentiments. “[It feels] like we’re going to fail the class if you don’t remember everything.”
Zoe was anxious about faculty observing, too, but she described simulation as an opportunity to prove herself and that was the source of her anxiety.

I’m more nervous about my professors and wanting to make sure that I’m doing a good job so that they know when they’re watching me that . . . I know what I’m doing—so that when I’m not being watched, they’re confident in my skills and my ability.

She went on to say, “I really like knowing that other people can put trust in me, because my patient is.”

By peers who were supportive or judgmental. The participants did not perceive judgment from the peers who watched them in simulation. Reese gave this summary.

I feel like they’re my peers and I’ve never really kind of like cared about them watching because we all have such good relationships in the nursing program that I’m not worried about them like judging me or whatever it is. So, I never really worry about it, especially when they’re in your clinical group, because you’ve all kind of gone through it together and learning together, so it’s not like a big deal to me.

Going through it together seemed to be a thread for these participants. Holly remarked, “We’re all still learning together, so it’s like more acceptable for us to mess up.” Faith used almost the identical phrasing “I’m more comfortable messing up around them, because they get it.” Isabella added, “most of the stuff that we would do, they would probably do the same thing.” Whitney referenced the shared experience by saying, “we all made some mistakes but we all did really well, too.”

Connections to the literature. None of the junior participants expressed discomfort in being observed by peers in simulation but indicated they were nervous in being observed by faculty. The social support component of simulation has been previously discussed in the literature (Cannon-Diehl, 2009; Jeffries, 2005; Najjar et al., 2015; Nielsen & Harder, 2013), and this study provided additional confirmation.
Theme 6: Ambivalent When Relating to the Manikin

For these juniors, simulation was a new experience and required an adjustment in their perception of what it meant to have a relationship with a patient. Their attitudes were mixed. Julia saw an obvious benefit. “I’m kind of not as nervous as if it was a real person,” she said. Faith said, “it’s very weird. I almost would rather have someone pretend to be the patient.” Kylie was also skeptical.

The manikin just seems like playing, and his vital signs are always perfect and his lung sounds are always clear, and I just think it’s more unrealistic, and I don’t feel like I gain a whole lot from practicing on the manikin as opposed to practicing on members in my class or just other people.

Peyton said, “You sometimes struggle taking it seriously” but then continued.

[It’s] weird at first, but the more sims [simulations] you do, the better equipped you are to really know the expectation for what you’re supposed to do for the sim and know that you need to treat it like it’s a real situation. Once you have that mentality, the whole manikin factor just disappears because you know this is what I need to do, whether it’s a manikin or a patient.

Vanessa described her mindset for participating in simulation.

I think if you go into it thinking that they’re a real person, it’s easy. You just have to go in and think that they’re a real patient with a real story and a real illness. If you treat them like they’re a real person, it makes it that much better of an experience.

Zoe’s thoughts built on those of Peyton and Vanessa.

That’s something I can’t say I’ve perfected, but it’s something that I want to make sure I’m working on . . . if I’m not looking at the manikin like it’s a patient, the simulation won’t be as beneficial; because if I’m not looking at the situation as if it’s a real situation, when I’m in a real situation, I haven’t had that practice. So if I can’t identify the manikin as a patient, not just a manikin, then that takes away from the experience.

Awkward conversations with the manikin. Julia expressed a familiar sentiment “When I first started simulation I was like, ‘okay, this is kind of weird; I’m talking to a manikin.’” She continued to share her thoughts. “I think it would be a little
bit weirder if it didn’t talk and you’re like making up the conversation for them; but because they have that voice box in there, it makes it more comfortable to talk to the manikin.” Madison had an opinion, too. “It feels not strange to listen to them, because you’re not pretending to listen to something, you’re actually listening.” Peyton concurred, “I think it helps that it’s a simulated manikin where you can hear a voice. At least you can hear a real answer.” He went on to credit the unpredictable nature of conversation as adding to the realism of simulation.

I think, again, having someone behind the mic being able to say whatever they want adds that whole unpredictable side of it, too. They can say absolutely anything and that’s the same that goes for a patient. If they’re hungry or need to go to the bathroom, then that can be one of those unpredictable things that can be expressed by a patient or a manikin.

Zoe and Vanessa agreed and Vanessa saw that aspect as influencing her engagement with learning. “You’re not always expecting what they’re going to say and that keeps you on your feet more,” she said.

Gina described the awkwardness of her first simulation experience and credited the first conversations with the manikin as giving her a measure of confidence.

We still may not have done the right tests or this, but we still were able to hold a better conversation and not have that awkwardness in there, so it just overall, I think, flowed better in the rest of the simulations, whether we actually did the right things or not. We were able to speak up and work our way through it without having to kind of stumble over ourselves.

Vanessa and Zoe acknowledged some of the challenges of having conversation with a manikin. Zoe said, “When I go in the room, I try and think of what I start with when I talk with a patient, just to find something that would open the door for a conversation.” She found her usual process especially challenging with a manikin.

“It’s just really hard to look at them and be like, ‘okay, what do I need to work on with
you so we can have a relationship that, when I come in the room, you’re not uncomfortable.”

Several participants specifically referenced how it felt to have their faculty’s voice coming from the manikin. Zoe said, “I think the first time you hear a professor talking out of the manikin, you’re like, Oh, okay, I wasn’t ready for that. You know it’s going to happen, but you’re just a little surprised.” Lexie was also startled. “At first it kind of messed with me a little bit, because it looks like a man lying in bed, but my instructor was a woman, so it was like, ‘this is interesting!’” Kylie found it weird. “The instructor’s voice is coming through the manikin’s mouth, but I’ve met all the instructors, so I can kind of tell which instructor it is, which is a little weird.” Isabella remembered role confusion.

I guess like the first time we did simulation, the voice was our instructor, and so we would ask the patient a question and she would answer, but then if we would forget something, like “Where’s the thermometer?” or something, then the patient would also answer that, so it was just kind of weird. There were a few times when we were like, “Is she talking as the patient or as the instructor?”

Reese said, “You kind of just have to mentally block out, like, ‘Okay, I know the voice behind this manikin.’” Lexie embraced the instructor’s voice behind the manikin.

I think it was a good thing to have the voice interaction with the patient, because then it’s not like the person next to you has to say, “Oh, well they’re in pain.” It helped because they could tell me they were in pain, just as a human would. I think, even though I knew the voice was my instructor, it was still like, “Okay, I have a connection with my instructor, so if this actually were my instructor, here are the things I would do.” So it kind of made it more emotionally connected, because it was like, “Oh, I know this voice; this voice is familiar. I want to care for this voice.”

Julia found the instructor’s voice motivated her to do her best, too. “I just put on that persona that it’s a real patient when I walk in, just because I know that there’s
someone behind there talking, and that’s an instructor, so I need to do my best and not talk to it like it’s a manikin.”

Both Holly and Kylie expressed contrary perspectives. Holly felt the awkwardness of conversing with a manikin was amplified because she knew she was talking to her instructor, “so that fear is still playing into that awkwardness.” Kylie simply said, “I think it’s easier for me to communicate with someone real than pretend to be communicating and having these conversations with the manikin.”

Disappointed by limitations. The participants described some of the constraints involved with simulation. Holly remembered how large and heavy they were and awkward to move. Gina elaborated. “It was hard because in real life a person is able to kind of help you. Like if you need them to turn on their side or something, they can kind of help you, but a manikin can’t, so you really have to do everything on your own.” Isabella shared what she observed about the manikin’s inability to communicate nonverbally.

They try to make it as real life as possible, so they have pulses and respirations, and lung sounds, I guess, and their voices, so you just try to be . . . but it’s still not the same because they don’t have any facial expression, and if you had a real patient, you could kind of read how they’re feeling just by their face. Or, if you’re doing an assessment, if they had pain somewhere you would be able to tell that just if they’re like covering that spot or bearing down or something.

Julia related the manikin’s limitations for learning skills. “Right now we learned about pressure ulcers, wounds, things like that, and that’s easy to look for, but we can’t really care for them on the manikin, so we’re just kind of like, ‘okay, we’re staging it.’” Reese felt the situation had a touch of humor and she laughed while describing her thoughts.

I remember kind of looking at it and almost like giggling to myself because you know it’s so fake. So sometimes that’s tough when you’re like, “oh man,
this is like . . .” like they’re trying their best and you know it, but sometimes like man, you wouldn’t see this. It wouldn’t look like this.

**Surprised when experiencing connection with manikin.** Vanessa recalled having an emotional response to an interaction with the manikin in the diabetes scenario.

I think the person had diabetes or something, not taking care of themselves and the person had a kid. The parent wasn’t having a good lifestyle choice, but didn’t want it to go on to the kid. He was talking about the child getting diabetes and I think I got choked up.

As she continued to talk she said, “I was surprised, because it was just the teacher on the other side talking. I think when I talk with people I get really emotionally invested really easy. I guess I was surprised that I got choked up then.”

Whitney remembered a situation where the distress in the manikin’s voice contributed to her ability to feel they were “a real person.” In describing the situation with more detail, she said,

The patient talked a lot about his family, or his work and then his family situation. It was always like I wasn’t really expecting to go into that in a simulation because we’re so used to just practicing on manikins for skills. So to hear them actually say things about their lives, I remember that being interesting.

**Emotionally affected by family interactions.** Peyton pointed out, “I think that helps to know that the manikin itself might not be a real patient, but you have real family members in there that you have to talk to.” Julia agreed and felt simulation helped her learn to communicate with the family members “because that’s like real life.” The realism from family provided a surprising experience for Whitney. “I remember being stressed at the family members,” she said. “They were asking, trying to take over the care of the patient, and they didn’t know a lot.” She added these thoughts.
I thought it was really good because I wasn’t expecting there to be any major thing with the family members. I just thought it would be a lot of . . . I was expecting mostly things with the patient; just family members who just sat there. So, it was actually good because that’s not really realistic. It’s more realistic to have family members who also need to be educated on what’s going on.

Later, she admitted being surprised at the response she had to the family members. “I got a little irritated sometimes, definitely at the family members asking so many questions and not letting me focus on what I was doing with the patient. I had to suppress that irritation.”

Lexie shared an experience where she was affected by family members in the room.

I remember there was one time when I was the nurse with a friend from class, and they had two people as family members in there, and that was a little nerve-racking, because those students that were family members, they did a really good job of being like a very worried family member, like “Why are you doing that? What are you doing that for? Why do they need this? He’s still not feeling well,” so that made me really nervous and freaked out because I was like, “I know how to explain it to my patient, but how do I explain it to the family member who’s not experiencing it” kind of thing.

**Connections to the literature.** The importance of manikin fidelity for learning was reported by Cordeau (2012), Najjar et al. (2015), and Shepherd et al. (2010). The description of emotional responses generated by interactions with family members has not been discussed previously in the literature.

**Theme 7: Affective Learning Outcomes**

**Values, beliefs, and attitudes about nursing.**

**Communicating and working with teams.** Reese, Lexie, Vanessa, and Gina shared their perspectives about communicating and working with another nurse to complete the scenario. Reese said,
The past couple of times I’ve been like with another nurse, and it’s kind of cool to do that, because then it’s like learning how to have that teamwork in front of the patient and knowing how to communicate effectively with each other and then with the patient and then with the family, because communication is so key with education and with just working together.

Lexie remembered working with a specific peer with whom she had worked before “so we both kind of knew each other, and knew kind of what we’d forget, so that was really helpful.” Vanessa pointed out the value of working with new people, too. “It’s good to do it with different groups of people, because you learn how to communicate, even if you don’t communicate well.” Gina liked the chance to “bounce ideas off of” and found that helpful.

**Teaching patients and families.** Reese remembered that the last simulation she participated in “was really interesting because it was like also family-focused, so it was kind of focused on like educating not only the patient but also the wife and the mom, I think it was, and I really liked that.” She went on.

In a simulation, sometimes it’s hard to get into character, per se, because you know it’s a simulation, but I was like very surprised in how quickly my partner and I were invested in the family situation and how quickly we tried to like educate them while we were educating the patient. It was very natural, and I was like very surprised by it.

When Julia found herself struggling to explain the use of an incentive spirometer to her patient and a peer needed to provide the explanation for her, she felt surprised that she was not able to teach what she had learned. “I need to start doing that,” she said.

Several participants remarked about how helpful it was for their peers to ask questions as family members. Gina remarked that she “got confidence in saying that I don’t know the answer, but I can go find out.” Holly watched her peer field a battery of questions from family members and was amazed at her ability to provide the correct answers quickly.
It was good that she was able to do that . . . I was thinking about it [later]. . . . “I do know all that information, so that’s good that I know that and I can say the same things,” I just think I need to come more prepared . . . knowing what the family members could ask or what the patient could ask, and just maybe thinking about it ahead of time so that I could explain it . . . and they don’t even have to ask the questions.

While Whitney played a family member and followed a script of questions that she felt were so simple she was embarrassed to ask them, she learned that she, shouldn’t assume that family members know things or that patients know things either. . . . So that made me realize that it’s important to find a way to assess the patient and the family’s knowledge, and educate based on that and not just assume that they know things or they don’t know things.

As Zoe was interacting with family members who were anxious, she realized there were several issues she needed to consider. “Is it something where they want to be involved, or are they here and they’re not ready to hear everything? . . . You need to be able to get a feel for where your patient is, but also where their family is.” She also reflected that there may be times when explanations need to wait because there are critical tasks to be completed first. For her, learning to “be assertive and respectful” at the same time was a new skill and she wanted to have “the confidence to say, ‘What you’re wondering, your questions, are very important, and I will address them, but first I have to do this.’”

**Empathy for patients, families, and peers.** Several participants shared how they felt when their patients were not doing well. Whitney recalled, “When the patient was really suffering . . . I always felt empathy for the patient even though it was just a sim [simulation] person. Because you want them to feel okay; you don’t want to see them struggling.” Gina remembered “the instructor who was doing the simulation one time made the manikin cry like he was in pain . . . and you feel bad, and you want to try to figure out what’s causing it.” Lexie and Isabella described similar feelings for
the family members they observed. “I remember observing or being a family member, and just like kind of putting myself in the family member’s shoes and how that would make them feel,” Isabella noted.

**Self-confidence.** Julia noted increased confidence after receiving positive feedback in debriefing. Gina, Faith, Vanessa, Whitney, and Zoe also recalled feeling more confidence after simulation. Zoe said, “I just finished simulation, and my professor thought I did well; my peers thought I did well. . . . So the confidence level of, I know what I’m supposed to be doing, and other people believe and trust that I know what I’m doing.”

A contrary opinion was expressed by Kylie who said, “when I’m in there I feel all of a sudden like, ‘wow, I am not confident in anything I have learned; I don’t know anything.’”

**Connections to the literature.** As described in the Senior Themes section, the experiences of the junior participants’ of this study support current research. One junior participant also noted decreased confidence during simulation but unlike the senior participant, it was not specifically tied to a scenario; it was a generalized reflection. There is no literature discussing this phenomena to date.

**Essence of Simulation:**
**Junior Level**

Simulation was a shared learning experience that included practicing nursing skills, observing peers, playing the family member role, and receiving feedback from others. Initially, junior level students experienced anxiety because they did not understand the expectations, and did not want to be observed by faculty members who had expectations for their actions and might be grading them. This initial anxiety
largely resolved after the scenario was completed. While junior level participants appreciated the feedback they received from faculty and peers as instructive for improving their delivery of patient care in the clinical setting, they regarded faculty feedback as most important and interpreted peer feedback as supportive. Simulation increased their confidence by providing practice opportunities for assessing, administering treatments, and providing education to patients. Because faculty voiced the manikin, they found conversing in a natural manner challenging.

**Affective Learning by Themes**

Before comparing the descriptions of the two levels of nursing students, I examined each theme and identified the affective learning component described by the participants. I compared these components to statements made by three organizations that are widely considered authoritative voices for nursing. The sources referenced include the American Nurses Association, Commission on Collegiate Nursing Education, and National Council of State Boards of Nursing (see Table 3).

**Comparisons**

The data and discussion in the following section will answer the second research question.

Q2 Is there a difference between the descriptions of affective learning of senior bachelor of science in nursing students as compared to junior bachelor of science in nursing students?

I have organized the data according to the seven themes described earlier and have included a section based on the responses of the participants to an explicit interview question asking for a comparison of their first simulation experience with their most recent or, in the case of the seniors, their last simulation experience. This self-
assessment of their personal growth further highlights differences between the two groups.

Table 3

*Affective Learning by Themes and Connected with Authoritative Nursing Source*

<table>
<thead>
<tr>
<th>Theme</th>
<th>Affective learning</th>
<th>Authoritative source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxious about not knowing</td>
<td>Emotional regulation as component of nursing role</td>
<td>ANA</td>
</tr>
<tr>
<td>Confidence to create meaning</td>
<td>Identification with professional nursing role</td>
<td>NCSBN, CCNE</td>
</tr>
<tr>
<td>Excited by growing and developing</td>
<td>Developing communication skills; developing healthy professional relationships; ability to evaluate self</td>
<td>ANA, CCNE</td>
</tr>
<tr>
<td>Enjoyed learning</td>
<td>Life-long learning; empathy; professional boundaries</td>
<td>ANA, CCNE, NCSBN</td>
</tr>
<tr>
<td>Pressured by being observed</td>
<td>Developing professional nursing role</td>
<td>ANA</td>
</tr>
<tr>
<td>Ambivalent when relating to the manikin</td>
<td>Practicing caring in awkward circumstances; emotional regulation</td>
<td>ANA</td>
</tr>
<tr>
<td>Affective learning outcomes</td>
<td>Communication skills; patient/family teaching; life-long learning; ethical considerations; empathy; self-confidence</td>
<td>ANA, CCNE, NCSBN</td>
</tr>
</tbody>
</table>

*Note.* ANA = American Nurses Association; NCSBN = National Council State Boards of Nursing; CCNE = Commission on Collegiate Nursing Education.
Theme 1: Anxious about Not Knowing

Both juniors and senior participants experienced anxiety (or a related emotion they described such as nervousness or fear) before participating in their first simulations. The subthemes, uncomfortable in the new environment, shared anxiety, worried about not knowing what to do or making mistakes, persistent anxiety, relief and perspective, and managing anxiety, were present between both educational levels of students.

It is interesting to observe while four seniors (Eva, Morgan, Taylor, and Yasmin) indicated their anxiety had persisted throughout their simulation experiences, two juniors (Kylie and Zoe) continued to feel anxious.

Theme 2: Confidence to Create Meaning

Both junior and senior participants referred to previous classroom learning, experience working as nursing assistants, or participation in sports and connected those experiences with their simulation learning practice. Two seniors (Olga and Leah) also mentioned prior involvement with acting as helpful to them when they played ancillary roles.

Junior and senior participants described transferring knowledge about a disease process and the associated nursing interventions they had learned in simulation to the clinical setting. Providing an alternative perspective, Charlene (senior) described how she felt simulation was not like clinical experiences. She recalled caring for an unresponsive patient in clinical “was a completely different experience from the manikin.” She felt simulation was a performance and caring for a patient involved building a relationship.
Both juniors and seniors made connections between participating in simulation as a nurse and their future careers as nurses. In addition, seniors elaborated on the opportunities for practicing independent decision-making in simulation. Charlene (senior) talked about relying on the provider for orders during the code scenario rather than initiating protocols independently.

**Theme 3: Excited by Growing and Developing**

Juniors and seniors agreed that discussing the events of the simulation scenario and receiving feedback on their actions was very important for their learning. Seniors Eva and Amanda described it as a time to be “honest” and not “sugar-coat” things. Leah (senior) could not specifically remember giving negative feedback, but thinks she probably did because debriefing was “an open discussion.” Sophia and Eva (both seniors) talked about providing affirmation before offering criticism to peers.

Several participants from both levels stated they let the faculty give the negative feedback. Yasmin (senior) remembered negative feedback was given as an observation rather than “hey, you did this wrong” because she did not think anyone felt confident enough to be that direct. Peyton (junior) thought his peers were “a little timid on criticizing because they don’t want to be critiqued themselves.”

Julia (junior) preferred for negative feedback to come from faculty because they had more experience. Beth (senior) related her experience receiving on-the-spot feedback from faculty during the cardiac arrest scenario “The faculty, there were moments when they were jumping in and correcting us and that was stressful because it felt like we were not doing anything wrong.” Taylor shared the discomfort of receiving negative feedback from a peer who “jumped down my throat” and reflected,
“maybe that’s why I don’t like simulation as much as other people.” All the participants enjoyed giving and receiving positive feedback and interpreted it as a way to give and receive support from their peers.

**Theme 4: Enjoyed Learning**

The participants discussed the nurse role they assumed in simulation to be an active “doing” role in this theme. While most conceptualized the “doing” as a demonstration of their skills providing nursing care, Beth (senior) described how another team member in the code scenario affected her learning by functioning in her role. “I listened to her talk, but I feel like I don’t remember the things she said as much as I would have had I said them and she gave me feedback.” Both seniors, Beth and Leah, did not feel preparation was helpful for their learning. Olga (senior) and Julia (junior) wished they had prepared more thoroughly.

Beth (senior) said she learned from the mistakes she made. Faith (junior) agreed; she was most afraid of not knowing what she might be doing wrong. Norah (senior) was willing to be the nurse in the hard scenarios, because she wanted the challenge despite the risk of being wrong and making mistakes. Holly (junior) thought even though she felt playing the nurse was scary, it was more valuable than watching.

Two junior participants, Peyton and Whitney, talked about enjoying the observation role because it was less stressful and they could think better. Seniors Leah, Olga, and Yasmin talked about seeing the big picture when observing. Others described seeing a helpful way or a way of doing they would not have thought of themselves. For some, observing was a method to test their own skills: anticipating what their peers needed to do, pleased with their ability to notice, and comparing what
peers were doing with how they would do it. Many commented that it was another way to learn and improve their practice.

The participants remembered asking many questions when playing a family member in simulation. Occasionally, their questions were prompts for classmates who were forgetting things. Often, participants from both levels talked about trying to play it realistically by thinking about what it might be like to be family in the scenario. Leah (senior) related her frustration playing a non-English speaking mother, and Olga (senior) felt connected to the role she played as the wife of a dying man “because I’m married.” Whitney and Isabella (juniors) remembered feeling ignored by the nurses when they played family members.

Theme 5: Pressured by Being Observed

Faculty seemed to present two perspectives from the viewpoint of the participants: creating a learning environment without performance expectations or having expectations for specific actions. Charlene and Deb (seniors) viewed simulation as “a performance for the people behind the glass.” To Norah (senior), there was pressure associated because of her respect for the professor or concern that others would do better. Madison (junior) felt she needed to remember everything to avoid failing the class, and Zoe (junior) wanted to do well so her professor would be confident in her abilities.

Juniors Faith and Holly felt comfortable “messing up” around classmates “because they get it.” Isabella, Lexie, Peyton, and Zoe, also juniors, emphasized the similarities with peers. Leah (senior) realized “we’re all going to mess up sometime” and did not worry about being judged by peers. For Norah (senior) and Reese and
Whitney (juniors), the fact that they were good friends with their clinical groups reduced the stress of being observed.

With a contrary perspective, Yasmin (senior) said, “I don’t know if I can pinpoint why it is I don’t like students watching me, but probably a little bit of the competitiveness. I want to do it right.” She also said that she did not think her peers were judging her. Beth (senior) also talked about others watching: “you know they’re in that back room talking because you’ve been in that back room talking about other people before.”

**Theme 6: Ambivalent when Relating to the Manikin**

Juniors and seniors described relating to the manikin as a patient as “hard,” “awkward,” or “never good” especially at first exposure. They tried to see the manikin as a patient with varying degrees of success. Charlene (senior) and Kylie (junior) thought it felt like playing with dolls. Many of the participants remarked on the manikin’s limitations to simulate reality in the psychosocial domain. Because it does not show emotion or make eye contact, conversation was more difficult. Other participants mentioned experiencing technical difficulties that disrupted the aura of imaginative patient interaction.

Several participants described how they immersed themselves in the scenario or imagined the manikin as a person and, consequently, felt like they were successful in achieving a realistic experience. Juniors Julia, Peyton, and Vanessa mentioned that the human voice helped them imagine the manikin as a patient. Peyton (junior) and Leah (senior) said the way others responded affected their feelings towards the manikin and made it realistic.
Two seniors, Beth and Charlene, gave examples of how the use of a manikin was not like an interaction with a human patient. For Beth, because the manikin was not capable of experiencing discomfort, she remarked that she would not try alternative actions before performing a potentially uncomfortable procedure such as catheterization. She said, “It tests your skills, but it doesn’t test how you would react if it were a real patient receiving an NG [nasogastric] tube, getting a cath [catheter], in excruciating pain.” Charlene remembered, “You don’t really ask like ‘does that hurt,’ because you know that it can’t feel anything.”

While Beth did not feel the manikin elicited compassion, juniors Gina and Whitney recalled the distress they perceived from the manikin (crying or worsening vital signs) made them want to intervene. Many participants found hearing instructors’ voices from the manikin required adjustment and was distracting. In contrast, Lexie (junior) said,

Even though I knew the voice was my instructor, it was still like, “Okay. I have a connection with my instructor, so if this actually were my instructor, here are the things I would do.” So it kind of made it more emotionally connected, because it was like, “Oh, I know this voice; this voice is familiar. I want to care for this voice.”

Theme 7: Values, Beliefs, and Attitudes about Nursing and Ethical Issues

Working in teams to communicate and carry out nursing care. Senior participants described specific types of communication skills including closed-loop Situation, Background, Assessment, Recommendation technique and using clarification to verify orders. While nearly every participant talked about feeling comfort while working with another nurse in the scenario, Eva (senior) described one situation where her peer did not want to designate authority prior to the scenario.
Without clear leadership, their care floundered until she took charge and provided specific directions to her peer. Amanda (senior) described working with nurse practitioner students whose vocabulary was unfamiliar to her. She learned the importance of assertiveness in communication to ensure patient safety. While the participants felt most comfort when working with familiar peers, they recognized communicating with strangers was an important skill, too.

Working with a large team that included physicians and supervisory nurses was a new experience for the seniors who experienced the cardiac arrest scenario. Charlene felt gratitude for the reassurance the physician provided to initiate treatment protocols, while Deb felt the physician’s intense personality was intimidating and caused her to narrow her focus. “Just do good chest compressions, bare minimum,” she told herself. Beth misinterpreted the feedback on the quality of her resuscitation skills and felt scolded. Eva said, “It really helped me to understand there really are 50 people in a room [during a code].”

Teaching patients and their families. Participants felt that by practicing teaching patients and families they were learning a valuable skill extending beyond knowing the right information to give. They learned that it was better to admit you do not know than to give false information. Seniors Norah and Amanda talked about patient teaching and the nurse/patient relationship. Norah reflected that information helped build trust, and Amanda said it was a way to provide comfort because “most people are scared of what they don’t know.” Juniors Reese and Whitney realized the impact of family members’ emotions on the educational process and recognized the importance of not assuming families are informed. Beth (senior) was concerned that
simulation did not encourage teaching patients at an appropriate learner level because everyone “knows your medical terms.”

**Novel learning experiences through specific scenarios.** Experiencing the death of a patient was new to the senior participants who described the event through a cardiac arrest scenario and end-of-life scenario. In Charlene’s words,

> There’s always a sense of gratitude that you get to experience this in this safe environment where no one’s actually dying before you actually go out into practice and witness what it might actually be like if a patient were dying in front of you.

While acknowledging the stressful situation, they also had emotional reactions that included discomfort, awkwardness, sadness, and compassion for the family members. When seeing their peers who had completed the scenario earlier crying, Eva and Leah were surprised. They did not expect to be affected. Sophia said, “I wasn’t expecting to like get into it.” They described feeling more affected by the experience than any other scenario they had experienced. With a contrary experience, Beth did not remember feeling any emotion about the scenario; her only emotions were related to her own performance. Morgan and Norah appreciated being able to discuss emotions and professional boundaries in debriefing.

**Ethical issues related to end-of-life care and quality and quantity of care.**

As an outgrowth of experiencing the cardiac arrest scenario, Beth and Charlene described specific issues related to death. Beth discussed the family members’ involvement during the resuscitation attempt.

> I would want them to be there, saying whatever it is they need to say, like, “Fight!” or “Let go,” or whatever it is they need to say. But I wasn’t comfortable with them holding their hand, because I felt like it was almost like, as nurses, as a team, we need to be able to get around the bed and get around the patient and do different things, and I wouldn’t want them to be in the way.
Charlene recalled feeling the pressure to consider end-of-life issues in a brief period. “I was forced to draw parallels to my own life, because I think it’s dangerous to stay distant from those end-of-life care issues.” She reflected on the quantity of care, too. “Should I have done more? Should I have done less? That sense of is there really a right answer in these situations?”

Deb asked herself questions about the quality of care she provided. “If I would have done something different, would it have saved them?” She felt connected to the nurse she would be in the future. “As the nurse, that is how you’re going to feel. You’re always going to question, ‘Did I do everything right? Did I do enough?’”

**Empathy for patients, families, and peers.** Participants from both levels identified situations when they felt empathy or compassion. For many seniors those feelings were evoked through their simulated experiences with death in the end-of-life or cardiac arrest scenarios, but Amanda was more general in her statement. “Throughout the different simulations I was still able to think about what it would be like for the patients and their families,” she said. Beth’s faculty encouraged her to consider another perspective during debriefing: “If you were the one dying, would you want your family member holding your hand, or would you just want them there in the room?” Juniors experienced empathy from hearing the manikin cry, playing family members, or watching their peers struggle as they observed.

**Self-confidence.** Out of the 25 participants, 17 of them made comments that were coded into a node labeled self-confidence, and there were 70 references to “confidence” in a word frequency search. For most of these, it was a generalized sense that simulation had increased their confidence. Julia (junior) concluded, “It helps build confidence for the next time. ‘Okay, I did this right; let me do that again.’” Gina
(junior) said, “I don’t think it can necessarily prepare you fully for when you actually go out and see a real patient, but I think it kind of gives you confidence more in your skills to be able to go out there.” Faith (junior) remarked, “I feel better about my ability to perform in the real world, just because I’ve had an extra experience.”

**Participants Reflect on Growth: Juniors**

All the participants responded to the question, compare your latest experience with HFS to your first exposure (see Appendix E). I wanted to hear their perspectives on the change or changes they felt had occurred over the period of time they had been participating in simulated learning. Change is generally associated with learning, although it is not automatically a learning outcome because of barriers that may be encountered (Najjar et al., 2015). Affective learning in nursing education is about creating the values, attitudes, beliefs, and ethical comportment of a professional nurse and is an appropriate learning outcome for students. I summarized each participant’s experience and then the collective experience of each level to provide insight into the differences between the perceived learning of each level of student. The responses of the juniors are listed first to facilitate identifying any progression.

Faith said, “My nervousness has decreased a lot.” Gina agreed and said, “If there was a real patient there [in the first scenario], it probably would have been real awkward for them.” She and her partner were busy trying to figure out how things worked and what they needed to do. They were asking many questions. During the last scenario, they knew what to expect, and “it was easier to kind of flow a conversation, and we just kind of went based off what the manikin was saying, their symptoms, their pain level, and all that.”
Holly thought the second simulation “was definitely better.” She knew what to expect and it was “easier to talk to the manikin” because she had done it before. Isabella said she was “definitely more confident” and “comfortable.” Julia did not think she prepared adequately for the first simulation. The next time “I was a nurse, and I felt prepared, because I watched everyone [else].” She had also prepped more thoroughly. Kylie felt she had made improvements “as far as getting almost like a routine down.”

Lexie thought she was less anxious for the second simulation.

My first simulation was very scripted, so I was going “Step one, do this; step two, do this,” whereas, by the last one, it all seemed more fluid. It didn’t seem like a script; like I had things to check off to be done. It was like I went in and I knew, “okay, this is what my patient has. I should probably check these things first.”

Madison thought, “The second day went a lot better.” She liked having more advance information about the patient and the opportunity to think “about it the night before rather than spur of the moment.”

Peyton said, “The first time was a little more nerve-racking.” “I was more focused on doing the actual task, step 1, 2, 3, 4, 5, just getting the tasks done and doing them to the best of my ability.” He did not have a lot of anxiety for the second simulation. He told himself, “okay, I can go into this, I can really slow down, concentrate, and really dial in on what needs to be done.” That time “it was a lot more treating the patient for what they needed.”

Reese remembered, “The first simulation I was definitely more focused on, ‘Okay, don’t mess up with this patient;’ whereas, the second simulation I was more like, ‘Okay, you know how to clean a wound, you know how to pass out meds [medications].’”
Vanessa felt she lacked confidence in her knowledge during the first simulation. For the second simulation, she had prepared and felt she knew more about the illness. Whitney also felt more confident for the second simulation.

Zoe said, “During that first simulation, I don’t think I was able to look at the manikin as a patient . . . I was very task-oriented, like, I have to do this, this is where I am, this is what I’m being graded on.” She remembered finishing the first and thinking, “Well, it didn’t go as bad as I thought it could . . . I survived, all right.” “I think I was more confident going into my second one, but just, they’re so, they’re still nerve-racking.” She went on to say that despite being nervous, “you know your skills, you know where you are. If the pyxis doesn’t work, you know you can say, ‘Hey, this isn’t working.’”

In summary, junior participants described themselves as feeling more confident and less anxious during their second simulations. They characterized the care they provided as less like following a checklist and more responsive to the needs of the patient. They felt they conversed better with the manikin while following a better routine. They credited better preparation and less worry about making mistakes as important to the improvements they saw in their actions (see Table 4).

**Participants Reflect on Growth: Seniors**

Amanda reflected, “The last one was actually the least anxious I’ve ever felt in the simulation.” She remembered that while the scenarios were less intense, she also knew less and was “more uneasy” because she was new during the first semester’s simulation. By the last time, “I had learned that it’s less about how well you actually do. It’s about learning from it and reflecting on the experience.”
Table 4

*Participants’ Reflections on Growth*

<table>
<thead>
<tr>
<th>Participant</th>
<th>Reflection</th>
</tr>
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<tbody>
<tr>
<td><strong>Juniors</strong></td>
<td></td>
</tr>
<tr>
<td>Faith</td>
<td>decreased nervousness</td>
</tr>
<tr>
<td>Gina</td>
<td>less nervous, knew what to expect, responded to manikin</td>
</tr>
<tr>
<td>Holly</td>
<td>better, knew what to expect, easier to talk to manikin because of experience</td>
</tr>
<tr>
<td>Isabella</td>
<td>more confident, more comfortable</td>
</tr>
<tr>
<td>Julia</td>
<td>felt prepared because she had watched others, prepped better</td>
</tr>
<tr>
<td>Kylie</td>
<td>better routine</td>
</tr>
<tr>
<td>Lexie</td>
<td>less anxious, more fluid, not scripted but based on patient’s situation</td>
</tr>
<tr>
<td>Madison</td>
<td>went better; knew more about patient, had time to think about it the night before</td>
</tr>
<tr>
<td>Peyton</td>
<td>less anxiety, self-talk to focus, “treated the patient for what they needed”</td>
</tr>
<tr>
<td>Reese</td>
<td>self-talk to encourage</td>
</tr>
<tr>
<td>Vanessa</td>
<td>had prepared, knew more about diagnosis</td>
</tr>
<tr>
<td>Whitney</td>
<td>more confident</td>
</tr>
<tr>
<td>Zoe</td>
<td>more confident, knew what to do</td>
</tr>
<tr>
<td><strong>Seniors</strong></td>
<td></td>
</tr>
<tr>
<td>Amanda</td>
<td>less anxious, believed sim was about learning and not how well you do</td>
</tr>
<tr>
<td>Beth</td>
<td>less anxiety, felt prepared, wasn’t worried about making mistakes</td>
</tr>
<tr>
<td>Charlene</td>
<td>comfortable in sim environment</td>
</tr>
<tr>
<td>Deb</td>
<td>not as critical of herself, found her voice as a nurse</td>
</tr>
<tr>
<td>Eva</td>
<td>more confident, saw personal growth</td>
</tr>
<tr>
<td>Leah</td>
<td>less anxiety, knew what to expect, knowing clinical group helped</td>
</tr>
<tr>
<td>Morgan</td>
<td>knows she will grow and learn</td>
</tr>
<tr>
<td>Norah</td>
<td>excited and challenged, knew she would learn</td>
</tr>
<tr>
<td>Olga</td>
<td>looked forward to learning with peers but not excited like the first time</td>
</tr>
<tr>
<td>Sophia</td>
<td>more comfortable making decisions</td>
</tr>
<tr>
<td>Taylor</td>
<td>less nervous, always has a plan to help her feel better</td>
</tr>
<tr>
<td>Yasmin</td>
<td>more comfortable but still anxious, talking with doctor and manikin felt normal</td>
</tr>
</tbody>
</table>
Beth made a number of comparisons between her first and last simulation experiences. “My first simulation, I was just looking that I was going to be 100% in my skills.” “I was more so trying to be a perfectionist.” She felt more competition with her classmates. Now, she has “realized I’m not 100% in my skills.” “I know I don’t know it all; I know I’ll make a mistake; I know we’ll talk about it after in debriefing; people might make fun of me, I’ll be like, ‘Oops,’ whatever, but I won’t make the mistake again.” She had less anxiety because of the experiences she has had in clinical, and there were more things she is “competent enough to do.” She felt prepared for the final simulation and described herself as “carefree. I just showed up that day, really no anxiety. I knew exactly what was going to happen; I wasn’t scared of anything.”

Charlene said, “I felt like the first couple of simulations we did, I didn’t feel like I got as much out of them as perhaps was intended from them because I felt like everything was so new.” While she still is not comfortable with the scenarios because she does not know what the next one will bring, she feels “comfort with the environment because I knew what the materials were that I’d be working with and what I would be looking at in the room.”

Deb had this to say. “I feel like I didn’t criticize myself as much this simulation. The first one I feel like I criticized myself a lot, like I could have done this better, could have done this differently.” She was not sure if it was the scenario and “the fact that you had someone die, or if that’s just a good sign that you’re ready to go out into the world a little more.” Initially, she remembered having “no idea what to expect in there and how everything operates . . . let alone what you need to do as a nurse.” “I think, by the end of it, you find your voice as a nurse.”
Eva remembered feeling unprepared for the first simulation. “I had no idea what I was getting myself into. I was a nervous wreck! I probably could have cried beforehand. The last one, I felt more confident going in, definitely.” She was initially worried that her patient was going to die during her first semester. “I could see myself grow in each simulation.”

Leah reflected on the last simulation: “I felt way less anxiety, and knowing kind of what to expect from a simulation, in general.” She said, “that first simulation, you’re kind of like ‘oh, what am I doing, what is nursing?’” She noticed her clinical group was more relaxed, too. “We all brought snacks, and it was like ‘hey guys, let’s do this simulation, let’s learn.’” They were “a lot better” getting into the roles, too. She commented that knowing everyone also reduced her anxiety.

Morgan answered this way: “I’d say at first it was very scary, just having no idea what to expect. I remember more my emotions than the actual simulation. I don’t remember the simulation at all, but I just remember being very scared and actually hating it.” Now, she knows she will “grow and learn.”

Norah remembered being “really scared” for the first simulation: “just not knowing what was happening, but I still kind of enjoyed it.” She felt “excited about sim [simulation] day, because I knew that I would learn a lot from it; I knew that I would be challenged.”

Olga said, “I think I was probably more nervous for my first simulation experience, because I honestly didn’t know what to expect or what they were going to throw at us.” She also described herself as “excited” and with high expectations. “Compared to like my last simulation, I looked forward to it, but I wasn’t as, like excited as I was for the first simulation.”
Sophia talked about the scenarios themselves. “They obviously become more complex,” she said. She also talked about herself, “I think you become more comfortable being on your toes and making decisions, and you’re better at interpreting or anticipating what they may need.” She remembered during the first scenario “you’re just totally thrown off and just hoping to make it through it. And you’re almost surprised; you hear ‘Oh, you did so well!’ and you’re like, ‘Really?’”

Taylor said, “I was way more nervous and anxious at the beginning of the program versus at the end.” She also said she always has a plan thought out and even though they do not go “how you want them to” she feels better. Planning “was the big difference from the beginning of the program to the end.”

Yasmin remembered the first simulation as “really hard” because she was talking to a manikin. “By this last sim [simulation], honestly it was just kind of natural, maybe because we’d had so many sims, so I was used to talking to a doll.” “I was picturing more the lady that was talking through the manikin and talking to her.”

She remembered the first simulation, was my first semester of clinicals so I didn’t really know much, especially like hospital equipment that was in the room I could utilize. So this last time nothing was surprising or new to me . . . talking to a doctor or someone else in the room was really scary and intimidating, and this last time it was just kind of normal. I definitely felt way more comfortable this last time . . . even though there was anxiety with both.

In summary, seniors reported feeling less anxious and more confident with abilities such as talking to physicians and making independent decisions about patient care. They described themselves as more comfortable with the environment of simulation and with their peer groups. They characterized the learning in simulation as more about learning and less about how they performed. Consequently, they were less
critical of themselves and felt it was less important to have perfect skills. They felt more prepared to respond to patients’ needs because they were better prepared and had found their voice as nurses.

Affective Learning Levels

In the final section of this chapter, I will discuss the levels of affective learning illustrated by the participants in this research project and answer the third research question.

Q3 What levels of affective learning do the students describe?

Affective learning is defined as the development of attitudes, values, and beliefs about nursing and “emphasize[s] a feeling tone, an emotion, or a degree of acceptance or rejection” (Krathwohl et al., 1964, p. 7). The levels of affective learning reveal a progression that reflects increasing complexity and growth (See Appendix G).

In addition, Krathwohl et al. (1964) further delineated each level by describing sublevels that revealed further movement within the level.

Receiving

At the lowest level of the affective domain hierarchy, receiving is characterized by a “conscious recognition of the condition” (Schoenly, 1994, p. 209). The learner is aware of and attends to the value by acknowledging it. Subheadings within this level include awareness, willingness to receive, and controlled or selected attention (Krathwohl et al., 1964). It is the most common level of affective domain learning and requires little emotional investment by the learner. Lexie illustrated receiving the value of observing others in simulation by remarking, “me and a friend got to sit behind the mirror, so it was very weird; it was like ‘Oh, I’m here, but I’m not here.’” Julia described her first experience with observing at the receiving level, too.
“So you’re just like sitting there staring at them and hoping they do well.” Neither of those statements indicated that the experience was an important part of learning in simulation or that they enjoyed the experience. Another example comes from Amanda’s statement: “We got to practice a lot of the closed loop communication.” In this instance, Amanda is practicing closed loop communication but has not acknowledged the process, which is active, as important to simulation learning.

**Responding**

In the second level, responding, the learner reacts to the content. “As a first stage in a ‘learning by doing’ process the student is committing himself in some small measure to the phenomenon involved” (Krathwohl et al., 1964, p. 118). Subheadings in this level are acquiescence in responding, willingness to respond, and satisfaction in response. Sophia’s statement, “you get used to talking to the manikin as if it is an actual person,” is an example of affective learning at this level. She is acknowledging the manikin’s function as a substitute for talking with a human but has not acknowledged that she values it. Because her statement includes “as if it is an actual person,” she has tied this activity to simulation learning and is beginning to participate in Krathwohl’s (1964) learning by doing process.

**Valuing**

Level 3, valuing, is perhaps the easiest level of Bloom’s taxonomy to understand but not necessarily the easiest to achieve. Values are sometimes inconsistently understood and expressed by teachers and learners making this level of affective learning challenging. Sublevels are acceptance of a value, preference for a value, and commitment (or conviction) of the value. Kylie is expressing her value for receiving feedback from peers in the following statement.
I like getting feedback on things I need to work on, and then things like I did well on. I think a lot of times I over-think things, or I think I did bad throughout the whole thing, then it’s nice to hear, “This went really well for you, but this is what I would work on.”

Kylie is revealing the value she places on feedback as a component of learning. Her peers and faculty have observed her and can help her understand what she is doing well and where she needs improvement. This is important to her because she feels unable to accurately assess her own performance.

**Organizing**

The fourth level, organizing, is noted by the learner consistently showing preference for the new value system (Boyd et al., 2006). The learner encounters other values that are also relevant or may be in conflict to the new value, and the learner’s behavior illustrates the choice made to adopt the new value. The following example from Beth’s interview illustrates the conflict she felt between providing individualized patient-centered care on a human or demonstrating skills on the manikin.

If someone needs a straight cath [catheter], you’re like, “Is there any chance you can go to the bathroom? Do you have any urge at all?” Those kinds of questions that you’re not asking [the manikin]. Because you’re like, they need a straight cath, so let’s just straight cath them. Things like that that you leave out.

Rather than try other methods to help the patient void, Beth feels that simulation encourages students to move forward with skill demonstration regardless of the patient’s comfort.

Boyd et al. (2006) stated this level of the taxonomy calls for the student to compare, relate, or synthesize, and the sublevels are described as conceptualization of a value and organization of a value system. Beth has compared individualized patient-
centered care as opposed to a simulation model that focuses on completing skills as a matter of demonstrating abilities.

**Characterization by a Value or Value Complex**

“At this level of internalization the values already have a place in the individual’s value hierarchy” (Krathwohl et al., 1964, p. 165) and are congruent and function to guide behavior. The person has behaved within the value system for so long they no longer have an emotional response unless the value system is challenged. Because this internalization is characterized by deeply held beliefs, it takes time to develop. Schoenly (1994) stated it would not be appropriate to evaluate Level 5, affective domain learning outside of the clinical setting, and an objective soliciting this level of learning would be most appropriate as a terminal course objective. Consequently, I have not attempted to classify any of the participants’ statements at this level (see Table 5).

**Summary**

Interview data from 25 junior and senior level participants from two university campuses provided the basis of this study of affective learning using HFS in baccalaureate level nursing students. The seven themes of anxious about not knowing, confidence to create meaning, excited by growing and developing, enjoyed learning, pressured by being observed, ambivalent when relating to the manikin, and affective learning outcomes emerged from the interview data. Each theme was described and illustrated by using quotations from the participants themselves in an effort to accurately present the experience of affective learning from the participants’ perspectives. By comparing the description of the participants with well-recognized
guidelines from authoritative nursing organizations, I identified values, beliefs, attitudes, and ethical situations that were present in the data. The junior and senior level participants’ descriptions of affective learning were compared, and examples of affective learning were analyzed for evidence of higher-level affective learning.

Table 5

*Levels of Affective Learning*

<table>
<thead>
<tr>
<th>Level of affective learning</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receiving</td>
<td>“So you’re just like sitting there staring at them and hoping they do well.”</td>
</tr>
<tr>
<td>Responding</td>
<td>“You get used to talking to the manikin as if it is an actual person.”</td>
</tr>
<tr>
<td>Valuing</td>
<td>“I like getting feedback on things I need to work on, and then things like I did well on. I think a lot of times I over-think things, or I think I did bad throughout the whole thing, then it’s nice to hear, ‘This went really well for you, but this is what I would work on.’”</td>
</tr>
<tr>
<td>Organizing</td>
<td>“If someone needs a straight cath [catheter], you’re like, 'Is there any chance you can go to the bathroom? Do you have any urge at all?' those kinds of questions that you're not asking [the manikin]. Because you're like, they need a straight cath, so let's just straight cath them. Things like that that you leave out.”</td>
</tr>
<tr>
<td>Characterization by a value or value complex</td>
<td>Not evident in the data; requires extended periods of time and a clinical setting to develop.</td>
</tr>
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</table>
CHAPTER V

CONCLUSIONS

Introduction

Chapter V provides a discussion of the research findings of this descriptive phenomenological study of affective learning in high-fidelity simulation (HFS) from the perspectives of junior and senior level baccalaureate nursing students. The discussion includes a comparison of this study with the current nursing literature by highlighting the themes that emerged from the participants’ interviews. The discussion section will also explain how this project extends current nursing knowledge by connecting the participants’ perspectives with affective learning revealed in each theme and describe what level of affective learning can be attained through participation in HFS. I will describe the implications of the study as well as the study’s limitations and recommendations for future research.

Discussion

By analyzing the data collected from 25 interviews with junior and senior level students from two universities’ baccalaureate nursing programs, seven themes emerged explicating their experiences while participating in HFS scenarios. While affective learning is referenced in the simulation literature, it appears most frequently as a dependent variable. To date, the experiences of students learning while engaged in HFS has not been explored for the general presence of affective learning or an
examination of the level of affective learning that students have achieved. In the nursing education literature on simulation, a general exploration of affective learning has remained elusive.

Comparison of Themes with Previous Literature

With data from 30 nursing students who had participated in high-stakes simulation during their junior year, Cordeau (2012) constructed a four-stage theory of transition describing how students in simulation progress towards becoming caring nurses. The stages, entitled managing sim-hype, encountering barriers, integrating-the-self, and interconnecting, each include descriptive elements that were present in the experiences of the 25 participants of this research. For example, Cordeau described students as experiencing contagious anxiety. The participants in this research shared a similar response that I labeled shared anxiety. Cordeau identified other elements with meanings similar to those the participants in this research displayed, such as drawing from previous experiences, learning from others, and assigning significance.

While there were similarities between the experiences described by the participants of each study, there were some significant differences between Cordeau’s (2012) research and this research. Cordeau utilized a grounded theory perspective in data analysis with the intention of creating a middle-range theory to explicate simulation learning during high-stakes simulation. The students in Cordeau’s study participated in two scenarios where either a grade of pass or needs improvement was part of their clinical grade. Students were allowed to repeat the first scenario as many times as necessary to receive a passing score. They could repeat the second scenario only once knowing the consequence of failure would result in repeating the course.
Students discussed the scenarios and shared strategies for success with one another. One notable consequence was that students described increased anxiety with their second attempt because they were aware of the significance of failure. Cordeau’s finding about anxiety is in opposition to the experiences of the participants in this study, who generally felt less anxiety after the initial simulation experience. While some students described persistent anxiety, they did not indicate that the anxiety they were experiencing was increased.

Labeled zoning in, Cordeau (2012) described the phenomenon when students view “the manikin as a person needing nursing care” (p. E99) and said those students experienced less anxiety than those who were not able to view the manikin as a patient. While the participants in my study also described viewing the manikin as a patient, the connection between decreased anxiety and zoning was not clear.

Najjar et al. (2015) stated that Cordeau’s (2012) findings were a good first step and provided a starting place for them to conduct research using a more diverse group of students. Describing the experience of student nurses in HFS utilizing grounded theory, Najjar et al. used a focus group format for data collection. The researchers believed their model, the simulation learning model—student experience, served as an illustration of the many dimensions of learning experienced by students through HFS. Najjar et al. described five themes: emotional processing, anxiety and fear, making connections, fidelity, and learning. Again, there are elements in the Najjar et al. study that parallel this research. In the first theme, students described feeling relief at the end of the scenario and appreciated the validation they experienced from peers. These are similar to the subthemes relief and perspective in Theme 1 and grateful for feedback in Theme 3 of this study. Najjar et al. described an emotional processing that occurred
over variable lengths of time, sometimes involved the student watching a video recording of the simulation and was generally considered a “debriefing about the experience of simulation itself” (p. 3). The second theme Najjar et al. described was anxiety and fear, and they listed some of the reasons given were feeling the need to perform, lack of familiarity with simulation equipment, and unexpected developments during the simulation scenario. While the participants in Najjar et al. described feeling anxiety while performing in front of peers, especially if the group was larger (8 to 30), most participants in this research felt more comfortable with peers observing because they believed peers were supportive; the groups in this study were no larger than six. In both studies, the comfort levels with peer groups, the use of equipment, and simulation itself increased over time. While students in Najjar et al. described being thrown a “curve ball” when the scenario did not unfold as they had envisioned, few of the participants in this study referenced the unpredictability of the events of simulation. When referenced, it was as an expected element of caring for patients in a healthcare setting and an anticipated part of simulation. The Najjar et al. third theme paralleled the second theme of this study, confidence to create meaning, as participants reflected on previous learning experiences in the classroom and in clinical settings. Najjar et al. noted that for some of the participants in their study, previous experience was a barrier to learning if the student perceived discrepancies between the two experiences. While slightly more than half of the participants in this study had more than six months of experience working as a nursing assistant, only one participant described a discrepancy that affected her learning. Both studies described giving feedback, and both groups found it difficult to deliver criticism and appreciated supportive peers. The benefits of debriefing included learning new strategies of patient
care (the Najjar et al. fourth theme) and connecting their learning with their future roles as nurses and corresponded to the subthemes of discovering the nursing role and scope of practice and watching others interact in this research. Najjar et al. described the observer role in a separate theme called learning, and their conclusion that observing was “perceived to be nearly as beneficial as physically participating in the simulation” (p. 6) is similar to most of the participants in this study. Gaining confidence was a subtheme in the Najjar et al. learning theme, an element that appears in the affective learning outcomes theme in this project. In this research, the theme ambivalent when relating to the manikin was aligned with the Najjar et al. theme of fidelity. The same theme also included relating to the human actors who helped create realism and was developed in the subtheme empathy for patients, families, and peers in this project. This research also described the experience of the participants when they played family members supporting the simulation experience, an element that was missing from Najjar et al.

The findings of this project largely validate the work of Najjar et al. (2015) and yet differ in several important ways (see Table 6). First, by conducting individual interviews on two university campuses, the rigor and credibility of the study is enhanced. Individual interviews encourage diversity of perspective that is sometimes lost in focus groups when a strongly opinionated participant dominates the group. Several of the participants expressed opinions about their experiences in simulation that required courage to share and might not have been voiced in a more public forum. Using two sites for data collection also enhanced the dependability and transferability of the findings.
### Table 6

**Comparison of Themes**

<table>
<thead>
<tr>
<th>Holt</th>
<th>Najjar, Lyman, and Miehl</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Anxious about not knowing</strong>&lt;br&gt;• relief and perspective&lt;br&gt;• uncomfortable in the new environment</td>
<td><strong>Emotional processing</strong>&lt;br&gt;• sigh of relief&lt;br&gt;<strong>Anxiety and fear</strong>&lt;br&gt;• unfamiliar with equipment</td>
</tr>
<tr>
<td><strong>Confidence to create meaning</strong>&lt;br&gt;• connecting to previous learning and experience&lt;br&gt;• applying learning to future clinicals&lt;br&gt;• discovering future nursing role</td>
<td><strong>Making connections</strong>&lt;br&gt;• connecting simulation with classroom and clinical learning&lt;br&gt;• previous healthcare experience was sometimes a barrier</td>
</tr>
<tr>
<td><strong>Excited by growing and developing</strong>&lt;br&gt;• grateful for feedback&lt;br&gt;• more difficult to deliver criticism</td>
<td><strong>Emotional processing</strong>&lt;br&gt;• validation from peers&lt;br&gt;<strong>Making connections</strong>&lt;br&gt;• more difficult to deliver criticism</td>
</tr>
<tr>
<td><strong>Enjoyed learning</strong>&lt;br&gt;• watching others interact&lt;br&gt;• playing the family member</td>
<td><strong>Learning</strong>&lt;br&gt;• observing others nearly as beneficial as doing&lt;br&gt;<strong>Fidelity</strong>&lt;br&gt;• confederates provided cues</td>
</tr>
<tr>
<td><strong>Pressured by being observed</strong>&lt;br&gt;• faculty had performance expectations&lt;br&gt;• peers were supportive</td>
<td><strong>Anxiety and fear</strong>&lt;br&gt;• feeling the need to perform&lt;br&gt;• performing for large groups of peers&lt;br&gt;<strong>Fidelity</strong>&lt;br&gt;• high fidelity added to realism&lt;br&gt;• facial features impede communication&lt;br&gt;• mismatch between gender of manikin and voice&lt;br&gt;• confederates improved realism</td>
</tr>
<tr>
<td><strong>Ambivalent when relating to the manikin</strong>&lt;br&gt;• awkward conversations&lt;br&gt;• disappointed by limitations</td>
<td><strong>Learning</strong>&lt;br&gt;• gaining confidence</td>
</tr>
<tr>
<td><strong>Affective learning outcomes</strong>&lt;br&gt;• self-confidence</td>
<td></td>
</tr>
</tbody>
</table>
In addition, the large simulation groups reported in the Najjar et al. (2015) study influenced the anxiety the participants described when they were observed. While this study also identified anxiety as a significant factor in student learning, it provides additional specifics that extend the current understanding. Despite small group sizes, six of the participants in this study described persistent anxiety that was significant enough to influence their learning by inhibiting thinking and producing physical symptoms of distress. Hollenback (2016) reflected that undiagnosed anxiety may have influenced the scores of the nursing students in her study to ascertain the effects of simulation on anxiety levels prior to an obstetrical clinical rotation. While this study does not provide evidence to support or refute such an assertion, the focus of this study on affective learning explored the emotional components of the simulation experience and provided an opportunity for the participants to give voice to this sensitive topic. Their perspectives lend credence to the importance of further research on the anxiety levels of students in simulation and the effects of anxiety on learning.

The participants in this study reported less pressure when peers were watching and were able to identify their peers as occupying a similar learning position. The emotional connection they experienced, in turn, increased the peer support they felt and influenced the way they were able to learn. Simulation learning has been identified as a social learning process (Cannon-Diehl, 2009), and the earlier discussion on constructivism and Vygotsky’s learning theories (see Chapter II) are supported by this research. Nurse educators should consider the dynamics of the peer groups when facilitating the simulated learning experience.
Cazzell and Rodriguez (2011) conducted two focus groups to gather the perspectives of junior nursing students after they had participated in an objective structured clinical evaluation to assess their medication administration skills. Three questions guided the discussion and were designed to elicit feelings, beliefs, and attitudes and formed the structure the researchers used to report their findings. Participants reported feeling a loss of control related to inconsistencies in the instructions and not knowing exactly what they were expected to do. They felt anxious about the video camera that was recording their performance, and they felt incompetent. Some students denied anxiety because the assignment was not graded. The participants expressed belief that immediate feedback would have been more beneficial and that “their reaction under pressure negatively affected their OSCE [objective structured clinical examination] performance” (p. 712). Cazzell and Rodriguez reported the participants expressed an attitude that safety was paramount in medication administration. In addition, they were unable to connect this learning activity with previous learning experiences, their future clinical experiences, or eventual nursing practice.

While this research shares several key elements such as anxiety and what was described as lack of control over the environment of learning, it is quite different in the methodology. I believe the methodological differences have contributed to the differences in findings about the value of feedback and the connections these students were able to make to either their past learning or future clinical experiences and their role as nurses. One important connection between Cazzell and Rodriguez (2011) and this study exists. In both, participants expressed concern that the level of anxiety they had experienced affected their ability to perform.
Anxiety

The focus of affective learning in this project where identifying words with a feeling tone signaled its presence encouraged me to examine the students’ perceptions of anxiety. In a word, frequency search of the interviews queried through NVivo\textsuperscript{©}, nervous and anxiety and related stemmed words occurred more frequently than other words with a feeling tone (see Table 7). Because this project did not intend to focus on anxiety, but the wider issue of affective learning, the research design did not include a measurement tool to assess the levels of anxiety in the participants. The presence of anxiety, among the other emotions experienced by the research participants, merits discussion especially as it relates to the impact it might have on learning.

Table 7

*Frequency of Words with Feeling Tone*

<table>
<thead>
<tr>
<th>Words with feeling tone</th>
<th>Frequency of occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nervous, nerve, nerves</td>
<td>191</td>
</tr>
<tr>
<td>Anxiety, anxieties, anxious</td>
<td>111</td>
</tr>
<tr>
<td>Confidence, confident</td>
<td>90</td>
</tr>
<tr>
<td>Comfortable, comfort, comforting</td>
<td>85</td>
</tr>
<tr>
<td>Stress, stressed, stressing, stressful</td>
<td>61</td>
</tr>
<tr>
<td>Enjoy, enjoyed, enjoying, enjoyable</td>
<td>39</td>
</tr>
</tbody>
</table>
In this project, participants described feeling anxious anticipating simulation, especially prior to their first experience. For most of the participants, their anxiety decreased over time (see Chapter IV). They talked about feeling uncomfortable with the equipment used in simulation, and they worried about not knowing what to do or making mistakes during the scenarios. Some described how their anxiety increased when they were around others who felt anxious, and some felt relief when others talked about it, too. In this study, four seniors and two juniors reported anxiety that never seemed to dissipate. Others described the anxiety as easing as soon as they began caring for the patient or when they exited the simulation room. The experiences described by the participants are similar to those other researchers reported (Beischel, 2013; Cantrell, Meyer, & Mosack, 2017; Nielsen & Harder, 2013).

While interviewing the first study participant, I noticed she talked about being watched and how that made her feel “uneasy or flustered.” In follow-up questioning, I asked about who was watching and which group made her most uncomfortable, her faculty or her peers. That line of questioning became the theme, pressured by being observed. While most participants described their peers as supportive or at the same level of learning and, therefore, less intimidating, they still wanted faculty feedback on the nursing care they provided. This double bind was expressed when one senior, who described persistent anxiety, said, “Honestly, if I was in nursing school, I would say, ‘I hate it! Take it out of the curriculum!’ But since I just graduated, I can say it’s made me think about a lot of things.”

Hollenback (2016) reported an interventional study that measured students’ anxiety levels before and after a simulation workshop designed to prepare them for clinical learning on an obstetrics unit. Using the Spielberger State Trait Anxiety
Inventory, Hollenback tested students before and after the simulation and found that the subscale measuring state levels of anxiety dropped. When she administered the test one week later and just before the students began their rotations, the students’ scores were at the same level or higher than they were originally. In discussing the findings, Hollenback questioned how the results might have been skewed if some of the participants had unreported anxiety. While the incidence of anxiety in this sample of nursing students is not known, it is possible some who reported persistent anxiety associated with simulation may have some form of anxiety but are either unaware of it or choose not to disclose it.

Because some of the participants in this study described anxiety at a level that compromised their abilities to think or to function at their best, it is important to consider what other researchers have reported. Nielsen and Harder (2013) reviewed the literature, described multiple causes of anxiety in students participating in simulation, and concluded, “The most pervasive theme appeared to be increased anxiety when students were observed or video recorded” (p. e508). Furthermore, because simulation includes the element of observation and critique (with or without grading) through which mistakes are made visible, it is similar to test anxiety, they concluded.

Cantrell et al. (2017) conducted an integrative review of the literature for the effects of simulation on students’ stress levels. When synthesizing the evidence, they concluded, “The experience of simulation was universally stressful, but the response to the stress varied for individuals” (p. 142). Some individuals were motivated to try harder, saw it as a method to prepare for eventual stress to come, and some failed to
see its value, experiencing it as counterproductive. The participants in this study had similar experiences.

**Comparison of Affective Learning from Junior and Senior Perspectives**

To answer the second research question,

Q2  Is there a difference between the descriptions of affective learning of senior bachelor of science in nursing students as compared to junior bachelor of science in nursing students?

I compared the interview transcripts of the two levels of participants as well as the specific answers they gave when questioned about the differences between their first and most recent simulation experiences. While not specifically recognized as affective learning and without setting expectations for students to achieve a specific phase at a certain educational level, Walton, Chute, and Ball (2011) provided a detailed model of growth through simulation learning. Using a grounded theory methodology because it is effective in identifying social processes, problems, and concepts not well developed, they described a five-phase process of growth they identified as negotiating the role of the professional nurse. Adopting and socializing into the nursing role involves affective domain learning as the student recognizes and responds to the role of the nurse, begins to share the profession’s values, and organizes a personal value system around those of the profession until there is no conscious awareness of a difference.

While affective learning goes beyond socialization to internalization of a value system, the Walton et al. midrange theory provides an appropriate template to compare the learning levels of the juniors and seniors of this study who have not yet become members of the profession.
The first phase in the Walton et al. (2011) model was labeled feeling like an imposter and included the following subcategories that are applicable to affective learning: anticipatory socialization, wanting specific instruction, feeling uncomfortable, and anxious and struggling with spontaneity. The juniors and seniors who were recalling their first simulation experiences remembered experiencing anxiety, feeling awkward, and not knowing exactly what was expected of them. They felt insecure and moved through simulation with a checklist of skills to perfect rather than responding to the needs of the patient. While several juniors expressed increased comfort with responding to the patient’s needs, this was not characteristic of all of them. Trial and error was the next phase in the Walton et al. model, and the emphasis was on the errors they made. The participants in this study were initially quite critical of their own abilities. The senior level participants were more likely to see errors as inevitable and contextualize them as opportunities to learn. In the third phase called taking the role seriously, students view the scenario as real, get into the role, begin to analyze and pull it all together, and see simulation as a learning experience. They may also display team leadership skills when working with peers. While not all juniors in this study showed the characteristics of taking the role seriously, some of them did talk about dividing responsibilities when working as nurses with peers displaying the ability to conceptualize themselves as future nurses. Aspects of this phase were evident in some seniors who emphasized the learning aspect of simulation and the camaraderie of working with peers. In the Walton et al. model, the fourth phase was characterized by transferring their simulation experiences to caring for humans. While many participants discussed their simulation experiences as important to caring for patients and sometimes provided examples, eight of the junior participants were just
beginning clinical rotations and could only anticipate providing care for patients. During this phase of the Walton et al. model, students may experience failure, disappointment, and lack of confidence and need to have an opportunity to rebuild confidence. One senior student talked herself through that process during our interview as she described failing to play her assigned role during the cardiac arrest scenario. In the final phase, entitled professionalism, students display characteristics such as independence, advocating for clients, and viewing themselves as members of the profession and sometimes an interdisciplinary team. This phase is noted by Walton et al. as transformative for students in terms of self-image and confidence. Self-confidence can be increased at any level, and the majority of the participants in this study expressed improved self-confidence. Seniors talked about confidence in communicating with other professionals and using critical thinking skills to problem solve. Some seniors took joy in practicing independence from faculty or supervising nurses, a unique opportunity for students but safely experienced in simulation. Juniors talked about confidence in communicating with patients and families and completing assessments with greater ease. Empathy for clients, an important component necessary in advocating for patients, was more likely to be described by seniors, but two juniors talked about feeling empathy for the manikin when hearing the manikin cry or sensing distress when the vital signs deteriorated.

The senior level participants did not all describe affective learning the same. Using the framework of Walton et al. (2011), some had progressed further towards achieving the professional nurse role and displayed higher level characteristics. As a group, seniors were more likely to describe practicing independent decision-making and communicating with physicians and other professionals. They felt more confident
in their knowledge and skills and described a connection to their futures as nurses. Seniors had the benefit of complex simulation scenarios as well as more experience in clinical settings and both contributed to their learning. They reflected on the experience of dealing with death, both anticipated and unexpected. They recalled the ethical dilemmas they encountered and the conversations in debriefing discussing professionalism. Most of them described empathizing with the patient and, very frequently, the family members in the end-of-life or cardiac arrest scenarios.

The junior level participants in this study represented different levels of learning. While both groups had participated in two days of simulation, one group also had experienced two semesters of clinical rotations. The group without clinical rotations did not have the benefit of patient care to inform their simulation experiences. They displayed the characteristics of the first level in the Walton et al. (2011) model and some of the second level. They wanted more structure and specific instructions. They were uncomfortable, anxious, and somewhat focused on errors. While the second group of juniors with concurrent clinical experience displayed some of the same anxiety, they also defined the scenario as real, had begun getting into the role, and described the benefits to their learning from that perspective, characteristics of the third level. While the number of days participating in simulation was the same, the two groups of juniors differed in exposure to patient care and the complexity of the scenarios they described. Those two factors influenced their descriptions of affective learning.

**Affective Learning Levels**

As discussed earlier in the literature review of this study, affective domain learning is hard to measure and frequently neglected in nursing education. One
effective strategy to assess affective learning entails reflective writing. Boyd et al. (2006) used a virtual learning scenario in an agricultural development class as a means to assess levels of affective learning. After viewing the scenario, the participants wrote a reflective essay, and the researchers utilized content analysis to determine the levels of affective learning the writing samples displayed. While this research project did not rely on reflective writing for the data, the written transcripts were reviewed for examples of affective learning and the levels they represented. Four levels of affective learning were evident in the descriptions the participants gave of their learning experiences in HFS. Higher levels of affective domain learning are important in role development of nurses.

**Implications**

In an examination of the descriptions of the participants, nursing educators are encouraged to consider individualizing how students participate in simulation with the goal of reducing anxiety to a manageable level that no longer interferes with student learning. Faculty can set the expectations for learning by encouraging students to share their feelings beforehand and provide reassurance that anxiety is common when something is new. Emotional regulation is an important component of a successful nursing career, and students should be encouraged to develop both an awareness of their emotions and strategies to manage them. Simulation provides an excellent opportunity for faculty to demonstrate and encourage decompression strategies to reduce feelings of anxiety and stress. A brief session of deep breathing before and after simulation may help students acquire a self-care strategy that will make a difference in their comfort level while promoting effective learning. While establishing a learning environment that promotes psychological safety through
adequate orientation to the tasks and environment of simulation, faculty must be sensitive to those students who display signs of stress overload. It may be beneficial to allow students to volunteer for the roles they play during the first few simulations they experience, as a strategy to help them feel some level of control over their learning. Those who are more anxious may gain a measure of confidence by observing before playing a more active role. In addition, a brief reflective writing assignment afterwards that queries feelings and use of self-care strategies may alert faculty to difficulties students experienced that can help with future role assignments. Students may also benefit from smaller groups or private opportunities to practice simulation to help them become comfortable with the setting and tasks.

While this study identified specially designed scenarios can be effective in encouraging affective domain learning, these scenarios appeared in the curriculum of senior students. The learning experiences described by junior students were by their own admission more task-oriented and less focused on facilitating nurse/patient relationships. Faculty should consider adding elements such as symptoms of distress to the basic scenarios to encourage receiving and responding level affective domain learning. Two junior participants described empathetic feelings related to the distress they perceived in the manikin, and adding similar elements to what might otherwise be a basic scenario will be an excellent first step in affective domain learning through simulation. When adding manikin distress, it will be essential that faculty facilitate a healthy discussion of the experience in the debriefing afterwards to ensure the participants process its emotional impact.

Some participants described perspectives they used to help them suspend disbelief and enter the world of simulation as though it were reality. These included
empathizing with the family member, focusing on the reality of the scenario, and identifying with the voice of the manikin. The participants who identified what was helpful to them in imagining the manikin as a patient felt their learning was enhanced. In the same way faculty can acknowledge anxiety as a normal part of the simulation experience; an initial discussion to help students enter the world of simulation seems to be in order.

While some participants described simulation as a strategy to facilitate their learning and viewed it as a safe place to make mistakes thereby giving voice to a learner focused philosophical perspective, others continued to see it as performance. In a performance paradigm, simulation is teacher-focused, with faculty having the correct answers and providing approval when students do well or correction when they make mistakes. It is important to explicitly and repeatedly emphasize the learner-centered focus of simulation if nursing educators hope to change the paradigm and encourage life-long learning in their students.

**Limitations**

The study participants were recruited from the baccalaureate nursing programs of two universities, one public and one private, in two regions of the country: the Midwest and the West. While both programs are accredited by the Commission for Collegiate Nursing Education and evaluated by the same criteria, the placement of simulation in the curriculum varied. In one program, simulation was concurrent with clinical rotations beginning with the second semester of the five-semester program. In the other, simulation begins before the students start clinical rotations. Both programs utilize high-fidelity manikins for simulation and low or medium-fidelity manikins for skills training.
The debriefing strategies differed between the programs. One used Debriefing for Meaningful Learning (Dreifuerst, 2012), a format designed to emphasize clinical reasoning. Faculty who debrief in this program utilize Socratic questioning to facilitate connections between theory and practice and have participated in instructor-led training. The other program used the Debriefing Assessment for Simulation in Healthcare created by the Center for Medical Simulation (2010) at Harvard University. It was developed to promote learner engagement, facilitate deep levels of learning, and improve knowledge transfer to the clinical setting. Faculty who debrief simulation have also completed formal training.

The participants’ average age was 21.5 years, making this group younger than expected. While the statistics for the average age of nursing students was not available (National League for Nursing, 2017), the participants of this study did not include any adult non-traditional learners. In addition, the group was 4% male and 12% minority (see Chapter IV), making this study sample atypical when compared to the national average. While not included in the data of this study, I interviewed one student during preliminary testing of the research questions who had attention deficit disorder and whose answers differed in interesting ways from the participants of this study. For example, the student did not feel there was benefit in observing peers or hearing the critique of their performances. Unless the student was actively doing in simulation, the student was not engaged in learning. It is unfortunate this perspective has not been reported.

The differences between the programs were intentional and designed to enhance diversity, ensure robust data, and increase the opportunity for all perspectives of nursing students to be represented in the findings. Those who wish to utilize the
findings will need to evaluate and decide if the differences will be a distraction or a benefit in applying the findings to their situations.

**Recommendations for Future Research**

With schools of nursing adding more simulation to their curricula, additional research to evaluate strategies designed to reduce the anxiety levels students experience in simulation will be important to student learning. It will be beneficial to learn if introducing affective elements into basic scenarios will encourage affective domain learning at an earlier point in students’ learning, provide a holistic perspective to how they experience simulation, and develop their nursing role. While simulation manikins are available to represent both female and male genders and multiple ethnicities, to date, no research has reported the effects of these physical attributes on student learning. As nursing educators are endeavoring to develop cultural sensitivity and prepare students to care for an increasing diverse patient population, simulation could provide another setting for such exposure. Another specific affective domain learning outcome that shows promise for future study involves learning to give feedback to peers. Because this study had a subgroup of participants who had not experienced patient care, a similar study focusing on affective learning with a larger number of participants who had simulation experience only will give nursing educators a better understanding of the effects of simulation on affective learning.

**Conclusion**

This study to describe and compare the affective domain learning of students through HFS has extended the current knowledge of simulation by using individual interviews to collect data, thereby encouraging the expression of difficult or variant experiences. Because this study’s aim was to describe affective domain learning, the
interviews elicited their emotional experiences and consequently heightened awareness of the anxiety some students’ experience. While describing the numerous circumstances that contribute to students’ anxiety, it identified persistent anxiety that interfered with their ability to learn in nearly a quarter (6 of 25) of the participants. The participants often described debriefing as crucial to their learning and while they were anxious to receive the feedback of peers and faculty, some expressed reservations sharing negative observations. Peer support was an important element to their affective learning. The realistic ways others related to the manikin helped them imagine the manikin as a patient and enhanced their learning experience. The study compared affective learning from the perspectives of junior and senior students and demonstrated its progressive nature. The early junior experience focused on becoming familiar with the environment and tasks of simulation; the juniors with clinical experience were more involved with the scenarios and the family members’ role; and the seniors experienced the complexities of end-of-life scenarios, independence in decision-making, and imagining their futures as nurses. Through examples chosen from the transcripts of the participants, the first four levels of affective domain learning, receiving, responding, valuing, and organizing, were identified. These findings illustrate that HFS can provide opportunities for higher levels of affective learning, especially when the scenarios utilized include elements designed to elicit emotions.
REFERENCES


Hober, C. L. (2012). *Student perceptions of the observer role play experiences in the implementation of a high fidelity patient simulation in bachelor’s degree nursing programs*. Available from ProQuest Digital Dissertations. (UMI No. 3495026)


APPENDIX A

INSTITUTIONAL REVIEW BOARDS
DATE: October 3, 2016

TO: Ketty Holt
FROM: University of Northern Colorado (UNCO) IRB

PROJECT TITLE: [896669-2] Affective Domain Learning in High-Fidelity Simulation: Students’ Perspectives
SUBMISSION TYPE: Amendment/Modification

ACTION: APPROVED
APPROVAL DATE: October 3, 2016
EXPIRATION DATE: May 10, 2017
REVIEW TYPE: Expedited Review

Thank you for your submission of Amendment/Modification materials for this project. The University of Northern Colorado (UNCO) IRB has APPROVED your submission. All research must be conducted in accordance with this approved submission.

This submission has received Expedited Review based on applicable federal regulations.

Please remember that informed consent is a process beginning with a description of the project and insurance of participant understanding. Informed consent must continue throughout the project via a dialogue between the researcher and research participant. Federal regulations require that each participant receives a copy of the consent document.

Please note that any revision to previously approved materials must be approved by this committee prior to initiation. Please use the appropriate revision forms for this procedure.

All UNANTICIPATED PROBLEMS involving risks to subjects or others and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office.

All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to this office.

Based on the risks, this project requires continuing review by this committee on an annual basis. Please use the appropriate forms for this procedure. Your documentation for continuing review must be received with sufficient time for review and continued approval before the expiration date of May 10, 2017.

Please note that all research records must be retained for a minimum of three years after the completion of the project.

If you have any questions, please contact Sherry May at 970-351-1910 or Sherry.May@unco.edu. Please include your project title and reference number in all correspondence with this committee.
Thank you for the clearly highlighted amendments/modifications. These changes are approved and you may proceed with these revised protocols to participant recruitment and data collection.

Best wishes with your research.

Sincerely,

Dr. Megan Stellino, UNC IRB Co-Chair

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within University of Northern Colorado (UNC) IRB's records.
DATE: May 10, 2016

TO: Ketty Holt
FROM: University of Northern Colorado (UNCO) IRB

PROJECT TITLE: [896669-1] Affective Domain Learning in High-Fidelity Simulation: Students' Perspectives
SUBMISSION TYPE: New Project

ACTION: APPROVED
APPROVAL DATE: May 10, 2016
EXPIRATION DATE: May 10, 2017
REVIEW TYPE: Expedited Review

Thank you for your submission of New Project materials for this project. The University of Northern Colorado (UNCO) IRB has APPROVED your submission. All research must be conducted in accordance with this approved submission.

This submission has received Expedited Review based on applicable federal regulations.

Please remember that informed consent is a process beginning with a description of the project and insurance of participant understanding. Informed consent must continue throughout the project via a dialogue between the researcher and research participant. Federal regulations require that each participant receives a copy of the consent document.

Please note that any revision to previously approved materials must be approved by this committee prior to initiation. Please use the appropriate revision forms for this procedure.

All UNANTICIPATED PROBLEMS involving risks to subjects or others and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office.

All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to this office.

Based on the risks, this project requires continuing review by this committee on an annual basis. Please use the appropriate forms for this procedure. Your documentation for continuing review must be received with sufficient time for review and continued approval before the expiration date of May 10, 2017.

Please note that all research records must be retained for a minimum of three years after the completion of the project.

If you have any questions, please contact Sherry May at 970-351-1910 or Sherry.May@unco.edu. Please include your project title and reference number in all correspondence with this committee.

Ketty -
Thank you for your patience with the UNC IRB process at the end of a semester. Dr. Montemayor, the first reviewer, forwarded his approval with no requests for modifications or additional materials. I, subsequently, reviewed your application and am also recommending approval.

Prior to use of your consent form please make the following small changes:

1) note the amount of time for interviews; and

2) note that all identifiable data (consent forms and audio recordings) will be destroyed three years after the end of data collection.

These changes do not need to be submitted for further review.

Best wishes with your interesting and relevant research. Please don’t hesitate to contact me with any IRB-related questions or concerns.

Sincerely,

Dr. Megan Stellino, UNC IRB Co-Chair

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within University of Northern Colorado (UNCO) IRB’s records.
May 31, 2016

Ketty Holt
Bethel University
St. Paul, MN 55112

Re: Project SP-23-16  Affective Domain Learning in High-Fidelity Simulation: Students’ Perspectives

Dear Ketty,

On May 31, 2016, the Bethel University Institutional Review Board completed the review of your proposed study and approved the above referenced study.

Please note that this approval is limited to the project as described on the most recent Human Subjects Review Form and is limited to collecting data at Bethel University. Also, please be reminded that it is the responsibility of the investigator(s) to bring to the attention of the IRB any proposed changes in the project or activity plans, and to report to the IRB any unanticipated problems that may affect the welfare of human subjects. Last, the approval is valid until May 30, 2017.

Sincerely,

[Signature]

Peter Jankowski, Ph.D.
Chair, Bethel University IRB
APPENDIX B

CONSENT FORM
CONSENT FORM FOR HUMAN PARTICIPANTS IN RESEARCH
UNIVERSITY OF NORTHERN COLORADO

Project Title: Affective Domain Learning in High-Fidelity Simulation: Students’ Perspectives
Researcher: Ketty Holt, MA, RN School of Nursing
Phone Number: (xxx)xxx-xxxx e-mail: holt5520@bears.unco.edu
Research Advisor: Lory Clukey, PhD, PsyD, RN; School of Nursing
Phone Number: (xxx)xxx-xxxx email: lory.clukey@unco.edu

I am researching student nurse perspectives of learning in the affective domain during high-
fidelity simulation. Briefly, affective domain learning relates to developing attitudes, values
and beliefs about nursing. To join in this research, you will be interviewed about your
experience on one or more occasions. The approximately 30-45 minute audio recorded
interviews will be conducted on campus at a time convenient to both of us. A short, follow up
phone call to clarify responses may also be necessary.

All responses you share will be confidential. Written reports will not reveal your identity. All
transcriptions of our interviews will be kept in a password protected electronic file accessible
only to me. Identifiable data (audio recordings and consent forms) will be destroyed 3 years
after the end of data collection.

Risks to you are no greater than those normally encountered during regular classroom
participation. You may feel a variety of emotions including embarrassment, anxiety,
frustration or sadness thinking and talking about your experiences. I will try to minimize these
feelings by listening respectfully to your accounts and perspectives. The benefits to you
include gaining an opportunity to talk about a concept that may enrich your learning and
contribute to your personal and professional development as a nurse. Participation in this
research will not count toward your grade in any nursing courses.

Participation is voluntary. You may decide not to participate in this study, and if you begin
participation, you may still decide to stop and withdraw at any time. Your decision will be
respected and will not result in loss of benefits to which you are otherwise entitled. Having
read the above and having had an opportunity to ask any questions, please sign below if you
would like to participate in this research. A copy of this form will be given to you to retain for
future reference. If you have any concerns about your selection or treatment as a research
participant, please contact Sherry May, IRB Administrator, Office of Sponsored Programs, 25
Kepner Hall, University of Northern Colorado, Greeley, CO 80639; 970-351-1910.

_________________________  __________
Signature                           Date

Researcher
APPENDIX C

INVITATION TO PARTICIPATE
INVITATION TO PARTICIPATE

I would like to invite you to participate in my research project on affective learning in simulation. Briefly, affective domain learning includes developing the attitudes, beliefs, and values of nursing. If you join me, your part would involve sharing experiences with learning in simulation in a face-to-face conversation with me. I believe you have something important to contribute to my project as I am looking for the opinions and experiences of students, and I hope you will decide to join me. If you are interested, please respond to this email and we can set up a time to meet. If you have more questions you need answered before agreeing to participate, I’ll be happy to answer them.

Thanks so much,

Ketty Holt
APPENDIX D

LETTER OF COOPERATION
January 27, 2016

Lory Chukey, PhD, PsyD, RN
Associate Professor School of Nursing
University of Northern Colorado
Gunter Hall 3140, Box 125
501 20th Street
Greeley CO 80639

Dear Dr. Chukey:

Ketty Holt is a valued and highly respected faculty member at Bethel University. We are delighted to support her in her dissertation research by providing her with the opportunity to recruit approximately 10-14 junior and senior nursing students to participate in her research project. We also look forward to learning about the results of her research when the project is finished. If you have any questions, feel free to contact me.

Sincerely

[Signature]

Elizabeth A Peterson, DMin, RN
Acting Associate Dean of Nursing
e-peterson@bethel.edu
651-638-6455
APPENDIX E

INTERVIEW GUIDE
Affective Domain Learning in High-Fidelity Simulation:

Students’ Perspectives

Interview Guide

Ketty M. Holt, MA, RN

Questions

1. How was it being in simulation?

2. How was it anticipating simulation?

3. What is it like reflecting back on simulation?

4. Tell me about your feelings when you were in simulation.

5. Explain how simulation has an emotional and/or psychological impact on you.
   How come?

6. What emotions and feelings surprised you? Tell me about feelings you didn’t expect.

7. How do you feel about relating to manikins as patients?

8. What part of simulation did you find the hardest to learn from?

9. Compare your latest experience with HFS to your first exposure.

10. As you have talked about these experiences, are there certain scenarios you were reflecting on? Tell me about those. What about the scenario had an impact on you?
APPENDIX F

DEMOGRAPHIC DATA COLLECTION FORM
Affective Domain Learning in High-Fidelity Simulation:

Students’ Perspectives

Demographic Data Collection Form

Ketty M. Holt, MA, RN

Questions

1. Previous experience providing healthcare? If so, please describe including patient population, number of years, role.

2. Age

3. Gender

4. Race and ethnicity
APPENDIX G

AFFECTIVE DOMAIN LEVELS: EXAMPLE
Table 8

*Example of Affective Domain Levels from Infection Control*

<table>
<thead>
<tr>
<th>Level of affective domain learning</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Receiving</strong></td>
<td>The student nurse observes that nurses entering a patient’s room perform hand hygiene.</td>
</tr>
<tr>
<td><strong>Responding</strong></td>
<td>The student nurse begins using hand hygiene before entering a patient’s room in an effort to avoid censor and obey the rules.</td>
</tr>
<tr>
<td><strong>Valuing</strong></td>
<td>The student nurse tells the nursing assistant who is preparing to enter a patient’s room, “Be sure to use hand hygiene. It’s important.”</td>
</tr>
<tr>
<td><strong>Organizing</strong></td>
<td>The student nurse uses a gown and gloves when entering the room of a patient in isolation even when she’s short on time and only needs to leave a snack on the patient’s bedside table.</td>
</tr>
<tr>
<td><strong>Characterization by a value or value set</strong></td>
<td>The student nurse instinctively includes other infection control measures when caring for patients such as wiping down her stethoscope after use and using gloves when emptying a catheter bag. She is alert for patients who may be immunocompromised and calls for consultation from the infection control nurse when a patient’s situation is unclear to her.</td>
</tr>
</tbody>
</table>