

UNDERGRADUATE NURSING STUDENTS'  
EXPERIENCES WITH LEARNING  
ABOUT WOUND CARE

by

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## ABSTRACT

Individuals with wounds make up a significant portion of patients in all types of healthcare facilities. As such, practicing nurses need to have a working knowledge of many aspects of wound care. Nurses have a responsibility to prevent the formation of wounds in patients cared for in acute care settings, and ensure that those patients with wounds receive safe, competent care.

The problem this study addresses is the lack of understanding of student wound care learning experiences. Limited research is available to describe the amount of wound care education that Bachelor of Science in Nursing (BSN) students receive, the types of experiences offered to them, and students' personal experiences with learning about wound care. The purpose of this study was to explore student wound care experiences and describe how students feel their educational opportunities have prepared them for wound care-related work.

This project was a qualitative, adapted interpretive phenomenological study conducted at a university in a southern state. The study included 10 BSN students in their final year of study who had completed most of their clinical courses and experiences. Semi-structured interviews were conducted using interview guides. Interviews were used to allow participants to share their wound care learning experiences and feelings about how prepared and qualified they feel they are to care for patients with wounds.

A general inductive data analysis was conducted to identify themes. A thematic analysis was used to gain understanding and meaning of learning experiences expressed by the participants. Emerging themes aligned with and helped answer the research questions.

The participants had similar classroom and simulation learning experiences, but clinical experiences in acute care settings were varied. Clinical experiences were dependent on clinical instructor and mentoring nurse expertise, as well as patient census at the time of the clinical experience. Participants had various life experiences that affected the learning experience, perceptions of how learning about wound care would impact their future nursing practice, and ways in which patients with wounds would be approached.

Implications for policy and practice relate to nursing education curriculum about the inclusion of wound care throughout the program and engaging nursing faculty with expertise in wound care in curricular activities. Implications for nursing education also include ensuring that faculty remain up to date on emerging trends and technologies in wound care so that current, evidence-based clinical practice guidelines are included in the curriculum.

## DEDICATION

*“The people we surround ourselves with either raise or lower our standards. They either help us to become the best-version-of-ourselves or encourage us to be lesser versions of ourselves. We become like our friends. No man becomes great on his own. No woman becomes great on her own. The people around them help to make them great. We all need people in our lives who raise our standards, remind us of our essential purpose, and challenge us to become the best-version-of-ourselves.” Matthew Kelley (2015)*

This work is dedicated to my husband, Carlos, and my son, Garrett. Without their unconditional love and unwavering support, the completion of this project would not have been possible. All that I do and all that I am are because of them. They are my heart and soul. I hope that through this work, our lives will be better. I love you both so much.

## LIST OF ABBREVIATIONS

AACN	American Association of Colleges of Nursing
BSN	Bachelor of Science in Nursing
IRB	Institutional Review Board
NLN	National League for Nursing
NPUAP	National Pressure Ulcer Advisory Panel

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## 1. INTRODUCTION

The intent of baccalaureate nursing education is to adequately prepare students for the work they will encounter as practicing nurses. According to the American Association of Colleges of Nursing (AACN) essentials of baccalaureate education, nursing students must be provided nursing education to prepare them for the role of professional nurse (AACN, 2008). Bachelor of Science in Nursing (BSN) students will become generalist nurses (NLN, 2013), and, therefore, responsible for care to patients across the care continuum (AACN, 2008). This continuum in contemporary nursing includes patients with wounds that require basic and advanced management.

Chronic, non-healing wounds have emerged as a critical area of concern in the healthcare arena due to the complexity of wounds, comorbidities, and the financial burden of treatment (Hampton, 2012). Nurses are at the forefront of wound management because they are often tasked with performing frequent assessments of wounds, are primarily responsible for dressing changes, and are expected to practice wound prevention techniques. Although nurses are responsible for providing care to patients with wounds, the literature shows that nurses' knowledge of appropriately caring for wounds is deficient (Beitz, Fey, & O'Brien, 1998; Lamond & Farnell, 1998; Zulkowski & Ayello, 2005).

A knowledge deficit in wound care can have a profound impact on the quality of care delivered to patients. Dugdall and Watson (2009) suggested that clinical outcomes of patients with wounds are directly related to the wound care education of the nurse providing care. The responsibility of clinical outcomes on nurses requires clinical knowledge of wound care and

critical thinking skills (Flanagan, 2005). Nurses practicing in acute care and community settings are expected to have this clinical knowledge and critical thinking skills to manage patients with acute and chronic wounds. Therefore, nursing students must learn and develop the skills necessary to recognize and manage these issues.

A review of relevant literature for the study found evidence of research related to undergraduate nursing students' levels of wound knowledge (Caliri, Miyakazi, & Pieper, 2003; Gill & Moore, 2013; Gould, 1992; Huff, 2011; Moore, 2011; O'Connor, 1993) and teaching strategies (Beeckman, Schoonhoven, Boucqué, Van Maele, & Defloor, 2008; Huff, 2011; Ousey, Stephenson, Cook, Kinsey, & Batt, 2013; Roberson, Neil, & Bryant, 2008; Sinclair, et al., 2004; Stephens & Jones, 2012; Thomas, 2012) employed in undergraduate nursing programs. Little research was found that effectively evaluates the experiences of learning wound care among undergraduate nursing students, or their perceived preparedness to care for patients with wounds. Further, it has been suggested that students learn to safely deliver care when classroom theory is applied in clinical practice (Benner, 2001). This focus is important for nursing education, as many practicing nurses have related that they feel nursing education did not adequately prepare them to care for patients with wounds (Ayello, Baranoski, & Salati, 2005; Bietz et al., 1998; Pieper & Mott, 1995). To address this gap in knowledge, a phenomenological study was employed. The next sections will discuss phenomenology as a research method.

### **Methodology**

Phenomenology is a qualitative research methodology that studies a phenomenon using individuals' experiences (Creswell, 2009). Phenomenology has gained popularity among nurse researchers in nursing practice and education (Rapport & Wainwright, 2006). Nurse researchers are able to relate to a phenomenological research approach because (Balls, 2009) nursing and

phenomenology have parallel frameworks in approaching people. Understanding people, perceptiveness, and the relationship to their experiences are common to nursing and phenomenology (Balls, 2009). Further, phenomenological inquiry provides nursing a valuable tool to shape and change practice to improve the care of patients (Dinkel, 2005).

### **Conceptual Framework**

The *lived experience* of everyday life is the foundation of phenomenological inquiry. German philosophers Edmund Husserl and Martin Heidegger were early leaders in the phenomenological movement (Streubert & Carpenter, 2011). There are two frameworks of phenomenology: Husserl's descriptive phenomenology and Heidegger's interpretive phenomenology. Interpretive phenomenology focuses on the process of understanding an experience. This study will use Heidegger's framework of phenomenology to gain understanding of undergraduate nursing students' experiences with learning about wound care and their subsequent perceptions of preparedness.

Husserl (1931) felt that the essence of experience builds knowledge. His ideas of phenomenology regard the researcher as a limiting factor in qualitative research, thereby causing the study to have potential for bias. Heidegger, a student of Husserl's, had different ideas of what phenomenology entails. Heidegger (1962) felt that the researcher has inherent qualities of experience, beliefs, and biases that cannot be removed from the study. These relational qualities must be acknowledged and addressed within the body of the study, and a researcher's personal experiences should be considered as the data are interpreted. Heidegger advanced phenomenology to an ontological level to interpret the human experience using one's own experiences in the world in which the phenomenon of interest exists (Heidegger, 1962).

Heidegger's interpretive phenomenological approach aligns with the researcher's own professional clinical and educational experiences. The researcher has relevant clinical experience caring for patients with wounds, as well as teaching in nursing education. Thus, any preferential influences that these experiences may have during the course of the study, or on the interpretation of the results must be acknowledged.

Nursing theorist Patricia Benner introduced a model for nursing clinical competence. Her Novice to Expert Theory (Benner, 2001) describes the stages through which nurses progress as they develop skills and understanding of patient care through experience. The theory proposes that nursing students begin clinical education as novices in Stage one and progress to the second stage, advanced beginners, as they graduate and prepare for clinical practice (Benner, 2001). The experience of gaining clinical competence in wound care and management through nursing education is important to this study to understand students' feelings of proficiency and preparedness.

A part of the process of understanding an experience is to gain insight into the students' perceptions of an experience. In studying a nursing students' perceptions of wound care, the researcher and participants had to acknowledge and appreciate their relational qualities to the subject matter. To that end, interpretive phenomenology was chosen as the theoretical framework and was further informed by Benner's Novice to Expert Theory (Benner, 2001). Definitions of the stages of clinical competence were used to guide the interview process so as to elicit information about where students felt their own clinical competence lies on the experience continuum. The nursing students' experiences with learning about wound care and their perceptions of their own proficiency in caring for patients with wounds were compared to the descriptions of each level of Benner's Novice to Expert Theory. This comparison guided the

researcher's understanding of the students' responses and abilities to draw conclusions about how they felt their educational experiences prepared them to care for patients with wounds.

### **Problem Statement**

The ability to competently care for patients with wounds in healthcare is a critical concept for nursing students to learn. The literature shows that practicing nurses feel that their nursing education did not adequately prepare them to care for patients with wounds (Bietz et al., 1998; Madsen & Reid-Searl, 2007), but there is no literature was found describing what their learning experiences were like. The problem this study addressed is the incompleteness of understanding of nursing student's experiences with learning about wound care. A further unknown was how these students perceived their nursing education playing a vital role in preparing them for the work ahead in nursing practice when caring for patients with wounds.

### **Purpose of the Study**

The purpose of this study was to explore the wound care learning experiences and perceptions of preparedness of undergraduate nursing students. An interpretive phenomenological approach was used to frame the study to examine individual experiences with learning. This approach provided the framework to explore the meaning of these experiences for the selected individuals. Participants for the study were BSN students at a university in a southeastern state in the United States who had reached the senior level of the nursing program.

The researcher conducted sequential, semi-structured interviews with participants to gain an understanding of wound care learning experiences and perceptions of readiness to care for patients with wounds. Three broad and four narrowly focused research questions drove the interview protocol to better understand the students' perspectives. Data were collected and analyzed by the researcher using interpretive phenomenology to understand participants' wound

care learning experiences and examine their perceived clinical competence to care for patients with wounds.

### **Broad Research Questions**

1. How do undergraduate nursing students describe or define their experiences with learning about wound care?
2. How do undergraduate nursing students understand their wound care education to impact their future abilities to care for patients with wounds?
3. How do undergraduate nursing students' descriptions and understanding of wound care affect their perceptions of nursing roles or understanding of nursing roles?

### **Focused Research Questions**

1. How do undergraduate nursing students say their experiences with learning about wound care impacts the ways in which they will approach the care of a patient with wounds?
2. How do undergraduate nursing students feel that their experiences with learning about wound care have developed their perceptions of caring for a patient with wounds?
3. How do undergraduate nursing students relate that their experiences with learning about wound care have impacted their perceptions of the importance of preventing wound development in patients?
4. How do undergraduate nursing students relate their clinical proficiency to perform wound care as a result of their nursing education experiences?

These research questions were addressed using the phenomenological approach. Phenomenology is a qualitative research methodology that studies a phenomenon using individuals' experiences and gaining an understanding of how they interpret those experiences. (Creswell, 2009). To answer these questions, the researcher interviewed senior-level BSN

nursing students who have learned about wound care to gain understanding their personal experiences. The researcher processed the question answers through general inductive analysis and thematic representation, and established a common understanding and meaning of the themes that emerged from individual experiences.

### **Themes**

Six emergent themes were identified in this study, which align with and assist to answer the research questions: (1) life experiences, (2) teaching/learning strategies, (3) basic knowledge, (4) immersion in practice, (5) confidence, and (6) importance of wound care. The researcher used these emergent themes and the research questions to gain an understanding of the meaning of the wound care learning experiences of senior undergraduate nursing students in a baccalaureate nursing program.

### **Study Significance and Implications**

Wound care is a critical component of clinical nursing practice (Cuzzell & Workman, 2013). Evidence indicates that practicing nurses lack the ability to make critical decisions regarding patients with wounds (Ayello et al., 2005), and recent nurse graduates have related that undergraduate wound care education did not adequately prepare them to care for patients with wounds in the acute care setting (Bietz et al., 1998). Exploring senior nursing students' perceptions of the educational experience is important.

At the senior level, nursing students begin to independently make clinical decisions and judgments regarding the care of patients. While faculty and mentors oversee the care they deliver, these students are, nonetheless, preparing for independent practice, which will include caring for and making critical decisions regarding patients with wounds. This study provides

insight to student wound care experiences and describes how the students feel their educational opportunities have prepared them for the work ahead in wound care.

At a time when care practices of chronic wounds are a significant issue in healthcare, exploring the education and preparedness of nursing students to care for patients with wounds upon graduation is important. Nursing students need to learn about wound care to provide competent care for patients and enhance positive patient outcomes (Moore, 2011). Limited research is available to describe the learning experiences of wound care among nursing students, but these issues must be explored.

### **Summary**

If the intent of baccalaureate nursing education is to adequately prepare students for the work they will encounter as practicing nurses, then the area of wound care needs more investigation, as many practicing nurses relate that they feel nursing education did not adequately prepare them to care for patients with wounds (Ayello et al., 2005; Bietz, et al., 1998; Pieper & Mott, 1995). Limited research is available to describe the wound care education that BSN students receive, the types of experiences offered to them, and students' personal experiences with learning about wound care. The purpose of this study was to explore student wound care experiences and describe how students feel their educational opportunities prepared them for wound care-related work.

## 2. REVIEW OF THE LITERATURE

Wound care is a critically important sub-specialty in nursing due to the increasing number of patients with acute and chronic wounds. Much research has been conducted to determine the amount of wound care education, levels of knowledge, and proficiency with treatments among practicing nurses. Yet, little is known about the experience of education and preparation of nursing students in regard to wound care. Nurse graduates are expected to provide competent care for patients across the care continuum, including those with wounds. As a way forward in exploring nursing students' experiences with learning about wound care, a review of relevant literature will be discussed.

This chapter provides a review of literature regarding phenomenology and the educational preparation of nursing students in wound care. The timeframe of the literature review spans the years of 1992 to 2013. Online databases searched included the Cumulative Index of Nursing and Allied Health Literature Plus with Full Text, ProQuest Nursing and Allied Health Source, Ovid, and ScienceDirect. The search terms included "nursing," "phenomenology," "Heidegger," "interpretive phenomenology," "wound care nursing," "wound care education," and "undergraduate nursing wounds." Articles written in non-English and published before 1992 were excluded. The databases yielded six books, 49, articles and one abstract that met the criteria for this review.

### **Overview of Findings**

The review of literature suggested that there is an overall lack of knowledge related to wound care (Bietz et al.,1998; Caliri et al., 2013; Fourie, 2013; Gill & Moore, 2013; Lamond &

Farnell, 1998; Levine, Ayello, Zulkowski, & Fogel, 2012; Patel & Granick, 2007; Pieper & Mott, 1995; Walsh & Gethin, 2009; Zulkowski & Ayello, 2005), inadequate time is devoted to this important topic in the curriculum (Benner, Sutphen, Leonard, & Day, 2010; Fourie, 2013; Gill & Moore, 2013; Gould, 1992; Levine et al., 2012; Moore, 2011; Murphy, McCloskey, & Gilmartin, 2008; Ousey et al., 2013; Patel & Granick, 2007), and students have mixed levels of confidence related to wound care (Gill & Moore, 2013; Ousey et al., 2013; Roberson et al., 2008). In addition, the literature emphasized that a variety of teaching methods be used to adequately relay knowledge to students about wound care. Further, the literature generally agreed that teaching strategies must be focused (Benner et al., 2010; Huff, 2011; Ousey et al., 2013; Roberson et al., 2008; Stephens & Jones, 2012), use multiple strategies (Caliri et al., 2003; Gill & Moore, 2013; Moore, 2011; Ross & Tuovinen, 2001), and combined (Adralan, Vahedi, & Salehnejad, 2013; Ko et al., 2006; Madsen & Reid-Searl, 2007).

## **Theoretical Framework**

### **Interpretive Phenomenology**

Phenomenology is a research method that studies experiences (Creswell, 2009). Phenomenology is complementary in studying issues related to nursing due to the inherently human interactions that take place within the profession (Balls, 2009). Nursing education can benefit from exploring experiences within a phenomenological framework. Phenomenological methods are often used to address questions about nursing education (Rapport & Wainwright, 2006; Annells, 1995). Nurse educators can study nursing education using different approaches to phenomenology.

Nurse educators generally approach phenomenological inquiry either descriptively or interpretively (Rapport & Wainwright, 2006). The two types of inquiry are phenomenological

because they are concerned with the study of knowing and experience, but they differ in approaches to a phenomenon. Husserl (1931) first introduced descriptive phenomenology as a way to understand human thinking and experience. Descriptive phenomenology is described as coming to know through experience and then describing the experience (Husserl, 1931).

Heidegger (1962), Husserl's student, had a different idea of how human experience should be studied and developed the framework of interpretive phenomenology. Heidegger felt that phenomenology should focus on the meaning of being, by interpreting what experiences mean. Thus, interpretive phenomenology is concerned with the meaning of one's understanding (Heidegger, 1962).

Descriptive and interpretive phenomenology approach human experience differently and are at odds with respect to how the researcher is positioned within the study. Husserl (1931) felt that the researcher's personal beliefs and experiences must be extricated from the study using bracketing, or the process by which the researcher's personal beliefs or ideas about the phenomenon are set aside. Conversely, Heidegger (1962) did not accept the idea that the researcher could be separated from the phenomenon under study. Heidegger believed that human beings interpret phenomena based on their own personal experiences (McConnell-Henry, Chapman, & Francis, 2009) and, therefore, could not separate the self from the process of study.

The framework of descriptive phenomenology proposed by Heidegger (1962) includes the importance of the researcher being immersed into the world of individuals under study to better understand and interpret their experiences. This immersion into the participants' worlds includes the researcher's personal experiences and preconceptions to give perspective to the interpretation (Converse, 2012). According to Heidegger (1962), human experience should not

just be described, but interpreted for understanding. Interpreting the human experience relates well to phenomena related to nursing, as it is a humanistic discipline.

Interpretive phenomenology has been used to understand phenomena concerned with nursing (Jasper, 1994; Mackey, 2005; Van der Zalm & Bergum, 2000) and nursing education (Diekelmann, 1993; Lindsay, 2006; Standing, 2009). Research has suggested that the use of interpretive phenomenology is limited in the clinical practice setting of nursing but is a valuable tool to evaluate reflection of nursing practice by understanding the meanings of human experience (Van der Zalm & Bergum, 2000). Interpretive phenomenology adds diversity to the body of nursing knowledge, as it is undertaken in a natural, uncontrolled way that seeks to uncover the knowledge gained through experience (Mackey, 2005). Whereas this approach to nursing research adds a unique perspective to the discipline, there are issues that should be considered with phenomenological nursing research.

Jasper (1994) suggests that phenomenology, in general, presents issues with validity and generalizability of research findings. Validity of phenomenological research is dependent on the findings of the study accurately reflecting a participant's true experience (Jasper, 1994). While phenomenological findings may be valid, the results may not be generalizable to other populations. Although results may not be generalizable to other groups of like individuals, phenomenology is useful to inform and improve nursing practice (Jasper, 1994).

Diekelmann (1993) found that interpretive phenomenology can help nurse educators use students' experiences to evaluate curriculum to understand what should be included to bring about improvements. Lindsay (2006) studied nursing students and how they understand themselves as individuals when they are working in clinical situations. The interpretation of their reflections and experiences indicated that students viewed themselves as separate people when in

a clinical situation versus when at home away from a clinical environment. Research into self-identification helped nurse educators understand how the separation of individuals from nursing fits into curriculum and nursing education (Lindsay, 2006).

Standing (2009) used interpretive phenomenology to understand experiential learning of nursing students and their perceptions of clinical decision making. The study provided an avenue to understanding nursing students' perspectives about how they acquire decision-making skills and their preparedness to undertake the responsibilities required of registered nurses, which allowed the researcher to understand the development of nursing students and their learning needs. This study also gave students an opportunity to reflect on their own understanding and application of clinical decision-making skills (Standing, 2009). The findings of Standing's study set an example of how interpretive phenomenology can help students and nurse educators understand experiences to make improvements in nursing education.

### **Novice to Expert Theory**

Benner's Novice to Expert Theory (2001) submits that nurses develop skills and understanding of patient care over time, building on a strong educational foundation and experiential learning. Benner proposes that nurses acquire and develop clinical competence in stages on the continuum of novice to expert. The proficiency level of the nurse occurs in five stages: novice, advanced beginner, competent, proficient, and expert (Benner, 2001). The researcher will use this theory to guide research questions related to clinical proficiency as a result of nursing education.

Stage one, the novice stage, is the beginner level in which the individual has no experience with the content or context in which they are to perform. Due to inexperience and lack of confidence, the individual is unable to demonstrate safe practices or clinical judgment

and requires constant supervision with physical and verbal cues by a mentor (Benner, 2001). According to Benner (2001), nursing students fall into this category, given that they have limited understanding of the contextual meaning of recently acquired knowledge from textbooks or classroom teaching. As they mature in nursing education, students move to the next stage.

Stage two describes the advanced beginner nurse, in which the nurse's knowledge of the subject matter and skill development advances due to previous experience. The nurse's performance is marginally acceptable, and still requires mentoring support in the clinical environment (Benner, 2001). The advanced beginner functions on general guidelines and begins to perceive the recurrent meaningful patterns in clinical practice (Benner, 2001). Students begin to understand how theory learned in the classroom translates into practice, yet they still need the oversight and guidance of expert faculty or nurse mentor (Benner, 2001).

The competent nurse is one who has progressed to Stage three. This nurse demonstrates efficiency, and has more confidence with skills in the clinical environment (Benner, 2001). Benner contends that competency is accompanied by a sense of mastery and the ability to manage clinical circumstances based on repeated experiences. During this stage of professional development, the nurse is able to consciously and deliberately plan and organize nursing activities without supportive cues from a mentor (Benner, 2001). This stage aligns with the nurse graduate who has gained independent practice experience as a generalist nurse.

Proficiency is attained in Stage four, in which nursing situations are perceived as a whole, rather than separate events or activities. The nurse has learned from experience what events may occur in a given situation, and how planning may need to be modified to respond to changes in patient condition or situation circumstances (Benner, 2001). Based on experiential learning of perceiving clinical situations as a whole, the proficient nurse can recognize abnormalities in a

given situation, and clinical decision-making is improved (Benner, 2001). As nurses gain experience, they are able to apply practical knowledge to practice situations.

The final stage of nursing clinical competence is expert. The expert nurse has a vast amount of experience, and has developed a sense of intuition in clinical situations that no longer requires a reliance on analytic principles to guide decision making or clinical practice (Benner, 2001). The expert nurse is able to practice based on a deep understanding of the situation as a whole; the nurse's performance is highly skilled, and he or she is able to make independent clinical judgments and handle complex clinical situations without assistance (Benner, 2001). Additionally, expert nurses are able to provide consultation or mentorship to other less experienced nurses (Benner, 2001). The expert nurse gains clinical competence over a period of time after clinical experiences have built confidence in his or her ability to make sound clinical decisions.

### **Wound Care Knowledge**

The knowledge levels related to wound care have been studied in students (Ayello et al., 2005; Caliri et al., 2003; Gill & Moore, 2013; Gould, 1992; Huff, 2011; Moore, 2010; Stephens & Jones, 2012), physicians (Fourie, 2013; Levine et al., 2012; Patel & Granick, 2007), and practicing registered nurses (Ayello et al., 2005; Bietz et al., 1998; Pieper & Mott, 1995; Walsh & Gethin, 2009; Zulkowski & Ayello, 2005). Examining the knowledge levels of these individuals is important, as healthcare professionals are not always adequately prepared to care for patients with wounds.

### **Student knowledge**

Fundamental knowledge of nursing practice is gained during a student's undergraduate nursing education (Gill & Moore, 2013), yet gaps have been identified in wound care education

among these students (Gould, 1992; Huff, 2011; Moore, 2011; O'Connor, 1993). Studies related to undergraduate nursing students' knowledge of pressure ulcer prevention and treatment indicate that whereas students recognize the importance of pressure ulcer prevention and treatment, they have poor knowledge of the topic (Caliri et al., 2003; Gill & Moore, 2013; Gould, 1992).

Whereas wound care knowledge among nursing students is poor, students who actively seek outside sources to increase their knowledge base, or have clinical experience with an experienced practicing nurse have an increase in knowledge of wound care (Caliri et al., 2003). This information indicates that only those students who have a particular interest in wound care and actively participate above and beyond the nursing education expectation will have more knowledge than those who do not.

Conflicting ideas have been identified among novice nurses and nursing students about their perceptions of wound care education and preparation (Ayello et al., 2005). These individuals may feel that they received adequate education, yet they do not have sufficient knowledge for basic competency in wound care. Nursing students and novice nurses with little clinical experience report that their wound care education was sufficient, but their knowledge level of wound care is low (Ayello et al., 2005). The disparity of perception to reality could lie in the idea that "nurses do not know what they do not know until they have some experience" (Ayello et al., 2005, p. 274). Students have a perceived level of knowledge, but it is not based on actual experience.

Despite a general consensus of a low level of wound knowledge, there is evidence that nursing education can improve student knowledge of wound care. Specific examples of educational interventions that improve wound care knowledge and retention of knowledge can be

found in teaching methods that are focused (Beeckman et al., 2008; Huff, 2011; Ousey et al., 2013; Roberson et al., 2008; Sinclair, 2004; Stephens & Jones, 2012; Thomas, 2012), use multiple strategies (Caliri et al., 2003; Gill & Moore, 2013; Moore, 2011; Ross & Tuovinen, 2001), and combined (Adralan et al., 2013; Ko et al., 2006; Madsen & Reid-Searl, 2007).

### **Physician knowledge**

Historically, nurses have looked to physicians for guidance about caring for patients in the clinical setting. With regard to wound care, this reliance could be problematic because the literature findings indicate that physicians also have a lack of knowledge (Levine et al., 2012). The deficiencies in physician wound care knowledge is likely a result of the amount of time dedicated to wound care in medical curricula. Medical residents have reported that *no, very little, or minimal* time is spent on wound management education (Bennett, 1992; Fourie, 2013; Levine et al., 2012; Patel & Granick, 2007). Quantification of time spent on wound care in medical education range from none to four total hours through the second year of medical school (Lemon, Munsif, & Sinha, 2013).

The practical care of wounds is often viewed as the nurse's responsibility, but he or she is dependent on the physician for treatment orders and wound management decisions (Fourie, 2013; Madsen & Reid-Searl, 2007). Although the ultimate authority lies with physicians to manage the patient's plan of care, physicians often consider issues such as wounds or pressure ulcers at a *nursing issue* (Bennett, 1992; Levine et al., 2012). Given the need for a multidisciplinary approach to the care and management of wounds (Bennett, 1992), fragmentation of care may result if neither the physician nor the nurse has the knowledge of wound care.

## **Practicing nurses' knowledge**

The National Pressure Ulcer Advisory Panel (NPUAP) (2012) has identified the ability to independently initiate wound prevention strategies as a basic competency for nurses, and registered nurses are often responsible for making decisions in the clinical setting related to wound care (Madsen & Reid-Searl, 2007). However, the literature is clear that nurses often display a tendency to defer to physician knowledge, rather than rely on independent decision making and critical thinking (Bietz et al., 1998). Physicians continue to be the diagnosticians and prescribers of treatment, but nurses are responsible for administration of treatment, which requires a high degree of skill and knowledge (Benner et al., 2010).

Wound care knowledge among practicing nurses differs. Whereas some groups of nurses demonstrate a low knowledge level of wound care (Zulkowski & Ayello, 2005), others have more knowledge. The level of wound care knowledge and ability to make independent decisions have been linked to clinical experiences of the nurse. Experienced nurses have a stronger knowledge base of overall wound care compared with younger, less experienced nurses and students (Ayello et al., 2005). Lamond and Farnell (1998) compared treatment decisions of the novice and expert nurse and found that expert nurses made more appropriate treatment decisions, indicating a more extensive knowledge of pressure ulcers. These results suggest that a nurse gains wound care knowledge through experience, rather than structured education.

Arguably, clinical practice experience could lead to a stronger knowledge base for wound care. However, learning through experience would mean that practicing nurses rely on ritualistic practice or forms of clinical apprenticeship, rather than adequate educational instruction (Hicks, 1996). The passing of knowledge from generation to generation of nurses could lead to ineffective or insufficient nursing practice, resulting in substandard nursing care of patients with

wounds. To provide safe, effective wound care in the clinical setting, nurses must have sufficient knowledge and skills (Moore, 2010).

Knowledge gained through experience comes from a range of sources. Nurses have reported that the most beneficial resources for wound management were other nurses and wound company representatives (Walsh & Gethin, 2009). Moore and Cowman (2005) found that 45% of nurses sought wound management advice from these representatives, not from structured wound care educational programs. Nurses who attended focused wound care education programs that included theoretical and practical components appeared to have increased wound knowledge and acknowledged that it was beneficial to their practice (Dugdall & Watson, 2009; Pieper & Mott, 1995; Walsh & Gethin, 2009). This finding further demonstrates that nurses learn about wound care from a passing of knowledge but have meaningful learning from structured educational programs.

The levels of wound care education received in nursing programs and actual wound care knowledge have been studied. Recently graduated nurses relate that they received sufficient education to adequately care for patients with wounds, yet there was a discrepancy between perception and actual knowledge (Bietz et al., 1998). Novice nurses displayed a lack of basic knowledge related to pressure ulcers.

The greatest knowledge deficit areas included the etiology of pressure ulcers, supportive surfaces needed in the prevention and management of pressure ulcers, pressure ulcer classification, and treatment modalities (Bietz et al., 1998). More experienced nurses displayed a stronger knowledge base about wound assessment, surgical intervention for pressure ulcers, and possible complications of pressure ulcers (Bietz et al., 1998). The researchers suggested that this

strength of knowledge is likely due to experience gained in working in the clinical setting (Bietz et al., 1998).

## **Teaching Methods**

### **Focused**

Focused teaching allows the educator to concentrate student learning on a specific topic. Educational interventions concentrated on improving wound care knowledge levels with retention of information and wound care skills among nursing students have been studied. Nursing students who participated in focused sessions increased their knowledge of wound care (Beeckman et al., 2008; Huff, 2011; Ousey et al., 2013; Thomas, 2012). Knowledge levels were increased immediately following the educational programs and were sustained over time (Huff, 2011; Sinclair, 2004; Thomas, 2012). Sinclair (2004) noted increased consistency of knowledge, as well as heightened awareness, related to issues in wound care and skin integrity maintenance.

Nursing students showed more refinement in a number of skills related to caring for patients with wounds following focused education (Beekman et al., 2008). Beekman et al. (2008) found significantly improved wound classification skills in nursing students who participated in a focused e-learning program. Stephens and Jones (2012) and Roberson et al. (2008) used simulated wounds to improve students' assessment skills and the management and treatment of wounds. Students reported that directed study and clinical teaching related to wound care increased their knowledge and skills, thereby increasing confidence in clinical procedures (Ousey et al., 2013). Additionally, students showed improved nursing clinical practice, abilities to implement an appropriate plan of care, and quality of nursing documentation after a focused wound care education program (Smith, Greenwood, & Searle, 2010; Thomas, 2012). Approaches

to wound care education can also include a variety of methods used to enhance the experience of the individual. Other methods are explored in the following paragraphs.

### **Multiple**

Teaching methods that integrate course content within the nursing curriculum have been suggested as effective techniques that use multiple approaches. Integrating course content eliminates the boundaries to knowledge development by threading concepts across the curriculum (Boland & Finke, 2009). Students are continually building on knowledge and skills developed in courses and can more fluidly apply nursing knowledge and concepts in the clinical setting (Boland & Finke, 2009). Gould (1992) suggests that a range of teaching and learning strategies can improve the transfer and use of knowledge among nursing students. Teaching and learning strategies range from formal lectures, self-directed and collaborative learning, and hands-on clinical experience. Caputi (2005) suggests that educators can use active teaching strategies to keep students engaged and allow them to transfer knowledge from one setting to another.

Gaberson and Oermann (2010) found that nursing students have individual differences that affect how they learn information and integrate knowledge to clinical practice. Self-directed learning activities such as videos, computer-assisted instruction, virtual reality, web-based methods, and independent study provide faculty with multiple means of integrating instructional technologies into curriculum for learning concepts and skills. Multiple teaching methods enhance students' abilities to apply concepts and theories to clinical situations, solve clinical problems, arrive at carefully thought-out decisions, and provide safe, quality care; all essential competencies gained through clinical practice (Gaberson & Oermann, 2010).

Caliri et al. (2003) found increased pressure ulcer knowledge in nursing students who had engaged in multiple teaching activities, such as attending conferences or focused lectures on pressure ulcers, reading additional articles or books related to pressure ulcers to supplement assigned readings, and using web-based technology regarding pressure ulcer prevention and treatment. The use of simulation conjointly with traditional classroom teaching may provide students with the opportunity to develop clinical skills in a safe, controlled environment.

Moura and Caliri (2013) measured nursing wound care competency using simulation. Students related learning from the experience. They were able to build wound care knowledge and were able to make theory to practice connections needed for problem solving (Moura & Caliri, 2013). Further, students reported a positive relationship to the articulation of knowledge, skill development, and confidence with caring for patients with wounds (Moura & Caliri, 2013). Similarly, Ross and Tuovinen (2001) used traditional classroom lectures, practical learning, and e-learning to teach assessment of patients with wounds. Through these modes, students were able to perform comprehensive wound assessments, apply accurate nursing diagnoses, and make clinical decisions about wound care treatments options. The combination of teaching methods demonstrated student application of learning to a realistic clinical situation, while remaining within the safe environment of simulation (Ross & Tuovinen, 2001).

Multiple teaching methods aimed at wound care education provide students a varied learning experience. According to Rowles and Russo (2009), multiple ways of knowing are essential in education for nursing practice. These ways of knowing and pathways to knowledge are multidimensional, with no one way in itself being sufficient. Nursing is conducive to multiple teaching strategies, as the components of curriculum involve knowledge, clinical skills, and the ability to think critically to solve problems (Rowles & Russo, 2009).

## **Combined**

Madsen and Reid-Searl (2007) in their work, “Overcoming Tradition: Teaching Wound Management into the Twenty-First Century”, indicated that nursing education can promote students’ abilities to make cognitive connections between theory and practice by integrating wound care education across the curriculum. The researchers asserted that wound management skills and knowledge should not be limited to one content area. By combining wound care objectives throughout an undergraduate curriculum, students will learn the importance of wound care and the clinical skills necessary to become competent practitioners in healthcare (Madsen & Reid-Searle, 2007). Teaching strategies are key, and students must be offered opportunities to learn about wound care through combined teaching strategies (Madsen & Reid-Searle, 2007).

Combined teaching methods of theory and practical clinical skills yield significantly better results for students’ cognitive and psychomotor skills (Adralan et al., 2013). In teaching students about wound care, Adralan et al. (2013) compared traditional, passive teaching methods to combined methods of video and animation, simulation, group discussion, student-led demonstration, and practical case study. The combined teaching methods resulted in more meaningful learning about wound care for the students, with increased cognition and a statistically significant improvement in psychomotor and practical application skills (Adralan et al., 2013). Roberson et al. (2008) further demonstrated improved practical skills by combining simulation with multi-sensorial properties to teach wound care. The enhancement of realism combined with actively engaging the senses gave students a more confident perception of caring for patients with wounds (Roberson et al., 2008).

The combination of traditional teaching methods and technology has also been shown to be effective in teaching nursing students concepts of wound care (Ko et al., 2006). Ko et al.

(2006) did a comparative study to evaluate a web-based learning course to teach wound care and found that the technological teaching strategy alone was not as effective as combining it with traditional teaching. Therefore, the combination of traditional teaching and web-based learning appears to be an effective method for teaching nursing students about wound care.

### **Time Constraints in Nursing Curriculum**

Content saturation in nursing education is a widely known issue (Giddens & Brady, 2007), and time constraints are common in nursing education (Scheckel, 2009). Nurse educators must choose which content should remain, which should be deleted, and what new content should be added to the curriculum (Giddens & Brady, 2007). With the amount of content that remains, nurse educators must make the most of the time they have to teach important topics. Faculty must prioritize learning activities and select objectives and competencies (Scheckel, 2009). For an activity to be worthwhile, adequate time needs to be allowed to achieve objectives and competencies (Scheckel, 2009). The issues of content overload versus available time are not unique to nursing. Educators in medical education face these same conflicts, resulting in little time spent on learning wound care principles (Fourie, 2013; Levine et al., 2012; Patel & Granick, 2007). Given that content saturation is so prevalent, it is not surprising that the literature reflects a lack of time spent on wound care education in both nursing and medicine. Further, a variety of reasons have been cited for the time spent on wound care learning objectives.

Wound care has a history of having a low priority in schools of nursing (Gould, 1992). In 1992, Gould found that little classroom time was devoted to pressure ulcer treatment, with educators indicating that most of the teaching took place in the clinical practice setting under the guidance of qualified staff. However, more recent research indicates that time dedicated to formal teaching on wound care is more varied.

For instance, Ousey et al. (2013) reported that the amount of time spent on teaching wound care in a clinical setting ranges from less than 10 hours to more than 30 hours, with more time spent in adult health courses and technical degree nursing programs. Despite the time allotment, nurse educators' interests influence the amount of time devoted to areas of study (Gill & Moore, 2013). Therefore, if the nurse educator is experienced and interested in wound care, the students are more likely to be exposed to more wound care-related concepts within that individual's purview.

Additionally, standardized nursing programs have been cited as a possible reason for a lack of time spent on wound care education, especially in European nursing education programs. The nursing education curriculum in Ireland is standardized, and a minimum time allowance is allotted to each subject, resulting in nursing students' perceptions of inadequate education regarding wound care due, in part, to time restrictions (Gill & Moore, 2013; Moore, 2011; Murphy et al., 2008). Moreover, practicing nurses in Ireland receive no additional education in wound care prior to work, although the patient population has a high incidence of chronic wounds (Murphy et al., 2008). The standardization of nursing curricula could be a viable explanation for the lack of attention to wound care education based on these examples.

While no other studies were found in nursing education with specific time frames allotted for wound care education, researchers have gained insight into the amount of time devoted to wound care education in nursing through the perceptions of students. Nursing students, in a study by Moore (2011), expressed that they had an inadequate amount of time allocated to wound management, which led to an insufficient education on the subject. Students recognized a lack of knowledge related to wound care, and most of them felt that more time should be devoted within nursing education (Gill & Moore, 2013; Moore, 2011; Murphy et al., 2008).

Although the literature indicates that nursing education lacks the time to devote to wound care, Gaberson and Oermann (2010) pointed out that individual clinical activities vary in time spent on each, and no guarantee of an amount of time will affect the quality of learning that results. In other words, the activity and amount of time devoted to it needs to be individualized. The quality of the learner's experience is more important than the amount of time spent on the learning activity.

### **Confidence Levels**

Student confidence levels with wound care management skills and wound prevention strategies are measured by a student's perception of his or her own abilities and values of what is important in nursing care. Nursing literature has more information related to students' perceptions of confidence with the prevention of wounds than with wound care management skills associated with caring for patients with existing wounds. Students' confidence levels were not mutually exclusive.

Gill and Moore (2013) found that nursing students felt confident in their abilities to prevent pressure ulcers and that the prevention of pressure ulcers should be a priority in patient care. Moreover, the students in Gill and Moore's study indicated that as practicing nurses, they would have an important role in the prevention of pressure ulcers. However, these positive attitudes did not correlate with the actual knowledge the participants displayed in being competent to attain this goal, indicating that a perception of confidence is not linked to actual knowledge (Gill & Moore, 2013).

Moura and Caliri (2013) studied nursing students' confidence levels following a simulation exercise focused on pressure ulcer prevention. During the debriefing phase of the simulation, students were able to construct knowledge, skills, and attitudes of competence and

propose potential effects on clinical practice in the prevention of pressure ulcers. The experience was found to have a positive impact on students' self-image and articulation of knowledge, skills, and attitudes, resulting in confidence and attitudes of safety (Moura & Caliri, 2013).

Nursing students' confidence levels with wound care prevention and skin integrity maintenance are related to directed study, clinical teaching, and amount of time spent on wound care instruction (Ousey et al., 2013). In a study conducted by Ousey et al., students increased their knowledge and skills, thereby increasing their confidence levels. Students who spent more time on wound care education, such as technical degree students, displayed more confidence in wound care skills and prevention strategies than undergraduate nursing students (Ousey et al., 2013).

### **Summary**

As evidenced in the review of the literature, there is a general consensus of a lack of knowledge related to wound care among undergraduate nursing students. However, these students have a high confidence level of preventing wounds, and report an awareness of the importance of their roles as nurses to maintain skin integrity and practice wound prevention techniques. The lack of knowledge among nursing students and medical students could be explained by limited time allotted to wound care education within the nursing education curriculum. Given the time constraints on nursing faculty, a variety of teaching methods (focused, multiple strategies, and combined) should be used to ensure that meaningful learning takes place with a maximum retention of knowledge.

There is a gap in the literature related to the learning experiences that undergraduate nursing students have related to wound care. Although nursing programs follow a curriculum, each student will have a different experience with learning. This difference is especially true in

nursing education. All students may be exposed to the same information presented in a classroom, but each individual brings his or her life experience to the educational platform and perceives learning in a different way. Each student is likely to have a unique clinical experience due to the diversity of clinical agencies and clinical experiences with patients and practicing nurses (Gaberson & Oermann, 2010). Thus, further exploration of the experiences of education of nursing students in regard to wound care is critical. Nurse graduates are expected to provide competent care for increasing numbers of patients with wounds, and this expectation begins with a complete understanding of the best way to educate nursing students to provide this care.

The brevity of the literature review further emphasizes the need for additional knowledge in the area of undergraduate nursing students' learning experiences, especially regarding how education is influenced by life experiences and immersion in clinical nursing practice in the wound care field. Finally, these areas need more emphasis to advance the literature as related to teaching/learning strategies, knowledge levels, and confidence levels of undergraduate nursing students.

### 3. RESEARCH DESIGN AND METHODOLOGY

The focus of chapter three is on the research design, methodology, and rationale for a phenomenological approach to this study. A phenomenological approach allowed the researcher to gain an understanding of the experience of learning wound care as an undergraduate nursing student, and the students' perceptions of their readiness to care for patients with wounds. This project was limited to a small number of undergraduate nursing students in a baccalaureate degree program in the state of Alabama. The goal of the project was to gain knowledge about students' experience of learning about wound care and, subsequently, how prepared they felt to care for patients with wounds. This chapter will also discuss the interview protocol that guided the researcher during data collection and analysis.

#### **Conceptual Framework**

##### **Qualitative Design**

A qualitative research design was appropriate for this project, because of the research goals. Qualitative methods captured data that reflected the participants' individual experiences, interpretations, and meanings of learning wound care, as an undergraduate nursing student and the impact these factors had on perceived preparedness. Research methods in qualitative inquiry allowed for a contextual, in-depth investigation of the human experience to better understand how individuals shape, create, and derive meaning from their experiences (Creswell, 2009; Polit & Beck, 2008).

The flexible design of qualitative research allows for changes that occur during the course of the study. The work of qualitative research is performed within the setting of the

phenomenon of interest, with changing and evolving questions and procedures. Data are collected from participants, and the researcher considers the data, searching for themes and meaning for a deep understanding using inductive analysis (Polit & Beck, 2008). Inductive analysis is the process of multiple readings and interpretation of the data to generate ideas about research findings.

### **Phenomenology**

Phenomenology has gained popularity among nurse researchers in nursing practice and education (Rapport & Wainwright, 2006). Nurse researchers may be able to relate to a phenomenological research approach because nursing and phenomenology have parallel frameworks in approaching people (Balls, 2009). Understanding people, perceptiveness, and the relationship to their experiences are common to nursing and phenomenology (Balls, 2009). Phenomenological inquiry provides nursing with a valuable tool to shape and change practice to improve the care of patients (Dinkel, 2005).

Phenomenology allows the researcher to study a small number of individuals as they relate their lived experiences in extensive, direct interactions. Through these interactions, the researcher can accurately describe the phenomenon, as well as identify patterns and meanings that emerge (Moustakas, 1994). The goal of phenomenological research is to develop knowledge and understanding of the contextual meanings of a phenomenon through primary descriptions of those who have experienced it (Moustakas, 1994).

Of note is that this study is not a pure phenomenological study. The researcher created an adapted phenomenological approach that sought to solicit individual experiences and, at the same time, introduced Benner's (2001) theory as a useful mechanism for discussing learning in the nursing context. Benner's theory is used often in nursing literature to understand the

evolution of the nurse from beginner novice to expert clinician. This study has important implications about how nursing students perceive themselves along the novice-to-expert continuum; thus Benner's theory was appropriate for discussions of this topic.

### **Methodology**

The proposed study was made up of a purposive sample group of senior-level undergraduate BSN students. To be included in the study, the students needed to be enrolled in a BSN program at the senior level and have completed nursing courses and clinical experiences in which they would have learned about wound care. The students were asked to discuss their experiences with learning about wound care and their perceived preparedness to care for patients with wounds.

Using an interview schedule, the researcher conducted two one-on-one, semi-structured interviews per participant. The interviews took place in a mutually agreed upon location. Each interview lasted for 60 to 90 minutes and focused on participants' experiences of learning about wound care. Participants agreed to have interviews audio recorded for subsequent transcription. The researcher made analytic memos following each interview and directly transcribed the interviews. The participants were asked to review their respective transcribed interview and identified themes for member checking. The researcher then answered the research questions through general inductive analysis and thematic representation, and established a common understanding and meaning of the themes that emerged from individual experiences.

### **Recruitment and Selection**

The research plan was submitted to the Institutional Review Board (IRB) for approval to conduct the study. After obtaining IRB approval, a letter (Appendix A) explaining the research project was sent to the dean of the nursing program. The letter outlined the research topic,

discussed the goals, aims, and purpose of the study, and provided contact information for the researcher (cell telephone number and email address). The letter described inclusion and exclusion criteria of possible participants, and requested that information regarding the study be distributed to students who fit the inclusion criteria. A follow-up letter (Appendix B) was sent to the dean of the nursing program one week after the initial inquiry request letter to ensure receipt of the letter and distribution of information to appropriate students and encourage participation.

Students who chose to participate in the study were instructed to contact the researcher directly via email. Potential participants emailed the researcher, and each one was asked to verify his or her status as senior nursing students. Participants were also asked to verify nursing courses taken that covered wound care in the classroom and clinical experiences. To participate in the study, students must have met these inclusion criteria.

The students were informed of the aims and goals of the study during the initial face-to-face contact. Those students choosing to participate in the study were asked to sign an informed consent form (Appendix C), which outlined the study and assured the participants that their rights would be protected. Students had the option to withdraw from the study at any time.

### **Description of Study Participants**

Eleven participants responded to invitations to take part in the study; however, one respondent decided not to participate. The remaining 10 participants met the inclusion criteria, and were interviewed for the study. The participants were students in the nursing program in which the researcher is employed, but none of the participants were current or former students in classes taught by the researcher.

After each participant agreed to take part in the study and inclusion criteria were met, participants were interviewed during two face-to-face meetings for 60 to 90 minutes by the

researcher. The secondary interviews took place three to five days after the initial interview. Participants were interviewed at the university in either a private office or conference room.

There were 92 students in the senior cohort from which the participants represent. These students had taken and successfully passed courses in four of five semesters in the nursing program. Courses taken by the students included didactic nursing courses in the classroom and nursing courses with clinical components focused on nursing care of patients across the lifespan. All 10 participants related experiences with learning about wound care in the classroom and had experience with caring for patients with wounds in the clinical setting.

Table 1

*Demographic Data*

Participants	Age range in years	Gender-race	Level in program	First degree	Traditional vs. non-traditional student	Previous medical training/wound experience
One	20-30 yr	MW	Senior	No	Non-traditional	Yes
Two	20-30 yr	FA	Senior	Yes	Traditional	Yes
Three	20-30 yr	MW	Senior	Yes	Traditional	No
Four	31-40 yr	FW	Senior	No	Non-traditional	No
Five	20-30 yr	FW	Senior	Yes	Non-traditional	No
Six	51-60 yr	MW	Senior	No	Non-traditional	No
Seven	20-30 yr	FB	Senior	No	Non-traditional	Yes
Eight	20-30 yr	FW	Senior	Yes	Traditional	No
Nine	20-30 yr	FW	Senior	Yes	Traditional	No
Ten	20-30 yr	FW	Senior	No	Non-traditional	No

*Note.* M = male; F = female; W = white; B = black; A = Asian; Traditional student = student pursuing first college degree, immediately following high school; Non-traditional student = student pursuing second or greater college degree or first college degree at an older age.

## **Sample Size, Setting, and Access**

The decision to focus this study on senior-level BSN students from a university in the southeastern United States was based on the following: (a) student knowledge level of nursing care at this level of undergraduate education; (b) researcher interest, affiliation, and familiarity with the university and nursing curriculum; (c) ample number of participants available with expected wound care experience; (d) the researcher's personal interest and past clinical experience of wound care and caring for patients with wounds.

A purposive sample was chosen for this study to capture data directly related to the research problem to answer the research questions. Purposive sampling is a method within phenomenology in which the researcher chooses participants who have previous knowledge of the phenomenon under study to share this knowledge (Streubert & Carpenter, 2011).

The researcher intended to have a target sample size of 10 to 12 participants. This sample size aligned with the typical number of participants used by phenomenologists (Polit & Beck, 2008). Once individuals agreed to participate, and study inclusion criteria were confirmed, one-on-one semi-structured interviews were conducted. A second interview was planned with each participant for extended responses and to follow up on concepts or ideas that needed further clarification by the researcher.

Access and entry for the study were negotiated with the dean and other administrators of the nursing school. There were no issues with gaining access to this institution, as it was known to the researcher, and a pre-existing rapport had been established between the researcher and administrative faculty. The university is classified as an R2 research university by the Carnegie Classification of Institutions of Higher Education, and encourages scholarly research.

## **Interview Protocol**

Interviewing is a technique that generates rich data by gaining access to the participants' worlds to capture their understanding of experiences in their own words (Marshall & Rossman, 2011; Streubert & Carpenter, 2011). According to Streubert and Carpenter (2011), "...participation in the interview process improves the accuracy, trustworthiness, and authenticity of the data" (p.90). Conducting in-depth interviews allowed the researcher to meet the objectives of the study by questioning students about their experiences in learning about wound care, and their perceptions of preparedness to care for patients with wounds.

The researcher developed an interview protocol following interview guidelines in Kvale and Brinkmann's (2009) book, *Interviews: Learning the Craft of Qualitative Research Interviewing*. Kvale and Brinkmann (2009) consider research interviews to be a conversation between researcher and participant, using the conversation as a structured way of discovering purpose. Further, interviews are a means to the acquisition of knowledge, with the researcher and participants as co-constructors of knowledge (Kvale & Brinkmann, 2009).

The interviews were semi-structured, using a guide that structured the course of the interviews. The guide contained an outline of topics to be covered and specific questions designed to elicit dialogue about learning experiences and how the students made meaning of those experiences. The intent of the questions was explained to the students upfront, so that the students fully understood the purpose of the line of questioning.

The interview guide and questions were developed after a comprehensive review of the literature and review of Benner's Novice to Expert Theory (Benner, 2001). The researcher gained insight into the evidence available regarding practicing nurses' knowledge and confidence levels in caring for patients with wounds. Considering this theory was important to

because it submits that nurses develop skills and understanding of patient care over time, building on a strong educational foundation and experiential learning.

As previously stated, Benner (2001) proposes that nurses acquire and develop clinical competence in stages on the continuum of novice to expert. The proficiency level of the nurse occurs in five stages. The five stages include novice, advanced beginner, competent, proficient, and expert (Benner, 2001). The researcher used this theory to guide research questions related to clinical proficiency as a result of nursing education.

The Novice to Expert Theory allowed the researcher to develop a protocol that elicited information from the students about their perception of their own clinical proficiency in wound care along a continuum. Benner (2001) describes each stage using the level of experience the individual with the content and context in which they are to perform. The individual develops proficiency and confidence as each stage is realized. The interview protocol included questions in which the participants were able to reflect on their educational experiences to evaluate their perception of clinical proficiency and competence to undertake the care of patients with wounds in a professional capacity.

### **Data Collection**

As previously described, the researcher and participants met face-to-face for each of the two interviews. At the time of the initial interview, participants were asked to sign an informed consent (Appendix C). The informed consent included consent to be audiotaped and use of demographic information (Appendix C). Demographic information collected included gender, age, and student classification. Additional information about the students' undergraduate curriculum was collected to gain a better understanding of the undergraduate course of study at this college of nursing.

The participants were given an explanation of the research project before the start of the interview. The researcher ensured that the students understood the purpose and project goals. Each participant was allowed to ask any questions necessary to clarify any aspect of the study. The participants were informed that a follow-up interview would be conducted to resolve any questions or to gain a better understanding of identified themes.

The researcher explained the interview process to the participants. Each interview lasted for 60-90 minutes (Appendix C). Among qualitative researchers, this time frame is considered a sufficient amount of time to allow participants to reconstruct their experiences, contextualize them in their lives, and reflect on how they make meaning of the experience, without either party losing interest (Glesne, 2011; Seidman, 2013). The time between the two interviews ranged from three days to one week. This timeframe allowed both the researcher and participant to think about the previous interview without important connections becoming lost (Seidman, 2013).

The interview process provided the researcher with a means to data saturation. Data saturation is achieved when no new themes or elements emerge from interactions with the participants, and the data begins to repeat (Streubert & Carpenter, 2011). The participants were given the opportunity to review identified themes through member checks and interview transcripts. Member checking involves a sharing of data collected with participants (Marshall & Rossman, 2011). Participants did not report any discrepancies in the interview transcripts.

### **Interviews**

Phenomenological interviews allow the researcher to explore personal experiences of individuals to find meaning and a deeper understanding of a phenomenon (Mapp, 2008). Through audiotaped interviews and participant observation during the face-to-face interviews, a

rich picture of undergraduate senior nursing students' experiences with learning about wound care was constructed.

Senior-level undergraduate baccalaureate nursing students were interviewed and shared educational experiences and perceptions during two face-to-face interviews. Using semi-structured interviews, the participants were asked to describe their perceptions of what wound care is and how their educational experiences have framed their perceptions of wound care in professional nursing practice. Data were collected from participants by the researcher and were analyzed inductively from broad information to thematic representation.

### **Data Analysis**

The process of data analysis allows the researcher to make sense of the data collected (Creswell, 2009). This *making sense* allows for the building of empirical knowledge and a deeper understanding of the phenomenon by the researcher (Corbin & Strauss, 2008). Creswell (2009) refers to data analysis as an “ongoing process involving a continual reflection about the data” (p. 184). In this study, data collection and analysis took place concurrently. Data analysis for this project began during the data collection phase of the project, and continued as the project unfolded. As the researcher began to interact with participants and listen to their descriptions of the phenomenon under study, the process of data analysis began (Lincoln & Guba, 1985; Streubert & Carpenter, 2011).

A general inductive data analysis was used for the project. According to Creswell (2009), “the process of data analysis involves making sense out of text and image data” (p. 183). In preparing collected data for analysis, using a variety of analyses allows the researcher to move to a deeper understanding of the data to represent and interpret the meaning of the data (Creswell,

2009). Each interview was audiotaped, transcribed, organized, and analyzed to identify codes and themes to understand and interpret the meaning of the data collected.

During the interviews, the researcher made hand-written notes and analytic memos that were typed after each interview to capture the researcher's thoughts and impressions from the interview. The researcher reflected on the interview to gain personal insight into how these thoughts and impressions may have influenced interpretations of the data. The interviews were transcribed by the researcher as soon as possible following the interviews.

Creswell (2009) describes data analysis in qualitative research as a series of steps that move from specific to general, using multiple levels of analysis. The researcher used these steps to analyze the data. First, the raw data, including transcripts, field notes, and other analytic memos were organized and prepared for analysis. Then, the researcher read the data multiple times to gain an appreciation of the information and general reflection of the ideas that were conveyed by the participants, while looking for similarities among the participants' statements.

A general inductive data analysis was performed, including coding, categorizing the codes, and placing codes into emergent themes. The broad and focused research questions were used to guide the review of the transcripts to identify significant participant statements and meaningful descriptions. Creswell (2009) described coding as a process of organizing the information into categories to develop a general meaning of each category. Codes were identified and placed into categories, and themes emerged. Themes that emerged were (1) life experiences, (2) teaching/learning strategies, (3) basic knowledge, (4) immersion in practice, (5) confidence, and (6) importance of wound care.

### **Trustworthiness/Validity of the Study**

To ensure rigor in qualitative research, the results were deemed valid and reliable as measured by criteria to judge the integrity of the study (Marshall & Rossman, 2011). Validity for this study was achieved through multiple mechanisms. Each transcript was examined for any obvious transcription errors. Subsequently, the transcripts and identified themes were e-mailed to the participants to ensure accuracy (Creswell, 2009). The participants were asked to verify that the transcripts and themes were truthfully represented. Four of the 10 participants responded by e-mail that the transcripts were accurate in content, and three pointed out typographical errors made during the transcription. The remaining six participants did not respond to the e-mail.

Upon completion of the general inductive analysis and thematic coding, an experienced nurse researcher and educator, a member of the researcher's dissertation committee and a practicing nurse practitioner, was asked to review the findings, codes, and themes. This member of the committee was chosen based on experience in nursing education and because of her expertise as a nursing clinician. Codes and themes were reviewed and verified.

Finally, the researcher recognized personal bias that could impact the study. Whereas Husserl (1931) asserted that the phenomenological researcher should use bracketing as a way to ensure that personal feelings or assumptions did not affect data collection or understanding of the study, this idea was contested by Heidegger. When using a Heideggerian approach to phenomenology, the researcher uses his or her own experiences and knowledge to interpret the data (Heidegger, 1962; Mapp, 2008). A self-reflection of the researcher's interpretation of the findings and how these interpretations are shaped by personal experience and knowledge is a common practice in qualitative research (Creswell, 2009). Positionality of the researcher within the study described the researcher's knowledge base of and experience of caring for patients with

wounds and the teaching of nursing students about wound care and further explored these issues using analytic memos.

### **Ethical Considerations**

This study anticipated that there would be minimal risk to the participants. Sensitive information was not solicited, and there was no expectation of emotional discomfort related to the subject matter. Information shared with the researcher was not disclosed in any way that could be connected to individual participants. The participants were undergraduate nursing students, but their grades were not affected by the decision to participate in or withdraw from the study.

Informed consent forms and other identifying information were kept confidential. A coding system was used to protect the identity of participants, and it will be destroyed in five years. Participants were given a copy of the informed consent at the time of the interview, and will be given access to a copy of the study upon request. Participants were informed that they could withdraw from the study at any time without negative consequences. Compensation was not provided to the participants for taking part in the study.

### **Timeline**

The timeline was flexible to allow for the inevitable changes that could occur with phenomenological research. The goal for the project moving forward was to submit the proposal to the IRB for the University of Alabama and for the university in which the study will take place during the spring semester of 2016. Letters outlining the study were submitted to the dean of the College of Nursing and other administrators. Information regarding the study was sent via email to potential participants who met inclusion criteria. Interested potential participants were asked to contact the researcher directly to determine whether inclusion criteria were met.

Upon determining that the potential participant met the inclusion criteria, an interview was scheduled. The interviews and member checks continued through the spring semester of 2016. Transcription and data analysis was a continual task throughout the interview process. Final analysis and interpretation of data were completed during the summer semester of 2016. Final defense of the dissertation took place in the fall semester of 2016.

## 4. FINDINGS

### **Introduction**

In this chapter, findings from a thematic breakdown of the data obtained from exploring undergraduate nursing students' experiences with learning about wound care are described. The findings allowed the researcher to better understand experiences of undergraduate nursing students in learning about wound care.

### **Research Questions**

There were three broad and four focused research questions the researcher answered throughout this analysis. The broad questions are (1) How do undergraduate nursing students describe or define their experiences with learning about wound care? (2) How do undergraduate nursing students understand their wound care education to impact their future ability to care for patients with wounds? (3) How do undergraduate nursing students' descriptions and understanding of wound care affect their perceptions or understanding of nursing roles?

The focused research questions include (1) How do undergraduate nursing students say their experiences with learning about wound care impacts the ways in which they will approach the care of a patient with wounds? (2) How do undergraduate nursing students feel their experiences with learning about wound care have developed their perceptions of caring for a patient with wounds? (3) How do undergraduate nursing students relate that their experiences with learning about wound care have impacted their perceptions of the importance of preventing wound development in patients? (4) How do undergraduate nursing students relate their clinical proficiency to perform wound care as a result of their nursing education experience?

## Research Questions and Thematic Alignment

The research questions and emergent themes, or common ideas described by the participants, guided the study to analyze the data. The previously identified emergent themes were not considered in any hierarchical order by the researcher, with one theme having more importance than another. The emergent themes are intertwined and align with more than one of the research questions.

Table 2

### *Thematic Outline*

<b>Themes</b>	<b>Meaning</b>
<b>Life experiences</b>	Personal life experience with wound care. Some had previous personal experience outside of nursing school. Further divided into <i>student differences</i> .
<b>Teaching/learning strategies</b>	Strategies used to facilitate learning for the student by faculty/nursing curriculum. Faculty-facilitated strategies: classroom-lectures; clinical strategies: low-fidelity simulation, acute care clinical agencies; independent learning: reading assignments.
<b>Basic knowledge</b>	Surface level information expected for a generalist nurse graduate. Further divided into <i>time constraints</i> . Specific knowledge related to wound healing/treatments excluded in educational experience.
<b>Immersion in practice</b>	Clinical experiences in acute care facilities working with practicing nurses who are caring for patients with wounds. Some had more experiences than others due to <i>time constraints</i> .
<b>Confidence</b>	Confidence with clinical ability to care for patients with wounds. Confidence levels varied, but related to immersion in clinical practice experiences.
<b>Importance of wound care</b>	Increased awareness of the magnitude of wound care, the prevention of wounds in healthcare, and impact on patient outcomes. Appreciation of the

The first research question, focusing on describing the students' experiences with learning about wound care, aligns with the themes of *life experience*, *immersion in practice*, *basic knowledge*, and *teaching/learning strategies*. The themes of *importance of wound care* and *confidence* align with the second research question, which asks students how the wound care education they received will impact their future ability to care for patients with wounds. The final broad research question asks students how their understanding of wound care affects their perceptions of nursing roles. This research question aligns with four of the emergent themes: *basic knowledge*, *immersion in practice*, *confidence*, and *importance of wound care*.

The four focused research questions align with the emergent themes throughout the data. The themes of *life experience* and *importance of wound care* are aligned with the first focused research question. This question asks how nursing students feel their learning experiences impact the ways in which they will approach care of a patient with wounds.

The second focused research question relates to how undergraduate nursing students feel that learning about wound care has developed their perceptions of caring for a patient with wounds. This question aligns with the theme of *immersion in practice*. The third focused research question asks how undergraduate nursing students relate that their experiences with learning about wound care have impacted their perceptions of the importance of wound prevention in patients. The themes of *teaching/learning strategies* and *immersion in practice* align with this research question. The final focused research question asks how undergraduate nursing students relate their clinical proficiency to perform wound care as a result of their

nursing education experience. The themes of *basic knowledge* and *confidence* align with this question, but the data suggest that a subtheme of *time constraints* also emerges.

Table 3

*Research Questions and Thematic Alignment*

<b>Broad research question</b>	<b>Theme</b>
How do undergraduate nursing students describe or define their experiences with learning about wound care?	Life experience Basic knowledge Teaching/learning strategies
How do undergraduate nursing students understand their wound care education to impact their future ability to care for patients with wounds?	Importance of wound care
How do undergraduate nursing students' descriptions and understanding of wound care affect their perception or understanding of nursing roles?	Basic knowledge Immersion in practice Confidence Importance of wound care
<b>Focused research question</b>	<b>Theme</b>
How do undergraduate nursing students say their experiences with learning about wound care impact the ways in which they will approach the care of a patient with wounds?	Life experiences Importance of wound care
How do undergraduate nursing students feel that their experiences with learning about wound care have developed their perceptions of caring for a patient with wounds?	Immersion in practice
How do undergraduate nursing students relate that their experiences with learning about wound care have impacted their perceptions of the importance of preventing wound development in patients?	Teaching/learning strategies Immersion in practice
How do undergraduate nursing students relate their clinical proficiency to perform wound care as a result of their nursing education experience?	Basic knowledge Confidence <ul style="list-style-type: none"> <li>• Time constraints*</li> </ul>
* Subtheme	

## **Research Protocol**

Phenomenological research aims to explore lived experiences of individuals related to some given phenomena. A phenomenological approach to this study allowed the researcher to gain an understanding of the participants' experiences with learning about wound care in an undergraduate nursing program and how the experiences influenced the participants' perceptions of wound care and confidence in caring for patients with wounds.

## **Themes**

Participants who were interviewed for the study were initially asked to describe what things come to mind when the terms "wound care" or "wound management" were presented. The participants were also asked a number of questions relating to the process of learning about wound care in the undergraduate nursing program. Finally, participants were asked to relate their perceptions of wound care in professional nursing practice and the level of confidence they have in providing care to patients with wounds based on personal educational experiences.

The narrative data collected from the interviews was examined after multiple readings of transcripts and review of audio recordings and the emergent themes were integrated throughout interview transcripts. Each theme was examined throughout the analysis to allow a more complete understanding of the significance of learning experiences of the participants.

## **Thematic Breakdown**

The themes that emerged from the data were integrated throughout both of the interviews with the participants. Some of the primary themes were sub-divided into related minor themes that were common among the participants. The researcher found thematic consistency across the interview data. Participants shared mixed experiences even though all were in the same level of the nursing program. Participants' individual experiences were more closely examined and

expanded on in the follow-up interviews after the researcher had time to review and reflect on the audio-recorded interviews and transcripts.

The thematic breakdown that follows includes personal statements by participants during the interviews as examples of individual experiences. The participant statements are followed by the researcher's perspective to build a rich description and better understanding of how learning experiences shape wound care education and participant meaning of their experience. This approach to thematic representation allows one to follow the participants' descriptions and perceptions of experiences and understand how experiences shape the ways in which the participants view the role of a professional nurse in caring for patients with wounds. The researcher's insights further describe the impact that wound care education has on individuals as students and professional caregivers.

The thematic breakdown continues with the theme of *teaching/learning strategies*. Participant statements are selected to exemplify the experiences identified. *Basic knowledge nurse* and *immersion in practice* are the next identified themes. These themes are both divided into *time constraints*, which is discussed as time constraints in classroom teaching and in clinical learning experiences. The final themes are *confidence* and *importance of wound care*. These themes give participants' representations and understanding of how learning about wound care impacts their ability to transfer experiences into nursing practice.

### **Theme: Life experiences**

Many of the participants indicated that life experiences influenced their wound care learning experiences. Some participants related that they had personal experiences with wound care before becoming nursing students. Previous life experiences seemed to impact the ways in

which the participants viewed education and learning, in general, or the ways in which they approached caring for patients with wounds.

The participants described life experiences as having an effect on their perceptions of learning experiences and the value of wound care education. Hence, life experiences provided a base upon which knowledge was built. Participants recognized how personal past experiences impacted their individual learning experience related to wound care, whether they had direct wound care experience or not. “I think it [experience] helped a little more, even though some of the wounds that I dealt with [previously]...are on a different level than what I see in clinical” (Participant Seven, May 9, 2016). The lack of personal experience with wounds also influenced participants’ experiences, particularly with respect to expectations. “Coming in [to nursing school], I didn’t have any expectations just because I didn’t really think about wounds” (Participant Nine, May 11, 2016). The theme of life experiences produced the subtheme of *student differences*. A definition of these subthemes is provided to gain perspective into the participants’ statuses as college students.

A traditional college student is generally accepted as a person who pursues higher education immediately following graduation from high school, and is usually in the age range of 17 to 19 upon enrollment in a college or university. A non-traditional student is one who does not fit criteria based on age or previous educational experiences. In this study, most participants classified as traditional college students had limited life experiences and, therefore, had little insight into the significance of wound care education.

Participants characterized as non-traditional students more readily identified *life experiences* and *student differences* as having meaning in their learning experiences. “I went back to school after being out for a while, so maybe I expect more out of what I’m doing because

I am paying for it by myself, for myself” (Participant Four, April 17, 2016). These participants distinguished the relational differences between themselves and their traditional classmates in the value placed on education and in the ways in which life experiences shaped their educational experiences.

Participants classified as non-traditional students related wound care learning experiences to previous personal experiences to understand how these experiences shaped their perceptions of nursing care and how patients are impacted by the care they will provide.

I had to learn wound care because I was in an accident...They [doctors] had Western medicine. My parents also had Eastern medicine...I think it has changed my perception because I thought Western medicine is allopathic...Now it's like, going through the courses and the personal experiences, it depends on where the person is...they may not heal very well. (Participant 2, April 6 & April 11, 2016)

Participants classified as traditional students had varying degrees of previous wound care experience. Some participants had personal experiences with wounds and others did not. These participants regarded life experience or lack of life experience as a factor in their learning experiences. Those with personal experience with wound care before nursing school were able to make connections between their own background and wound care content and situations encountered in nursing school. Participants with limited life experience felt less connected to the wound care learning experiences.

### **Theme: Teaching/learning strategies**

The second emergent theme is *teaching/learning strategies*. Participants in this study described many of their learning experiences as a combination of methods to achieve a deeper understanding of wound care principles. Experiences of the participants echoed the findings of

the literature related to effective learning. Participants identified a number of teaching and learning strategies that impacted their wound care learning experiences.

Strategies identified by the participants included (1) classroom lectures, (2) assigned readings from textbooks or other resources, (3) wound care simulations, and (4) clinical experiences in health care facilities. Classroom lectures were described as traditional didactic classroom teaching encounters with nursing faculty. Lectures were classroom instruction using PowerPoint presentations of wound content. Reading assignments about wound care from nursing textbooks were used as an adjunctive resource for students to be done independently outside of class. Participants agreed that lectures and textbooks were helpful in the introduction of knowledge. “I got a little bit more description of the different treatments in the book versus an overview in lecture. So, if I was wanting to read a little more in depth, I can do that in the book- or sometimes online” (Participant Five, April 20, 2016). Many of the participants expressed that learning was enhanced by the use of visual aids, such as photos and videos, to teach wound care concepts. “I’m more of a visual learner...I learn better with videos, but that could be anything, not just wounds” (Participant Three, April 15, 2016).

Clinical instruction of wound care and management included wound care simulations in the clinical laboratory at the College of Nursing and clinical experiences in acute care hospitals. Wound care simulations were limited to a group-type activity on low-fidelity task trainers. Students were given an opportunity to perform wound assessments and dressing changes on manikins. Participant Nine describes a simulation experience,

It was one on one, so I had to do it by myself...we had to do a dressing for a wound, and I actually didn’t know how to do it, so I did what I thought would be the best way. They

[instructor] went over how to do it, so that was helpful. I had no idea how to do a wet-to-dry dressing, so that was pretty helpful. (May 11, 2016)

Students were also paired with clinical instructors or staff nurses during clinical experiences in the hospital. They performed assessments and wound dressing changes on actual patients who had wounds. Participant Ten recalls her first experience with a dressing change on an actual patient:

I have a queasy stomach with wounds. I do not do wounds, so when my instructor came and got us and said we were going to look at a wound vac...I was like I'll just stay here...but once she got it out and she was explaining it to us and showing us...it became very interesting to me. Once I started to be able to learn about it, instead of just stand there and watch it, it became less of an I'm going to be sick moment. (May 10, 2016)

Moving into a learning mode helped this participant overcome her anxiety and intimidation of the situation.

Participants were asked how these strategies affected their knowledge development and clinical abilities to care for patients with wounds. Participants had varied experiences and perceptions of how the combination of teaching/learning strategies influenced their individual learning. Participant Five was able to see how the combined teaching/learning strategies were beneficial in giving students a more complete picture of wound care.

I think they all kind of worked together really well. You need to learn about the different types of wound care in lecture, and then practice different types of dressing is simulation and actually seeing wounds is different from all of them when you are in clinical. They all kind of go together. (Participant Five, April 20, 2016)

This statement shows that Participant Five was able to make a connection between theory in the classroom and practice in the clinical setting.

### **Theme: Basic knowledge**

*Basic knowledge* was the third emergent theme, and was representative of the basic knowledge needed to become a generalist nurse. All participants shared a common sense of wound care preparation to move to a professional role of registered nurse. Participants described their wound care education as adequate for the expectations of a generalist nurse.

Up to this point, just having been exposed to what is expected of nurses, or at least to some extent what is expected of nurses with respect to wound care...I think that I've had exposure. I feel like I'm at the very beginning of learning really how to do wound care... I haven't had a lot of practice, and I haven't seen that many kinds of wounds. (Participant Six, April 21, 2016)

For the most part, their feelings of preparedness were consistent with the expectations of the *Essentials of the Baccalaureate Education for Professional Nursing Practice* (AACN, 2008).

While participants generally felt their nursing education was sufficient for basic care of patients with wounds, they reasonably acknowledged the limitations they had as novice nurses. I'm going to put myself as a novice just because frankly, especially when I get my license and I get my first job...we've all got a lot to learn, no matter what. Even if I'm confident enough to do the little things, I've still got a long way to go. (Participant One, April 4, 2016)

These students had a positive outlook on the education they received about wound care and management. The majority of participants were realistic about their abilities and admitted that

they knew they had much to learn moving forward as professional nurses related to wounds and the care needed to ensure positive patient outcomes.

A subtheme of *time constraints* was identified within the theme of *basic knowledge*. The participants agreed that content saturation within the nursing curriculum was a barrier to the amount of wound care experience received. Participant Three reflected on the amount of time spent on wound care in the clinical setting:

I learn more from repetition, so if I could do it like a couple of times in a row I would get it better, but you can't really ask for that in clinical. I would like more exposure, but I'm not sure how you could do that. (Participant Three, April 7, 2016)

The students understood that the vast amount of information needed for one to learn within the discipline of nursing did not allow educators to teach in any one area beyond the extent of basic knowledge for a generalist nurse. Further, it was noted that within the realm of acute care nursing, there is a need for registered nurses to have a more advanced skill level for complicated wounds. Baccalaureate nursing education prepares nurses to be generalists (AACN, 2008), therefore, it is beyond the scope of this level of education to provide specialty training in an area such as wound care.

### **Theme: Immersion in practice**

The theme of *immersion in practice* emerged as participants described experiences with wound care taking place in the clinical setting under the supervision and guidance of a practicing professional nurse or a clinical nurse educator.

The most interesting things I've had happen have happened in the hospitals, where I've gotten to see some really interesting wound care. I really learned a lot about wound vacs in the hospital and talking to people... practitioners, nurses, maybe a physician about

why they're being used in a particular way. I think I learned probably more just from those experiences than most of what I got in the classroom with respect to it. (Participant Six, April 21, 2016)

The wound knowledge and skill level of the professionals the participants worked with varied. Participants were paired with both expert wound care nurses and nurses with less experience or nurse educators. Participant Six described such an experience, "I guess one could get the feeling that wound care wasn't really anybody's thing" (April 21, 2016).

Regardless of the level of expertise of the mentoring nurses, the participants reported that immersion in clinical practice was a valuable experience in learning about the treatment and management of wounds in a true patient care setting. Yet, not all participants spent the same amount of time in clinical practice with a professional nurse, further dividing this theme into the subtheme of *time constraints*.

Although some participants described several experiences with practicing nurses related to wound care activities with patients, others felt they had not had enough time to spend with clinicians who had wound care expertise. Their experiences ranged from multiple opportunities to participate in hands-on care of patients to a few engaging encounters in which they were allowed limited skill practice or only able to observe the wound care treatments by the mentoring nurse.

Wound care was something we practiced, but it was kind of like a one, or two-time thing.

When we go into the skills lab, they don't bring wound care skills back up. It was just kind of a one and done thing. (Participant Seven, May 2, 2016)

The perceptions of time spent in wound care learning experiences impacted the participants' feelings of confidence in their nursing abilities.

### **Theme: Confidence**

The next emergent theme identified was the participants' perceptions of their confidence in clinical abilities related to the care of patients with wounds. The confidence levels among participants indicated a relationship between the experiences of immersion in clinical practice and amount of time spent in wound care situations.

I'm a very hands-on person, and, so, to be able to see and do in clinical is very beneficial to me...being able to see it and visualize somebody go through it. Like, that one time where we got to see the actual stages of the wounds heal. I think that was probably the most beneficial. (Participant 10, May 10, 2016)

The richer in detail and duration the experiences were, the higher the confidence levels the participants reported.

Benner's Novice to Expert Theory (Benner, 2001) was explained to the participants, and they were given a description of each stage of clinical competence. During the course of the interviews, participants were asked to rank themselves as clinicians based on Benner's theory. Based on these criteria, participants identified the stage in which they placed themselves and gave reasons for why they fit into that category. Participant Five described

I feel like since we did have some experience in clinicals and things that I would be an advanced beginner. I feel like I understand the basic concepts and can go in and look at an order and provide adequate wound care for a beginner. (April 16, 2016)

The participant further explains,

I think that you don't gain the experience to go beyond that [advanced beginner] until you're actually working for a while in your work environment dealing with that on a

daily basis versus dealing with it once a week or twice a week. (Participant Five, April 20, 2016)

### **Theme: Importance of wound care**

The final emergent theme identified was the *importance of wound care*. This theme implied that participants' experiences were significant in shaping their perceptions of the impact wound care education and experience has on the outcomes of patient care. Participants felt their learning experiences impacted their understanding of how important wound care and management was in the course of the care of patients. Although individual clinical experiences varied, all participants had the same classroom teaching. A constant variable among participants was the knowledge gained related to the prevention of wounds.

Participants described learning about the prevention of wounds more than any other aspect of wound care and management. The participants were in agreement that this knowledge of prevention has been the most valuable to them in as far as how they will approach the care of all patients. Participant One explained,

I'll put it this way, it opened my eyes. I didn't realize that even little things, like a crease in the sheets, could cause skin shearing. It taught me to be more aware of the little things in taking care of a patient as a whole for wound prevention. (April 4, 2016)

The participants had a deep understanding of prevention techniques to keep patients safe from wound development, thereby ensuring safe, competent care as practicing professionals.

Participants accepted their limitations as novice care providers. They acknowledged that they will need help in the management and care of patients with wounds and understood the importance of collaboration with expert clinicians to provide appropriate care. Participants

shared experiences and perspectives of wound care in the interviews. Their personal representations and accounts of the emergent themes are recounted in the following section.

### **Participant Representations of Life Experiences, Impact, and Perceptions**

#### **Life experiences: Student Differences**

**Participant Experience: life experiences.** Nursing students bring life experiences to the academic setting, which can have a great impact on how they learn about wound care. The basic foundation of knowledge is either built upon or former ideas of care and management are dispelled if not in alignment with clinical practice guidelines.

Participant One shared that he was a non-traditional student with previous military training. His wound care experiences before becoming a nursing student included learning emergency combat first aid for soldiers with traumatic wound injuries. This wound care experience with extremely traumatic events shaped the way he viewed wound care. “Most of my focal point is from military service and training. It’s thinking about [wounds] more along the lines of wounds with gunshots, you know, IEDs (improvised explosive device) and that sort of thing” (Participant One, April 4, 2016).

The participant compared his experience of combat training with extremely traumatic injuries to the wound care learning experiences he had as a nursing student that exists along a continuum. In his experience, wound care ranged from “the immediate onset of trauma all the way to... a med-surg setting where you have pressure ulcers” (Participant One, April 4, 2016). The differences in the experiences of this student gave him a broad sense of what wounds mean in relation to a given situation. His life experience also made him keenly aware of the ways in which a professional nurse would respond in a given situation.

**Impact and perspective.** Participant One felt that his previous military experience had a positive impact on his wound care learning experiences. His life experience influenced his perceptions about wound care as a nursing student. He stated the following:

It depends on the severity of the wound...especially if it's life threatening. If they're bleeding out, like an arterial bleed, it's time critical and knowing to stop the bleeding is one of the most primary things in order to take care of a wound of that severity.

(Participant One, April 11, 2016)

He had unique insight into the severity of the traumatic nature of wounds, as well as a foundation upon which to build knowledge of more chronic wounds, such as pressure ulcers. He was better able to make decisions about care and management of patients with wounds depending on the severity of the wound.

**Participant experience: student differences.** When asked about how being a non-traditional student may have influenced the wound care learning experience, Participant Four stated the following:

I went back to school after being out for a while, so maybe I expect more out of what I'm doing, perhaps? For one, I am paying for it by myself, for myself. I'm not saying that they [traditional students] don't have a high standard for their education, but maybe because I'm older, I want to get more out of it maybe? (Participant Four, April 17, 2016)

**Impact and perspective.** Participant Four's non-traditional perspective on education shows that these students are invested in the quality of the content of the education they receive and have high expectations for learning experiences. In discussing expectations from wound care education, Participant Four stated, "I don't think I had expectations going into it [wound care],

but then when I started having clinical experiences with it, I felt like it should have been something they discussed more heavily initially” (April 17, 2016).

Participant Four indicated that before an introduction to wound care in the nursing program, she did not have any particular expectations about the experience initially. However, as she gained more knowledge about wound care and management and encountered more clinical experiences, her expectations increased. This student recognized that she was a consumer of academia, and had high expectations for valuable experiences.

**Participant experience: student differences.** Participants that fit into the category of traditional students related that they had no previous knowledge of wounds or life experience upon which to build a knowledge base. These participants were surprised by the extent to which wounds could affect patients. One participant stated, “I had no idea about wounds like pressure ulcers. I had no idea before nursing school that elderly people lying in bed could get sores like that...I didn’t realize how easy it is for skin to break down” (Participant Eight, May 2, 2016).

Not only did Participant Eight express surprise by the reality of the high risk that patients in acute care clinical settings have for developing wounds, but her body language also seemed to indicate that she was disturbed by the rapid progression of wounds to a severe state in vulnerable patients. A noted concern was discernable in her tone of voice and facial expressions.

**Impact and perspective.** Traditional students found that they were apprehensive about wound care experiences due to a lack of life experience. Participant Eight recalled her first encounter with providing nursing care to a patient with a wound. “The first time, I was very slow doing it [wound care]. I was more timid because I didn’t want to make it worse. I had never touched a wound before” (Participant Eight, May 10, 2016). Again, the participant displayed a

physical reaction to the thought of causing harm to a patient even in the process of providing necessary wound care.

**Participant experience: life experience.** While traditional students may fit the definition by age characteristics, they also bring personal life experiences to nursing education that can have a profound impact on their wound care experiences. Participant Two was a traditional student who personally experienced wound care as a patient. She recounted her story as having impacted her wound care education experiences. She stated the following:

It has changed my perception because I thought Western medicine is allopathic- just throw medicine on it. Throw medicine on it and it will get better. Now it's like, going through the courses and the personal experiences, it's like it depends on where the person is. How their stress level is, their emotional response to things, their nutritional intake...It took me about two months to recover from my ordeal, and that's me at a very young age versus people who are adult age...where they have a lot of stressors on them and their health is not as fast and quick repairing as a kid. So, that made me think about that.

(Participant Two, April 11, 2016)

Participant Two reflected on what it was like to be a patient with a wound, and how she could use her own experience to improve the nursing care she will provide to patients in similar situations.

**Impact and perspective.** Participant Two's personal experiences also affected the way she understood the reparative process of wound healing and treatment options available. She stated that in addition to Western medicine, her parents incorporated Eastern medicine techniques into her treatment regimen. This combination gave her a unique perspective on the variety of ways in which wound care can be approached. She stated, "Sometimes, the best route

is the natural route...because it depends on where the person's health is overall and whether or not it would be as effective...Really, the Eastern medicine was the one that helped the most” (Participant Two, April 11, 2016).

### **Theme: Teaching/learning strategies**

**Participant experience: teaching learning strategies.** Participants shared points of commonality about their experiences with combined teaching/learning strategies. Participant Five described the learning strategies, “We learned about it [wound care] in class and we learned about it in simulation. We got to practice some wound care, and then in clinicals we got to do wound care in our first semester” (Participant Five, April 16, 2016).

When asked about wound care teaching and learning strategies and the benefits of each, Participant Five stated the following:

I think they all worked together really well. You need to learn about the different types of wound care in lecture and then practice different types of dressing in simulation and actually seeing wounds is different from all of them when you are in clinical. They all kind of go together. (Participant Five, April 20, 2016)

The student found both classroom lecture and clinical learning beneficial and interrelated experiences. Participant Five was able to make connections between teaching/learning methods and patient care. In other words, the student was able to translate knowledge gained into patient care and understand how the concepts learned apply to the care nurses provide.

**Impact and perspective.** The combination of teaching methods allowed students to connect theories learned in the classroom to practice in the clinical setting. Reading assignments were another tool used to help students make connections to more readily integrate knowledge

into practice. Participant Five reported that the textbook provided in-depth information with more details that supplemented the classroom lecture.

She described the textbook as enhancing her knowledge level in the following way:

I got a little bit more description of the different treatments in the book versus a kind of overview in lecture. So, if I wanted to read a little more in depth, I could do that in the book or sometimes online. (Participant Five, April 20, 2016)

The textbook provided a richer description and further explanation than was translated in the classroom setting. Further, the student was able to use the textbook as a resource to find other sources of information related to wound care if she had questions or a particular interest.

**Participant Experience: teaching/learning strategies.** Participant Seven had mixed feelings about the combined teaching/learning strategies employed. She felt that classroom lectures and simulations were brief and did not include as much content as she might have expected. Her simulation experience was not as focused on wound care as it was for other clinical skills. She explained, “We did some wound care exercises [in simulation] like going in and checking [wound] depth and measurements, but that was it. It really didn’t stick with me like everything else” (Participant Seven, May 2, 2016).

The idea of knowledge not “sticking” translates to knowledge decay. The brevity of time spent on wound care in the classroom and simulation led to an inability to practice skills to the extent this student needed. As a result, the knowledge and skills were lost.

**Impact and perspective.** Participant Seven described her simulation experience of being tested on clinical skills such as intravenous line insertion and injection administration using a skills validation by faculty, but she did not have one for wound care skills. She seemed to feel that this was a shortcoming of her learning experience, and perhaps she would have gained more

clinical skills if she had been required to perform wound care validation for faculty. She stated, “Wound care was just something we practiced. It was like a one or two-time thing. It was just kind of a one and done thing” (Participant Seven, May 2, 2016).

Participant Seven related a positive learning experience and a subsequent deeper understanding of wounds and wound care to textbook reading assignments. When asked about why the textbook was meaningful to her learning, she stated the following:

It [textbook] went into detail. I’m detail-oriented. I want to know why are we doing this or why is it this way? I’m also a visual learner, so it helped with pictures. When I read it and then there was a picture, I could look at that and see what they were talking about and what I needed to look for. It was just helpful to read it and have something to go back to. If I forget, I can go back and see it again. I loved the book. (Participant Seven, May 9, 2016)

The participant seemed to be able to apply knowledge learned from combined learning methods to better understand the delivery of wound care to patients and critically think to make sound clinical decisions. Although the participant felt the book was her main source of information about wound care, there was evidence of the student’s ability to draw from knowledge gained from reading the textbook and apply it in the clinical simulation and to clinical experiences in the acute care setting.

**Participant Experience: teaching/learning strategies.** Participant Nine stated that of the combined teaching/learning strategies used in wound care education, the most beneficial experience was in the clinical settings. This participant found great value in both clinical simulation and in acute care clinical facilities in providing care to actual patients. In recalling a particular example of a wound care simulation, she said the following:

There was one [simulation] that was pretty helpful...it was one on one, so I had to do it by myself—which was a little nerve racking. We had to do a dressing for a wound. I actually didn't know how to do it, so I did what I thought would be the best way, but they [clinical instructor] went over how to do it, so that was helpful. I had no idea how to do the wet-to-dry dressing, so that was pretty helpful. (Participant Nine, May 11, 2016)

**Impact and perspective.** This account of using clinical simulation with instructor feedback to solidify previous classroom learning seems to indicate that the student, while not comfortable or familiar with the technical requirements of the assigned task, was allowed to attempt the dressing change in her own technique and be guided by the clinical faculty to improve and better understand the procedure and implications for nursing practice.

This participant further described how a hands-on approach to learning was engaging and allowed a multisensory connection to classroom content:

For me, it was just more of seeing it rather than just hearing it. I'm more of a visual learner, so actually seeing a real person have this [wound] was more...I guess...it stuck with me better than just hearing about it in a classroom. And it was more hands-on rather than a teacher just telling me...actually getting to see the person, touch it, feel it, and take care of it [wound] was more helpful to me. (Participant Nine, May 11, 2016)

The ability to visualize a real wound and physically participate in the care of a patient with a wound gave the student a deeper understanding of how classroom teaching combines with clinical practice and provides lasting knowledge. The physical manipulation of *doing* was an effective wound care learning experience for this student.

### **Theme: Basic knowledge**

**Participant Experience: basic knowledge.** In discussing the perceived knowledge base the students had at this point in their nursing education, Participant Ten expressed her feelings of preparedness to care for patients with wounds:

I've got a base of knowledge that I can take and expand on. I think that from what we were taught, that was basic, but from what we were taught, we were taught really well. So even though I don't have a large amount of knowledge about it [wound care], what I do know, I do know well enough to be able to teach [a patient] or be able to have a decent conversation about. (Participant Ten, May 10, 2016)

The student had a solid foundation upon which to build more knowledge and understand more complex concepts about wound care. The student was confident in the knowledge she has to be able to effectively teach and discuss basic wound care with patients or family members.

*Impact and perspective.* Participant Ten's experience with learning about wound care has helped develop a framework of practice that can be incorporated with other nursing knowledge to individualize care for patients with wounds. She reflected on how she felt her learning experiences have helped her develop an approach to care:

I think knowing that this is not just a patient with a wound. This patient now has all of these complications that I have to prevent. This [wound] is not an easy fix type of thing. This is something that is going to take me constantly watching it, constantly using my critical thinking skills, and basically being very thorough and being a good nurse, really. (Participant Ten, May 10, 2016)

Participant Ten understood that wound care is a complex process, that requires nursing knowledge to provide solid nursing care. She communicated that wound care was more than just

waiting for a wound to heal; it required diligence on the part of the nurse to ensure that patients have constant care and attention to detail in the plan of care.

According to the Novice to Expert Theory (Benner, 2001), Participant Ten demonstrates the self-perception of a beginner nurse with basic knowledge consistent with a novice or generalist new graduate nurse.

Participant Ten was given the criteria asserted by Benner (2001) and asked to rank her own educational experiences and subsequent self-perception as a clinician to care for patients with wounds. She stated the following:

I'm going to go with Stage one, novice nurse, mostly because I haven't had the clinical experience in dealing with patients with wounds. I'm not confident that I could make decisions based on their care other than just very basic ones, but I think that, mostly, it just goes back to not having the experience. (Participant Ten, May 4, 2016)

The novice nurse has basic knowledge, as described by Participant Ten, but clinical experience is limited. This participant conveyed confidence in the ability to make basic decisions about the care of a patient with wounds based on her current knowledge level, but recognized that her experience was lacking as a beginner nurse.

**Participant Experience: basic knowledge.** Echoing the previous student's experience with wound care learning as a generalist nurse, Participant Four described her confidence and preparedness to provide wound care as the following:

I still feel like I'm a novice. My experiences, particularly this semester in the ER, have better equipped me. I've been exposed to more things, but I still don't feel adequate to necessarily be sent on my own to go completely assess, dress, and make recommendations for a wound. (Participant Four, April 13, 2016)

This student had the ability to assess her own knowledge base for wound care and management and made a judgment about her own strengths and weaknesses. Her self-assessment is reflective of the skills and confidence level one would expect of a new graduate generalist nurse.

Participant Four's description of her educational experience highlights the subtheme of *time constraints* as she pointed out her perception of the amount of time spent on wound care and management in the program:

The first couple of times I encountered a situation [wound] in a clinical setting, I felt very ill-prepared. It really wasn't just me per se, it was my little cohort—we're in clinical together that first semester. None of us really knew. We were introduced...given an opportunity upstairs [learning resource center] to "practice" with a manikin, but after that we didn't really encounter much else other than here and there in lecture.

(Participant Four, April 17, 2016)

Participant Four acknowledged that the time devoted to wound care in her educational experiences was brief. After the introduction to wounds early in the nursing program, there were few opportunities to build skills. From this student's perspective, the lack of time devoted to wound care translated into difficulty performing clinically. Theory without practice made her feel inadequate in a clinical situation.

**Impact and Perspective.** Participant Four's perception of the limited time devoted to wound care education led to a feeling of inadequacy in the clinical setting when working with registered nurses in acute care. She described feeling as if wound care education was covered quickly with surface teaching. "I don't feel like they [instructors] went into depth as much as they could have with it. It was very, very basic" (Participant Four, April 17, 2016). The lack of

time devoted to clinical skills left this student feeling inadequate when placed in a clinical setting for the first time.

Participant Four described performing wound care with a registered nurse for the first time in an acute care setting in the following way:

First she got really irritated [registered nurse], because I didn't know. I really didn't know a whole lot about what we were supposed to be doing other than I knew I needed some dressing and some sort of saline solution. It was a little more involved than that. For one, it was a wound vac...I understand there is a certain level of training that is done with those anyway. (Participant Four, April 13, 2016)

While the student had feelings of inadequacy when placed in a clinical situation for the first time, it is fair to say that not all wound care provided to patients in the acute care setting is on the level of a generalist nurse. The situation described by the student is one that would require her to have a specific competency met before performing the task independently. It is unfortunate that the student was made to feel incompetent by the nurse she was working alongside, as the goal of undergraduate nursing education is preparation for a generalist nurse, not one of an experienced nurse in a specialty area such as wound care. Thus, the expectation for an undergraduate nursing student to have advanced skills in wound care was unrealistic.

Subsequently, this student might have judged her educational preparation based on a skewed view of what baccalaureate education should be. A registered nurse who was not an educator displayed an opinion of the student's preparation that was not in accordance with that of basic knowledge for a generalist nurse. Given only this feedback, the student then felt as though she had not received the level of education she needed. The student reported that she had the

basic knowledge of how the clinical task of wound care should be approached, but not at an advanced level for complicated wounds that was expected by the nurse mentoring her.

### **Theme: Immersion in clinical practice**

**Participant Experience: immersion in clinical practice.** Immersion in clinical practice represented the most meaningful wound care learning experience for Participant One. When asked to recount useful experiences in clinical learning he said the following:

Actually being in the clinical taking care of the wound. Because me, being a tactile learner, you know what the wound smells like, you can feel it with the gloves on, you're actually taking care of it. It's real. I guess that's the capstone of learning how to treat a patient with a wound. (Participant One, April 11, 2016)

The reality of caring for a real patient in an acute care setting represented authentic learning for this student. He was able to engage his cognitive affective learning about wound care to create a deeper understanding of what it means to learn about wound care and apply knowledge gained to provide care for a patient with a wound.

**Impact and perspective.** Participant One expressed that immersion in clinical practice had a direct impact on how he learned to develop an approach to wound care as a nurse. He felt that clinical experience in the acute care setting created an avenue upon which to build good habits in nursing care, which he expressed as follows:

When you do that, you're in clinical and you take care of those things [wound care]...you want to create good habits, and ultimately, the more hands on we get, the better we get...practice doesn't make perfect, but it makes permanent I guess you could say. (Participant One, April 11, 2016)

This student clearly expressed that although he does not believe he has mastered the work of wound care, immersion in clinical practice has provided a solid foundation upon which to begin to build nursing practice. Clinical experiences in the acute care setting have been critical for the student to make connections from theoretical learning to practicing clinical skills for meaningful learning and lasting knowledge. Participant One did not indicate that his clinical experiences were limited due to time constraints, but this was not true of all participants. Some participants felt they had little opportunity to care for patients with wounds in the acute care clinical setting.

**Participant Experience: immersion in clinical practice.** Participant experiences with immersion in clinical practice are dependent upon each student's individual opportunities to engage in wound care. Participant Three described immersive clinical experiences that have affected his learning about wound care, but highlighted his acknowledgement of the need for more practice. He said, "I've seen post surgery wounds. A couple of weeks ago there was a motor vehicle collision that was in a wound vac, and I've seen fasciotomies, but outside of that, I haven't had a whole, whole lot" (Participant Three, April 7, 2016).

Participant Three seemed to allude to a lack of opportunities to see wounds unrelated to a surgical nature. The immersion in clinical practice he experienced took place in a surgical intensive care unit; therefore, one would expect him to have limited wound care opportunities outside of this classification. Although the participant felt he had a limited view of wound care, his unique experiences gave him insight into what it means to practice as a registered nurse and provide care to patients with wounds.

**Impact and perspective.** Although the experiences Participant Three recalled highlight hands-on work in the acute care setting, he seemed somewhat frustrated by the lack of opportunities afforded him. He stated the following:

I'm in the surgical intensive care unit this semester and there's a lot of wounds. I've been more exposed to it. I go and ask nurses if their patients have wounds and if they need help with dressing changes, but there's not a whole, whole lot of exposure.

(Participant Three, April 7, 2016)

This participant also related that he was not expected to perform a clinical competency validation for wound care, but he felt that would have given him a sense of personal competence to better perform in actual clinical situations. When discussing clinical competency validation in the skills lab, he said the following:

There are check-offs. We had to make sure we knew it step-by-step. I think it would be better if we started off with those step-by-steps instilled in us with that check-off for wound care dressings... because we're not exposed to it a lot, and I really want to make sure that I'm capable of doing it when I'm presented with a wound care patient.

(Participant Three, April 15, 2016)

Clinical simulation provides students with a safe environment in which to build nursing skills. The chance of causing injury to a real patient is eliminated, as skills are performed on manikins in the laboratory. Clinical skills can be repeated until the student feels comfortable performing the skills on a real patient. The participant expressed his desire to be clinically proficient in a real clinical situation by having opportunities to practice in the safety of the simulation laboratory.

**Participant Experience: immersion in clinical practice.** Participant Ten described her immersion in clinical practice experience as time spent with a wound care expert nurse in the following way:

We were on a floor with a specialist. They had a wound care nurse on a lot of the days we were there, and she spent a lot of time with us explaining the wound vacs and showing us different types of wounds and different ways to heal them. (Participant Ten, May 4, 2016)

The ability to spend a substantial amount of time with a wound care specialist nurse was unique to this participant. Each group of students is assigned to different areas, so the variety of experiences is broad. Although, not all students had an opportunity to spend one-on-one time with and expert wound care nurse.

**Impact and perspective.** The increased amount of time this student experienced with a wound care expert nurse gave her a rare opportunity not afforded to the typical baccalaureate nursing student. Immersion in clinical practice provided an avenue for this student to make critical connections between theory and practice. She recalled this experience in the following way:

I'm very much a visual learner, so seeing it [wound care] in clinical and seeing her [wound care nurse expert] work with it and her being able to say "Three days ago, this is what it looked like (she described it fully) and now we're doing this and now it looks like this. In four days we expect to see..." It was very helpful to see, because we talked about the progression of wound healing and all of those different ways you can dress a wound and treat a wound, but it didn't really click until I saw it in that clinical setting, where I could really see the difference. (Participant Ten, May 4, 2016)

Participant Ten related deeper, more meaningful learning experiences related to not only the amount of time spent in the clinical care of patients with wounds, but also the connections she was able to make by being guided by an expert in the subject of wound care. One could draw the conclusion that both time spent and quality of instruction related to expertise in the subject matter had a significant influence on the student's learning experience.

**Theme: Confidence.**

**Participant Experience: confidence.** When asked about students' confidence in clinical abilities related to wound care, Participant Seven displayed a lack of confidence in her abilities. She stated the following:

I don't feel like if I go out now and have to take care of a wound, I think I know maybe just enough—well, not enough—a little; just enough to where I can go get someone to come help me. If I had to [take] care of a patient, I wouldn't feel comfortable doing it by myself. (Participant Seven, May 2, 2016)

The participant did have confidence in knowing her own limitations and identifying the need to ask for assistance from a more experienced nurse when she is unsure of how to proceed with care of a patient with wounds. Students need to have the ability to recognize their own limitations through self-evaluation, especially as related to wound care. Simple wounds may fall under the purview of a generalist nurse, and complex wounds may need the expertise of a nurse with more extensive wound care knowledge. When one recognizes limitations in knowledge and ability to follow a patient's plan of care, he or she must seek the advice of an expert to achieve positive patient outcomes.

**Impact and perspective.** Participant Seven exhibited a firm grasp on her abilities and confidence to ask for assistance. She said, "If you don't think you know what you're doing or

you don't feel comfortable doing that, stop. Go and get someone. Ask them, 'can you come in here for a second?'" (Participant Seven, May 2, 2016)

Participant Seven displayed the confidence level expected of a basic generalist nurse. When asked about her confidence to care for patients with wounds as a practicing nurse, she answered in the following way:

I think I will be able to care for a patient with wounds. It just depends on the degree of the wound or something that an advanced nurse may need to do. After I start to build up more confidence and start to get more knowledge on how to care for those wounds, I think I would feel more comfortable doing it on my own. I just feel like there's more that I need to learn. (Participant Seven, May 9, 2016)

The participant's confidence was dependent upon the complexity of the wound. She felt more confident with basic, low complexity wounds and needed guidance for more complex wounds. She fully acknowledged her need for more experience and expertise for complicated wound care. For the ultimate safety of a patient and to ensure competent care of wounds, the novice nurse must know when and who to ask for help.

When asked to describe her confidence in treating patients with wounds using Benner's (2001) Novice to Expert Theory, Participant Seven felt she was in Stage two, advanced beginner. She said, "I have the knowledge, just not the confidence" (Participant Seven, May 2, 2016). This student was confident in her knowledge of wound care, but not about her clinical skills required in applying that knowledge to fully execute wound care management for a patient with wounds.

**Participant Experience: confidence.** One might expect the confidence level of a non-traditional student with previous life experience to be higher than one without. This scenario is

true of Participant Six. In discussing his confidence to manage a patient with wounds, he said the following:

I think that I have probably a better understanding about how to critically think through a problem that is presented to me. Certainly, for a while [as a practicing nurse], I would feel more comfortable if a more experienced person was there...just until you do something a couple of times. Sometimes, that's [wound care] not going to come naturally. (Participant Six, April 21, 2016)

This participant brought up an important point about critically thinking through a patient care situation when confidence is low. The ability to critically evaluate a situation, such as wound care and treatment, is important for a novice nurse. Often, justification of one's abilities by a more experienced mentor will increase the novice nurse's confidence relatively easily.

**Impact and perspective.** Participant Six had a contrasting view from the other participants related to confidence in clinical abilities. His previous experience as an emergency medical technician (EMT) impacted his perception of nursing clinical practice related to wound care management. He said the following:

Strictly from a nursing standpoint, it's feeling confident that I'm doing what is within my scope of practice. From my experience, there are certain things about certain kinds of wounds that I might automatically do that I have to remember—that's not within my scope of practice. I have to make sure that I'm not mixing and mingling information.

(Participant Six, April 21, 2016)

Participant Six had to change the way he approached caring for patients because there were different expectations and practice guidelines between EMTs and registered nurses. This difference is true of wound care, as well. Situations that EMTs might experience in their practice

field related to wounds are approached in a different manner than those in the discipline of nursing. This student had to change his perspective and approach to patient care due to his preconceived platform of knowledge and basis for learning.

Approaching wound care from a nursing perspective gave this participant a different outlook on wound care and its effect on patients, as expressed by the following:

I think it's given me a better appreciation for being able to interact with a patient who has a wound. To talk to the patient about their wound if they're awake, if they want to talk about it or if you need to talk to them about taking care of their wound if they're being discharged or what it means for them; how they're going to handle it, what they need to be looking for. There's a lot of interaction that can end up happening with a patient around a wound and wound care. I think it helped me appreciate the patient interaction part of it better. (Participant Six, April 28, 2016)

Although Participant Six had clinical skills as an EMT, his confidence in his nursing skills related to wound care and management were not unrealistic. In discussing his self-reflection of his confidence within Benner's (2001) Novice to Expert Theory, he ranked himself between Stage one, novice nurse, and Stage two, advanced beginner. He said the following:

Until you've actually started doing it [wound care] yourself, you can't even really move into stage two unless you're working on something. Being exposed to it in the clinical settings we've had so far and the amount of time really just exposes you to it. It doesn't really move you into that second stage. (Participant Six, April 28, 2016)

Participant Six self-identified as being in the middle of novice and advanced beginner after having exposure to wound care and clinical experiences guided by a mentor. He had some real experiences, but not enough to be able to recognize the key aspects of wound care.

### **Theme: Importance of wound care**

**Participant experience: importance of wound care.** Participants' reflections of how they understood wound care and how wound care prevention fits into the management of a patient revealed that they have been impacted by their educational experiences. Participant Two related that the focus of preventative measures was more heavily emphasized in her learning experiences. She said, "...preventing wounds through proper nutrition and turning immobilized patients every hour to two hours is definitely important. That, and keeping it clean to prevent infection" (Participant Two, April 6, 2016).

**Impact and perspective.** Participant Two discussed how her perception of nursing roles changed because of her educational experiences focused on wound care. She stated the following:

We're not just handing [patients] medication, and we're not just relieving them of pain. We're actually *treating* our patients. I get to see direct action on how my patient is improving by my actions and my skill level to treat them. (Participant Two, April 13, 2016)

The ability to see positive progression as a direct result of nursing care seemed to have an impact on this participant. She seemed able to validate her clinical skill when healing was observed. A note of pride was discernable in her description of how she perceived her role as a nurse.

**Participant experience: importance of wound care.** Participant Four felt that learning about wound care had a positive effect in helping her understanding the importance of wound care and prevention. She said, "I think it's definitely important and will help with future care of patients. It doesn't matter where you work, there will always be wounds that need to be taken care of, so it's really important" (Participant Four, April 20, 2016). Related to wound prevention,

Participant Four felt that wound prevention was heavily focused on and was the basis for competent nursing care.

We did learn a lot amount maintaining skin integrity, especially for someone with immobility. We learned how important it is to dry the skin and dry the areas you can't see, as well as relieving pressure from bony prominences and making sure wounds are clean. (Participant Four, April 20, 2016)

The participant was certain of the impact nurses have on the outcomes of patients with regard to wounds. Her learning experiences helped her identify those aspects of patient care that are affected by the attention to detail a nurse must place on care to prevent wounds. She also pointed out that patients with wounds could be seen in any area of nursing, thus highlighting that this is an area of concern for all nurses in all practice areas.

**Impact and perspective.** Participant Four related the transfer of wound care knowledge into patient education as important to providing wound care to patients. She stated, "I feel like I could educate patients on ways to prevent wounds, and if they are doing some basic wound care at home, then I could talk to them about that, too" (Participant Four, April 16, 2016). Patient education is critical to ensure that patients with wounds know how to care for them at home. While patients are not expected to learn beyond a basic level, they must understand how to adequately care for wounds upon discharge from the acute care setting. The nurses are responsible for ensuring that the patient or family member is capable of performing basic care to promote healing.

Participant Four further described changes in her understanding of the importance of wounds and wound care as a result of learning experiences.

Definitely learning how important wounds are, and the wound care is just as important because that is a break in the barrier of the skin, which opens that person for so many other complications. So, wound care is very important in helping them heal and regain their skin integrity. (Participant Four, April 16, 2016)

This participant elucidated that wound care learning extends beyond learning about the wound itself. One must also consider how wounds affect patients holistically. Students must understand the importance of how underlying medical conditions impact wound healing, as well as prevention.

### **Summary**

This chapter introduced the participant and the findings from the thematic breakdown of the data obtained while exploring undergraduate nursing students' experiences with learning about wound care. Broad and focused research questions were used as a framework for this study. The researcher collected data using two separate interviews and asked participants to describe their wound care learning experiences. The interviews encouraged participants to discuss their individual perspectives and interpretations of learning to care for patients with wounds.

The interviews resulted in similar experiences of the participants in some regards, with individual differences and subsequent diverse perceptions. Themes emerged as the interviews were conducted. Emergent themes were aligned and used as a guide by the researcher to describe and represent the findings. The experiences were shared from the participants' perspectives, including a description of the impact and perception of the lived experience with learning about wound care. The experiences were described in the words of the participants.

Each theme was analyzed to gain an understanding of the learning experiences. The emergent themes of *life experiences*, *teaching/learning strategies*, *basic knowledge*, *immersion in practice*, *confidence*, and *importance of wound care* were examined in relation to concepts from the research questions. The subtheme of *student differences* was related to *life experiences*. The subtheme of *time constraints* was related to both *basic knowledge* and *immersion in practice*. Throughout the thematic representation, the researcher shared insights and perceptions of the participants' experiences.

Throughout the thematic breakdown, the participants had similar experiences, as all were students in the same cohort within the group of senior nursing students. However, the differences in individual experiences resulted in a diverse understanding of how learning about wound care influenced the participants' knowledge and perceptions of confidence in delivering care to patients with wounds. Participants' learning experiences were affected by learning experiences in the nursing program, as well as individual life experiences.

Participants were made up of both traditional and non-traditional students. Students characterized as traditional were younger in age and, overall, indicated that life experience had little effect on learning experiences. Nontraditional students varied in ages from slightly older than traditional students to considerably older. Non-traditional students entered the nursing program with a variety of technical and vocational backgrounds. The combination of life experiences that one accumulates with age and knowledge gained in other areas of work affected the wound care learning experiences and perceptions of the participants. Those participants with more life experiences or previous experience with wound care had a basic foundation of wounds upon which to build more specific wound knowledge. Participants with limited life experiences

had no frame of reference for wound care upon which to build knowledge; these students began their foundation of wound care knowledge in nursing school.

Participants discussed the teaching/learning strategies used in wound care education of the nursing program. The findings were reflective of the review of literature, which offered combined teaching/learning strategies as effective tools in teaching wound care and management to undergraduate nursing students. Participants confirmed that combined teaching/learning strategies were conducive to the transfer of knowledge learned in the classroom and independently to the clinical setting where nursing care is delivered to patients.

Overall, the undergraduate nursing students in this study positively correlated experiences of gaining basic knowledge for a generalist nurse and immersion in clinical practice with wound care learning experiences. The participants conveyed confidence in their knowledge to provide basic care to patients with wounds as a result of clinical experiences in which they were paired with a clinical instructor or a nurse mentor. Participants were able to make connections between classroom learning experiences and clinical experiences. Knowledge gained in the classroom transferred to the clinical arena when applying concept of care to actual patients with wounds.

A common subtheme of basic knowledge and immersion in clinical practice was time constraints in nursing education. Participants recognized the barriers that nurse educators face with content saturation within nursing curriculum and a shortage of time available to spend with expert clinicians in the acute care setting. Nursing education is charged with teaching an enormous volume of clinical concepts to students within a confined period of time. It is difficult for faculty to cover every aspect of nursing, including wound care. Further, it is impossible for clinical faculty to control the types of patients encountered in the clinical practice area. Not all

types of patients or situations are available for students to learn from. Faculty must take advantage of the opportunities presented at the time students are in the acute care setting. Clinical skills develop over time and with experience caring for patients with wounds.

There was collective agreement among the participants that confidence in wound care clinical skills and abilities would increase with nursing experience. The confidence levels of the participants in this study were dependent upon the amount of time and experience each had in caring for patients with wounds. Participant experiences were different among this group; each had different experiences with patients and mentors. Participants varied in confidence levels of wound care skills, but were confident in the ability to seek appropriate guidance from clinicians with more experience and clinical expertise when faced with complex wound care in clinical settings. Finally, participants acknowledged the importance of wound care and preventive measures needed in caring for patients in professional nursing practice. They recognized that wounds are common among patients in the acute care setting, and they will frequently use the wound care knowledge and skills gained in learning experiences. Chapter five includes a discussion of these findings, recommendations, and conclusions drawn as a result of the study.

## 5. DISCUSSION

The purpose of baccalaureate nursing education is to provide learning experiences for students who will become generalist nurses. The role of a generalist nurse encompasses a wide range of competencies, including the care of patients with wounds. The research participants in this study shared their experiences with learning about wound care during their undergraduate studies in nursing. Study findings indicate several factors that affect the individual student's learning experiences and how prepared the students feel to care for patients with wounds. By understanding students' experiences with learning, the researcher can use the information from this study to further the literature and implications for policy and practice.

The researcher reviewed the literature and compared data gathered in the study with data from the literature. The literature focused on data obtained from practicing nurses who reflected on their learning experiences within the context of what they had learned and compared that to what they felt they should have learned. The findings from the literature suggest that practicing nurses had a knowledge deficit and a low perception of the educational preparation they received related to wound care and management. This study focused on the learning experience from the perspective of undergraduate students before they begin professional practice. It was beyond the scope of this study to understand the level of wound care knowledge participants had; rather, the study focused on the learning experiences of the participants and how prepared they felt to care for patients with wounds.

The participants had unique learning experiences, influenced in different ways, that impacted their perception of learning and their subsequent confidence in preparedness to deliver

care to patients with wounds. The emergent themes guided the researcher in an interpretive, phenomenological framework to understand the participants' shared experiences and gain insight into the meaning of the experiences situated in wound care education. The analysis and interpretation of the findings were influenced by the researcher's personal history and experience as a nurse educator and clinician in the specialty area of wound care. The researcher was able to draw conclusions about participants' perceptions of their clinical proficiency with wound care using Benner's (2001) Novice to Expert Theory.

### **Research Questions**

The study answered seven research questions: three broad research questions and four focused research questions. The three broad questions are (1) How do undergraduate nursing students describe or define their experiences with learning about wound care? (2) How do undergraduate nursing students understand their wound care education to impact their future ability to care for patients with wounds? (3) How do undergraduate nursing students' descriptions and understanding of wound care affect their perceptions or understanding of nursing roles?

The four focused questions are (1) How do undergraduate nursing students say their experiences with learning about wound care impacts the ways in which they will approach the care of a patient with wounds? (2) How do undergraduate nursing students feel their experiences with learning about wound care have developed their perceptions of caring for a patient with wounds? (3) How do undergraduate nursing students relate their experiences with learning about wound care have impacted their perceptions of the importance of preventing wound development in patients? (4) How do undergraduate nursing students relate their clinical proficiency to perform wound care as a result of their nursing education experiences?

## **Themes**

During the process of data analysis, six common themes emerged. The emergent themes include (1) life experiences, (2) teaching/learning strategies, (3) basic knowledge, (4) immersion in practice, (5) confidence, and (6) importance of wound care.

While considering the emergent themes within a phenomenological framework, the researcher determined how the themes were related throughout the process and became the representation of the experience of the participant. The researcher also used a phenomenological lens to examine and interpret the participants' individual experiences for understanding.

## **Discussion and Conclusive Outcomes**

This section includes the research questions followed by answers, using the thematic breakdown and researcher's interpretation of meaning.

### **Broad Research Question 1**

How do undergraduate nursing students describe or define their experiences with learning about wound care?

Participants shared similar wound care learning experiences in the classroom setting, as all were members of the same cohort, sharing the same nursing faculty. Their feelings about learning experiences seem to be affected by the individuals' life experiences. Those participants who were considered traditional college students did not have as much personal experience to build on as those who were considered non-traditional.

Non-traditional students were able to draw from life experience of either having experienced wounds first hand as a patient or a caretaker or from a previous career path that provided them exposure to wounds and wound care. For example, Participant Seven, a second-

degree student described how her previous degree and work experience affected her wound care learning experiences

I think it helped me with being able to see the signs of what needs to be done for a wound... it's just a little bit different, but I'm able to take what I learned from there and apply what I know to what I'm doing now with nursing. (Participant Seven, May 9, 2016)

This statement demonstrates having a basis of knowledge from her previous work experience and building on it with knowledge gained from nursing school.

Clinical wound care learning experiences were mixed among the participants. Students with more wound care opportunities in the acute care clinical area reported a richer learning experience than those with fewer opportunities. There is a correlation between rich learning experiences and immersion in clinical practice. Participants who described more meaningful experiences in wound care education were able to spend more time with practicing nurses actively caring for patients with wounds.

Participant Two recalled working with a wound care specialist:

The clinical setting was the most beneficial when the nurse was talking us through what she was doing, what the items were, what to look for as she was assessing. I could see her hand go in and feel around. We didn't want to cause our patient any pain, so she was the main handler of the situation. We could help her get the equipment and be familiarized with it. That helped a lot. (Participant Two, April 11, 2016)

The ability to become immersed in clinical practice affords these students the chance to engage in hands-on learning of wound care and management in an authentic environment under the supervision of a professional nurse.

Participants described their wound care learning experiences as a culmination of immersion in clinical practice and basic knowledge for a generalist nurse resulting from combined teaching/learning strategies used by nursing faculty. Findings are consistent with the previous literature of effective wound care teaching in undergraduate nursing curriculum (Adralan et al., 2013; Ko et al., 2006; Madsen & Reid-Searl, 2007). The combination methodology in teaching students about wound care results in meaningful learning about wounds and wound care, as well as the acquisition of clinical skills only learned by being immersed in an authentic clinical situation (Adralan et al., 2013). Participants in this study agreed that combined teaching/learning strategies enriched their understanding and awareness of wounds to make them more effective care providers.

A new finding in this study suggests that immersion in clinical practice in the acute care setting and classroom teaching seemed to affect their perceptions of having gained basic knowledge necessary for a generalist practice nurse. The study participants described their wound care learning experiences as having a positive effect on their individual ability to perform on an expected level for a new graduate generalist practice nurse. Participant One stated the following:

It's good to have that basic knowledge taught in the classroom, but if you don't witness and you don't actively participate in treating something of that nature, it's like you're all theory and no practice. The practice part to me is the most vital portion of being able to take care of patients. (Participant One, April 4, 2016)

The combination of both classroom theory and clinical practice immersion played an important role in preparing students for generalist nursing practice. Combined teaching/learning methods are valuable in creating a meaningful learning experience. This finding is consistent with the

findings of Ko et al. (2006), who recommended that combined wound teaching strategies are more effective than traditional classroom teaching.

Admittedly, participants had limited knowledge and confidence with specific treatments available to care for wounds on an advanced level, but they felt they were able to provide basic wound care for patients and to notify the appropriate care practitioner when a higher level of care is needed.

I wouldn't feel comfortable just taking care of a patient [with wounds] by myself. I would get a second opinion or at least talk it over with someone who had more experience.

(Participant Eight, May 11, 2016)

Participant Eight acknowledged her limitations with being fully prepared to care for a patient with wounds, but is willing to seek assistance from more experienced nurses.

## **Broad Research Question 2**

How do undergraduate nursing students understand their wound care education to impact their future ability to care for patients with wounds?

Participants' accounts of wound care learning experiences suggested a positive impact on future nursing practice. Participants seem to understand that wound care is important in the current acute care setting. This finding is consistent with previous studies (Caliri et al., 2003; Gill & Moore, 2013; Gould, 1992). Participants related that care for patients with wounds is multidimensional, and were able to understand underlying chronic medical conditions as being risk factors or having a major impact on the wound healing process. Participant One described the process of considering the patient as a whole in the following way:

...knowing that this is not just a patient with a wound. That this patient now has all of these complications that I have to prevent. This is not an easy fix type of thing. This is

something that is going to take me constantly watching it, constantly using my critical thinking skills, and basically being very thorough and being a good nurse, really. (May 10, 2016)

This participant relates diligent care and careful assessment with being a good nurse, or performing actions that are expected of a nurse who delivers competent care.

The literature suggests that nurses' wound care decision-making skills are based on experience (Lamond & Farnell, 1998). Participants' experiences with learning about wound care affected their critical-thinking and reasoning skills in making clinical decisions based on assessment. In describing the advancement in complexity of wounds as the program progressed, Participant Seven stated,

...it was more involved and it made us use more critical thinking about what *could* happen. The steps of what this could lead to, or we need to prevent this so it won't lead to this. (Participant Seven, May 9, 2016)

The student is able to make decisions about the care of a patient and the risk factors present that can result in the development of a wound or the deterioration of a patient who has a wound because of underlying health conditions.

Participants in the study displayed the ability to see that the treatment and management of wounds is individualized to a patient's needs, and not all wounds are treated in the same manner. They also recognized that wound care is a specialty in which not all care providers are proficient (Levine et al., 2012), even in the academic setting. When describing wound care proficiency of faculty, one participant stated, "I guess one could get the feeling that wound care wasn't really anybody's thing" (Participant Six, April 21, 2016). Likewise, participants acknowledge that they

are knowledge deficit of wound care and management, but understand that it is critical for them to seek out the appropriate care provider for patients with wounds.

The amount of exposure nursing students have to wound care in the acute care setting impacts their confidence levels in caring for patients with wounds. Participants in this study lacked confidence to provide care to patients with wounds without the advice or guidance of a more experienced nurse. “I guess honestly; I’d still want some else’s opinion. I guess staring out, right out of nursing school, I’d still get that second opinion just to make sure that I did have the right thought process of how to take care of it [wound]” (Participant Nine, May 11, 2016).

Though confidence levels seemed low to provide care on one’s own, the participants acknowledged this weakness and were inclined to take the initiative to seek the advice of more experienced nurses.

Nurses have a responsibility to ensure that appropriate measures are taken to prevent patients from developing wounds (NPUAP, 2012). All participants emphatically agreed that prevention of wounds received the most attention in their nursing education and preventive care in nursing practice is a basic concept that must not be overlooked in the acute care setting.

Participant Seven stated the following:

It’s a necessary thing for us to know how to care for a wound. It just shows the importance of nursing. We are the ones that are with patients 24/7 most of the time, so we need to be able to recognize the signs of a wound that could be forming or a wound that’s getting worse. I just think it’s vital. (Participant Seven, May 9, 2017)

The participant understood the responsibility of wound prevention that lies with the nurse as the primary caregiver of patients.

Participant One described the importance of attention to detail in the following way:

I didn't realize all the little things you needed to do...that the little things like nutrition and even creases in sheets can shear skin. I didn't realize that you have to move a patient every so often because of the pressure points on a joint pressing on a surface can cause pressure ulcers. It was eye opening and different for me, but once I got through it and go to take care of it, it's something I can do again and again and again. (April 4, 2016)

As a result of nursing education, students display confidence in having the knowledge and skills to prevent patients developing wounds while under their care. The attention to detail in the routine care of patients is an important part of the work that nurses do repeatedly.

### **Broad Research Question 3**

How do undergraduate nursing students' descriptions and understanding of wound care affect their perceptions or understanding of nursing roles?

A common idea shared by the participants related to wound care learning experiences was the gravity of responsibility nurses have in the wound care process. Nurses are able to identify risk and contributing factors that can result in wound formation. The realization that the development of a wound while under the care of the nurse is regarded as poor nursing care (Dugdall & Watson, 2009) weighed heavily on the participants in this study. Participant Ten stated the following:

...what I'm learning is actually going to help somebody, this actually has an impact. Especially wound care, because it also impacts how we get paid or how the hospital gets reimbursed. Once you start learning that, then it becomes way more important to you to learn it. (May 10, 2016)

This statement shows that students have a firm grasp of the enormity of responsibilities they will have as practicing nurses, as it is generally understood that clinical outcomes of patients with

wounds is directly related to the wound care education of the nurse providing care (Dugdall & Watson, 2009). This finding suggests that the realization of these responsibilities is a result of the students' cumulative knowledge and learning experiences throughout the nursing program.

Fundamental knowledge about wound care occurs at the undergraduate nursing level (Gill & Moore, 2013). The participants perceived that their learning experiences provided learning opportunities to gain knowledge needed to become a generalist nurse and be immersed in clinical practice with experienced nurses or wound care experts. These students generally felt confident in their abilities within their current position in the program and understood the importance of wound care and the prevention of wounds in the acute care setting.

Participant Four discussed her transformation through the program in the following way:

I'm much more conscientious of wounds, because sometimes you don't think about how what I'm doing right now is going to affect them [patients] in two weeks. Just something as simple as turning them. Just being more aware and conscientious of the small things you can do to prevent future problems or sometimes disasters as far as patients are concerned. (April 17, 2016)

Although at this point in their nursing education, participants are still students, they have begun to be able to identify with the professional nurses with which they have the opportunity to work. Their identity as nurses and the role they have in wound care and prevention begins to develop as they move closer to the end of their nursing education program.

The participants are able to see themselves as generalist nurses who play a vital role in the care of patients with wounds or at risk of developing wounds. Their learning experiences have been able to develop a sense of what their role will be in the acute care setting to be a safe, competent nurse. They understand the accountability and responsibility they have to deliver care

to patients using standards of nursing practice. The participants all described themselves as either novice or advanced beginner nurses (Benner, 2001) who have a foundational knowledge of wound care and prevention and will continue to learn and build clinical skills as they gain clinical expertise as practicing nurses.

### **Focused Research Question 1**

How do undergraduate nursing students say their experiences with learning about wound care impacts the ways in which they will approach the care of a patient with wounds?

Participants had varying experiences with learning about wound care, which was largely dependent on their individual clinical experiences within acute care settings. Participants were in the same cohort, using the same classroom and simulation experiences. Commonalities among the experiences were evident in descriptions of teaching/learning strategies by nurse educators.

Nurse educators in this program used combined teaching/learning strategies to teach students about wound care and prevention of wound development. Participants defined the curricular design as one that combines learning experiences in the classroom, independent reading assignments, and clinical experiences in the simulation laboratory and acute care settings. Student experiences began to diversify in the clinical component of the curriculum. “In talking with other people with their experiences, they got to do hands-on dressings. I didn’t get to do that; I don’t have that experience. I was a little disappointed” (Participant 10, May 10, 2016). Some participants had more hands-on learning opportunities than others with wound care in the acute clinical setting, resulting in different experiences among students.

Even though the participants’ experiences varied clinically, there was a universal tendency for participants to express an increased awareness of the seriousness of wound care and the prevention of wounds. This awareness correlates with nursing literature in which students

understood the importance of wound care as a result of nursing education (Gill & Moore, 2013). Participants described their learning experiences, no matter how detailed or time oriented, as significantly affecting the way they will approach patients with wounds or at risk for wound development in the clinical setting. The learning experiences that participants had impressed upon them the realization that a significant number of patients in the acute care setting either have wounds or are at significant risk of developing wounds. These learning experiences seem to have been effective in emphasizing the importance of wound care and prevention in patient outcomes.

Participants who had personal life experiences with wounds, either as a patient or as a caregiver, were able to identify on a deeper level with the wound care learning experiences in the nursing program. These participants had a unique perspective about wound care, building on their own wound experiences. They expressed empathy toward patients with wounds and conveyed a compassion for the physical experience that the patient with a wound would have. “I’m definitely more empathetic and realize that I need to give them [patients] pain medication before I treat them. The patient may not verbalize that they are in pain, they may respond differently” (Participant Two, April 11, 2016). The personal experience of being a patient with a wound seems to predispose nursing students to a more intuitive way of approaching the care of a patient with wounds, recognizing the importance of a holistic approach to patient care; the students are not only focusing on the wound itself, but also on the physical and emotional experience of being a patient with a wound.

### **Focused Research Question 2**

How do undergraduate nursing students feel their experiences with learning about wound care have developed their perceptions of caring for a patient with wounds?

Participants in this study indicated that learning about wound care gave them an opportunity to visualize the result of the care they have provided. Being immersed in clinical practice alongside a practicing nurse or clinical instructor allowed them to see patients' progression toward healing as a direct result of the care they took part in. The ability to practice assessment skills of wounds under the guidance of a practicing nurse is a valuable learning experience as students begin to mature as novice nurses, building vital skills in the clinical environment. The visual experience of transformation and healing is motivating to students. Patients are seen on subsequent days of care, and students can assess for themselves if the patient has made progress, or if the wound is deteriorating.

The experience of being immersed in clinical practice also changed the participants' perceptions of caring for patients with wounds. Participants who had previous experience with wounds were better able to relate to patients with regard to physical and emotional support. Participants who were introduced to wounds during the nursing program had to overcome personal feelings of being timid, afraid, or repulsed. When faced with the necessity of being a hands-on caregiver, these students reported that they were able to perform the required task and improve clinical skills and attitudes.

Immersion in clinical practice is necessary in all aspects of nursing to build students' knowledge, skills, and attitudes (Moura & Caliri, 2013). This necessity is especially true with wound care. The reality of the experiences these participants had caring for patients with significant wounds was overwhelming at times. Some participants felt inadequate with their knowledge and skills when placed in the actual clinical setting, adding to their apprehension of the situation. Participant Four recalled "the first couple of times I encountered a situation [wound] in a clinical setting I felt very ill prepared" (April 17, 2016). However, participants

acknowledged that because of their experiences in the clinical setting with wounds, they are more attuned to wound care and the prevention of wound development and will be able to assimilate these experiences into professional nursing practice.

### **Focused Research Question 3**

How do undergraduate nursing students relate that their experiences with learning about wound care has impacted their perceptions of the importance of preventing wound development in patients?

Participants in the study relate that wound prevention received the most attention in their learning experiences. Wound prevention was reported to be interwoven throughout the nursing curriculum as an important aspect of nursing care. Participant Ten recounted learning experiences that had heightened his awareness of wound prevention as a primary responsibility of the nurse, referring to preventative techniques as “doing what a good nurse should do” (May 4, 2016).

Attention to detail seemed to be a common idea among participants in describing their learning experiences related to the prevention of wounds. Students explained that they felt they were confident in their abilities to prevent wounds because of the instruction and teaching they received, “It has definitely increased my knowledge, and I feel confident in maintaining skin integrity” (Participant Three, April 7, 2016). Participants frequently referenced the importance of attending to the essential elements of basic nursing care to prevent wounds, such as patient positioning, immobility, and nutritional requirements to maintain skin integrity. This finding aligns with previous research by Gill and Moore (2013), who found nursing students to be confident in their ability to prevent pressure ulcers, and felt that prevention of pressure ulcers should be a priority in patient care.

Participants also spoke of their tendency to assess the clinical actions and decisions of others, making determinations of the sufficiency of care provided to patients based on their knowledge base of wound prevention. They developed assessment skills for patients under their care and for critical evaluations of the provision of care by other providers. The experience of learning about the significant impact prevention of wounds has on patients made students take pause, and “think about what it actually means to be a good nurse” (Participant Ten, May 4, 2016).

#### **Focused Research Question 4**

How do undergraduate nursing students relate their clinical proficiency to perform wound care as a result of their nursing education experiences?

Participants in this study were asked to use Benner’s (2001) Novice to Expert theory to summarize their clinical proficiency to perform wound care. The premise of this theory is that over time, nurses develop skills and an understanding of patient care from a combination of educational foundation and personal experiences. A novice nurse is a beginner with no experience, taught general rules to perform a task. In short, one is told what to do and follow instruction. The advanced beginner nurse performs tasks to an acceptable level based on previous experience in actual nursing situations (Benner, 2001).

According to Benner (2001), the new graduate nurse should be able to perform tasks at the advanced beginner level. Participants in this study were asked to perform a self-assessment of their proficiency to perform wound care using Benner’s theory. The results were mixed between novice nurse and advanced beginner nurse. Most of the participants felt they would classify themselves as novice nurses because of their lack of experience in clinical experiences in

the care of patients with wounds. The remainder of the participants believed they met the criteria of an advanced beginner nurse because of their knowledge and skills of wound care.

Study participants who reported the least amount of time spent learning about wound care felt they were in the novice stage. These students also reported a lack of knowledge or had experienced knowledge decay about wound care and management. They felt their minimal exposure to wound care learning experiences prevented them from moving beyond being told how to perform a task and following through with those instructions.

Participants who assessed their clinical proficiency with wound care at a higher, advanced beginner level reported more time spent in the clinical setting caring for patients with wounds. Although they reported confidence with clinical proficiency of low acuity wounds, their confidence levels diminished with more complex wounds. These students felt they had a strong knowledge base, but lacked experience with acting on and using that knowledge. Overall, participants in this study seemed to perceive their clinical proficiency with wound care to be at the expected level of novice/advanced beginner.

Findings in this study are consistent with existing literature related to teaching/learning strategies (Adralan et al., 2013; Ko et al., 2006; Madsen & Reid-Searl, 2007). Findings corroborate with what Madsen and Reid-Searl (2007) found in their study of wound care in nursing curricula. The authors suggest that teaching strategies are key when planning an integrated curriculum. Students must be offered opportunities to learn about wound care through a variety of means. Aside from didactic classroom teaching, students learn from group discussions, clinical laboratory sessions, and hands-on clinical experiences (Madsen & Reid-Searl, 2007).

Combined teaching/learning strategies are useful in nursing education, as passive learning techniques, such as classroom lectures, have the potential to leave students feeling detached from learning about wound care (Ko et al., 2006). Furthermore, combined/teaching learning strategies encourage the psychomotor domain and practical and application skills of students (Adralan et al., 2013). Teaching nursing students about wound care and facilitating the education of students to improve their levels of competence in practice is important in healthcare due to the growing number of patients with wounds and increased focus on preventing wound development in acute care settings (Madsen & Reid-Searl, 2007; NPUAP, 2012).

The confidence levels of participants in this study and their understanding of the importance of wound prevention in nursing practice parallels the findings of Moura and Caliri (2013). The work of these authors regarding wound care education in simulation resulting in confidence levels and attitudes of safety among students is similar to those of participants in this study. This finding is an important point to consider in nursing education to prepare future nursing professionals.

Seemingly, there is a contradiction in student perception of knowledge about wound care and attitudes about wound prevention. Participants in this study felt their learning experiences positively influenced their knowledge levels and understanding of the importance of wound prevention, but Gill and Moore (2013) find that the ideas of actual and perceived knowledge are inversely related. Whereas students felt they had knowledge of wounds and prevention, when these knowledge levels were quantified, their confidence in knowledge was overestimated. Further research will need to be undertaken to evaluate whether the participants in this study have the level of wound knowledge they believe they do.

The insight into how life experiences affect student learning experiences seems to be a new finding in this study but is an indirect result of existing literature. Practicing nurses gain wound care knowledge as a result of clinical experience (Bietz et al., 1998; Dugdall & Watson, 2009; Pieper & Mott, 1995; Walsh & Gethin, 2009), but no previous evidence has been found that discusses the role life experiences have on the wound care learning experience. Participants in this study reported that they were able to reflect on their personal life experiences with wound care and apply them to knowledge and skills gained through nursing education. Nurse educators can use student life experiences to understand how wound care learning is affected and ultimately how wound care education impacts patient care.

Findings from this study have implications for application to practice. Previous research addresses the evolution of teaching nursing students about wound care and facilitating the education of students to improve their levels of competence in practice (Madsen & Reid-Searl, 2007). Nurse educators can feel confident that the use of combined teaching/learning strategies for wound care education is effective in showing students how to use knowledge gained in classroom activities and apply theoretical principles to nursing practice. This approach to wound care education seems to provide the basic knowledge necessary for a generalist nurse (Gill & Moore, 2013; NLN, 2013b).

### **Implications for Policy and Practice**

The purpose of this study and the problem the study addresses is the limited understanding of nursing students' experiences with learning about wound care and how these students perceive their nursing education in preparing them for work in nursing practice when caring for patients with wounds. The findings of this study allows for inferences to be made regarding policy and practice in nursing education.

This study highlights the impact that life experiences and student differences have on individuals' wound care learning experiences. Traditional and non-traditional students often make up nursing student cohorts in undergraduate education. Whereas it is not always practical to separate these students for individualized methods of teaching, nursing faculty should be aware of the experiential knowledge that students bring to nursing education. Faculty could identify these students more easily in smaller groups, such as in clinical learning situations, and focus on seeking out wound care opportunities for those students with a particular interest in building their wound care knowledge and improving skills. Future research examining these groups specifically would give more perspective into the distinctive experiences of traditional and non-traditional students in nursing education.

The first identified implication for policy would be the inclusion of wound care across the curriculum. Many of the participants indicated they felt wound care was covered in the Fundamentals of Nursing course but not discussed again as they moved on to more advanced courses, such as medical-surgical nursing and acute care nursing. Some participants had an opportunity to take part in the care of patients with wounds during clinical experiences associated with these courses, but did not have concurrent classroom theories to relate to the learning experiences. Nursing education can promote students' abilities to make connections between theory and practice by integrating wound care across the curriculum (Madsen & Reid-Searl, 2007).

A second implication to nursing education policy would be to ensure that nursing curriculum is consistently reviewed to reflect current updates to clinical practice. Evidence-based practices are continually revised as research is a priority in the specialty of wound care. Students must be taught according to current clinical practice guidelines. Technology and research in

wound care drive clinical practice to enhance wound healing and ensure optimal patient outcomes. Based on current literature, nursing programs need to be aware that textbooks and other educational resources could contain outdated or incorrect information (Ayello & Meaney, 2003; Vogelpohl & Dougherty, 1993). Further, participants in this study related that they were not given learning opportunities related to current wound care treatments or advanced therapy options routinely used in wound care. Participants described learning experiences that included minimal dressing changes and addressing basic skills in the classroom and clinical simulation. These experiences are conflicting with the nursing care and skills they were exposed to in acute care settings, which included complex wounds with advanced wound care therapies.

A related implication for nursing education policy would be an increased focus on wound care in the clinical simulation experiences of students. Students are better able to construct knowledge, skills, and attitudes of wound care competency with focused simulation experiences (Moura & Caliri, 2013; Ousey et al., 2013). Participants in this study also indicated that clinical validation of wound care skills was not addressed in their nursing education program. Although given clinical simulation experiences to practice wound care skills, participants were not expected to perform these clinical skills for a competency check-off with faculty. Some participants were bothered by this and confused as to why wound care was not given similar priority in the clinical simulation laboratory as skills such as insertion of peripheral intravenous catheters or sterile procedures that traditionally require a validation check-off by faculty.

Another way students would benefit from an increased focus on wound care in clinical simulation is by adding realism to the experience. Providing a case study scenario centered on wound care and including a multisensory dimension would likely lead to enhanced learning (Roberson et al., 2008). Increasing the visual appearance of simulated wounds or introducing

malodorous wounds would provide a more authentic learning experience for students before immersion in clinical practice and possibly prevent apprehension or anxiety on the part of the student.

The preceding implications for policy would likely require a close examination of the clinical experience and expertise of nursing faculty and have implications for nursing education practice. This study identified several implications for nursing education practice related to nursing faculty. Given that wound care is a nursing specialty, nurse educators should evaluate the clinical experience and qualifications of faculty who teach wound care content. Students who have clinical experiences with experienced practicing nurses have increased wound knowledge (Caliri et al., 2003). Experts should be included in the planning of course content related to wound care management and preventative practices. This inclusion would ensure that the aforementioned requirements of current, evidence-based practices in wound care are included in the education provided to nursing students. Experienced faculty would enhance the quality and strengthen the foundational knowledge in contemporary wound care.

A second implication for practice that this study supports is the need for clinical faculty to have an increased awareness of wound care in the acute care setting. Previous research has shown that nursing students with little clinical experiences have low knowledge of wounds (Ayello et al., 2005). Participants in this study had mixed experiences as far as the amount of exposure they had to wound care in acute care. Some students reported few encounters in which they had an opportunity to participate in the care of a patient with wounds or be mentored by a practicing nurse who was experienced in wound care. Of note is that participants who did have an opportunity to engage in nursing activities centered on wound care with an experienced practitioner indicated it was the most meaningful experience. However, the quality of the

experience has more influence on the learning outcomes than the amount of time spent on the learning activity (Gaberson & Oermann, 2010).

While interpretive phenomenology was conducive to meeting the objectives of this study, quantitative strategies could be useful in evaluating similar phenomena. Further research could quantify aspects identified in this study. Previous research has been helpful in measuring on confidence and knowledge levels (Adralan et al., 2013; Caliri et al., 2003; Ross & Tuovinen, 2001), but a mixed-methods approach would allow nurse educators to consider both students' experiences of learning and the measureable outcomes of knowledge and confidence to critically evaluate nursing education in the area of wound care.

### **Limitations**

Several limitations of this study exist. First, a limitation of this study is the location and sample size. Because the participants in this study were from the same program and the same level of schooling, the similarities could be a barrier to the transferability of the results to other senior baccalaureate nursing students in other programs or in other geographical areas.

A second limitation of this study is that the researcher was a novice with limited interviewing and data reduction skills. Consequently, the researcher's unfamiliarity with semi-structured interview guides could have contributed to unnecessary information gathering from participants. A researcher with more refined interview skills may have obtained more information from the participants to gain a richer description of experiences. Another limitation of the study was the clinical interest of the researcher. The researcher was a wound care clinician before becoming a nurse educator. Personal bias related to the level of expected education could have influenced the researcher's reflections and perceptions of wound care education. The participants may have felt that the researcher had some level of expectation related to the amount

of knowledge or clinical experience they had with wound care. Although the researcher had no position of authority over the participants, they may have felt compelled to answer questions in a way that would be pleasing to a nurse educator.

Another recognized limitation in this study is that participants were senior-level students, but had not yet completed final clinical coursework that would likely include further opportunities to learn about wound care. A recommendation for further study is to interview new graduates from a baccalaureate nursing program who have completed all clinical coursework. This would allow participants to relate all possible learning experiences during the nursing education program that may include more focused learning activities and clinical experiences related to wound care.

### **Conclusions**

The findings of this study provided a contribution to the existing literature as they explore the wound care learning experiences of undergraduate nursing students in a baccalaureate nursing program. This study reveals that although undergraduate nursing students are classmates within the same program of study, their wound care learning experiences can be varied due to different clinical assignments in acute care settings. Life experiences affect the way students view wound care education or their motivation in learning. Using combined teaching/learning strategies, nurse educators provide opportunities for wound care learning to build basic knowledge for a generalist nurse and immersion in professional nursing practice. Knowledge and experience in acute care settings provides a framework for nursing practice to build confidence in clinical skills and develop an understanding of the role of the nurse and importance of wound care and preventive care in nursing practice.

## **Recommendations for Future Research**

In this exploration of undergraduate nursing students' wound care learning experiences, many questions were answered but other issues arose that should be addressed. As previously stated, a recommendation that emerged from this study is to consider interviewing new graduate nurses after they have completed the entire nursing program. This would afford the researcher the ability to gain an understanding of all possible wound care learning experiences in the nursing program. Another opportunity for exploration is comparing the learning experiences of baccalaureate nursing students with those of students in other types of nursing programs. The wound care learning experiences of students in associate degree programs may prove to be different of those of baccalaureate students.

This study identified that student differences affect wound care learning experiences in nursing education. Future research should specifically target traditional and non-traditional students to further investigate how these differences influence the ways in which nursing students approach wound care education or how they view learning about wound care. Targeting these students directly could help nurse educators better understand how life experiences or lack of life experience impact wound care learning.

Nursing students who participated in this study were enrolled in one of many nursing programs available within this area of the United States. This study could be expanded to include baccalaureate nursing students from other nursing programs in the same area or in different geographical areas of the state or country. Gaining a perspective on how much emphasis wound care receives in other regions would be helpful in understanding student experiences.

Further research in wound care education should be done to evaluate student learning quantitatively. Quantitative data provides a statistical measurement of a phenomenon (Polit &

Beck, 2008). Nursing literature has some evidence describing the actual wound care knowledge level of students (Adralan et al., 2013; Caliri et al., 2003; Ross & Tuovinen, 2001). However, little of this research was conducted in the United States; further research of nursing programs in the United States would assist nurse educators in assessing the current state of effectiveness of wound care education. A mixed-methods evaluation of an intentional focus on wound care and its effect on student knowledge and perceptions of how the focused education enhances their learning experiences would also add to the nursing literature.

Another area to include in wound care education research is in the simulation laboratory. The literature describes quasi-experiments using multisensory simulations to improve wound care simulation (Roberson et al., 2008). A focus on increasing realism in the simulation laboratory may have a significant impact on learning experiences of students. Advancements have been made in simulation technology, with available products that can augment the simulation experience, such as moulage kits, which can make wounds look and feel realistic, or products to simulate odor. The addition of visual, tactile, and malodorous components to simulation would be engaging to students and allow them to make a meaningful connection to wound care that would prepare them for a real-life situation they will certainly encounter in the acute care setting.

### **Summary**

The purpose of this study was to explore undergraduate nursing students' experiences with learning about wound care. Two individual interviews were conducted with senior baccalaureate nursing students to obtain data for this study. The data were collected and analyzed by the researcher. The themes of life experience, combined teaching/learning strategies, basic knowledge for a generalist nurse, immersion in clinical practice, confidence in clinical abilities,

and understanding the importance of wound care and prevention in nursing practice emerged through analysis of the data.

This information is significant to nursing education because little is known about the wound care learning experiences of undergraduate students or how these experiences shape their perceptions of nursing and caring for patients with wounds. The study used the descriptions of wound care learning experiences by nursing students who had completed most of their undergraduate studies. The students were able to make connections from theory learned in the classroom and independent study and use it to guide their future nursing practice. The students also relied on the experience of nurse educators and nursing mentors in acute care settings to help them translate nursing and wound care principles into safe, competent practice.

This study indicated that undergraduate nursing students are interested in wound care and strive to be competent care providers. Some students struggle with the ability to spend as much time learning about wound care as they would like due to time constraints in nursing education. Students also recognize that nurse educators may have limited professional wound care experience, thereby making it difficult to identify wound care opportunities in acute care clinical settings or provide wound care simulation experiences that are realistic for students.

The undergraduate students who participated in this study indicated that they have a greater appreciation for wound care as a result of their wound care learning experiences. They are particularly attuned to the importance of wound prevention in nursing practice. These students related that the bulk of their educational experiences with wounds was focused on wound prevention. They recognize that nurses have a responsibility to ensure that patients do not develop wounds while under their care.

Leaders in nursing education can use the information obtained from this study to improve curricula and include wound care in the program as an intentional objective. Outcomes in health care are main drivers of patient safety, satisfaction, and financial reimbursement. It is incumbent on nurses to maintain skin integrity and optimal treatments of wounds in patients under their care. The intentionality of including quality instruction of prevention and wound care management rests with nurse educators, for they are responsible for educating a generation of nurses who are conscious of the implications wounds have on patients and their health.

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APPENDIX A

INQUIRY/INFORMATIONAL LETTER TO DEAN OF COLLEGE OF NURSING

Dear Dean of College of Nursing,

I am a doctoral candidate in the Instructional Leadership, Nurse Educator Program at the University of Alabama completing my dissertation on undergraduate nursing students' experiences with learning about wound care. I am conducting this study under the supervision of Dr. Aaron Kuntz, an associate professor in the Department of Educational Studies at the University of Alabama in Tuscaloosa.

I am requesting that senior level nursing students from your institution participate in a research study, which will involve being interviewed about their educational experiences related to wound care. I would appreciate your participation, which will involve allowing the students to be informed of the study and providing my contact information to those who express an interest in participating in the study. The approximate time required of the students who participate is 2 ½ to 3 hours.

I have included an abstract of the study for your review. I have also included an informed consent form which explains the study, what is being asked of the participants, and why their participation is voluntary. The informed consent also explains that the study is being used for my dissertation and may be published; however, participants' identity will remain confidential and their grades in the nursing program will in no way be affected by their participation or responses to questions. Students interested in participation in the study may contact me either by email at [dsguerra@crimson.ua.edu](mailto:dsguerra@crimson.ua.edu) or by telephone number (251) 223-2536. If you have any questions related to the study, please contact me or you may contact Dr. Aaron Kuntz by email at [akuntz@bamaed.ua.edu](mailto:akuntz@bamaed.ua.edu) or by telephone at (205) 348-5675.

Thank you for your consideration and assistance with this research study.

Sincerely,

Donna Guerra, EdD (c), MSN, RN

Doctoral Candidate, Instructional Leadership, Nurse Educator Program

APPENDIX B

FOLLOW-UP LETTER TO DEAN OF COLLEGE OF NURSING

Dear Dean of College of Nursing,

I contacted you one week ago requesting that senior-level nursing students from your institution participate in a research study related to their experiences of learning about wound care. I requested your assistance in informing the students about the study and providing my contact information to those who express an interest in participating in the study.

The purpose of the study is to explore student wound care experiences and describe how students feel their educational opportunities have prepared them for wound care related work. I would like to identify student perceptions of their nursing education related to caring for patients with wounds.

I am writing in follow up to encourage participation in the study and to ask if there are any questions or concerns that I can answer for you, your educators, or students at your institution. Questions or concerns of students who are interested in participating in the study can contact me either my email at [dsguerra@crimson.ua.edu](mailto:dsguerra@crimson.ua.edu) or by telephone at (251) 223-2536. Questions about the study can also be addressed by Dr. Aaron Kuntz, my academic advisor at (205) 348-5675 or by email at [akuntz@bamaed.ua.edu](mailto:akuntz@bamaed.ua.edu).

Thank you for your consideration and assistance.

Sincerely,

Donna Guerra EdD (c), MSN, RN

Doctoral Candidate, Instructional Leadership, Nurse Educator Program

APPENDIX C

INITIAL CONTACT/INCLUSION CRITERIA QUESTIONS

1. Are you a senior-level undergraduate nursing student?
2. Which undergraduate nursing courses have you completed?
3. In which undergraduate nursing courses are you currently enrolled?
4. Would you be willing to participate in a research study, where you would be interviewed and asked to share your experiences with learning about wound care?

APPENDIX D  
INTERVIEW PROTOCOL

1. What types of things come to your mind when someone mentions wound care or wound management?
2. Can you tell me about when you first started learning about wound care? Did you learn about it differently than other areas of care?
3. Which courses have you taken that have prepared you for caring for a patient with wounds? How did these courses add to your knowledge of wound care and management?
4. What area of wound management/care do you feel received the most emphasis? Why? How was this emphasis addressed?
5. Where did the learning experiences of wound care and management take place?
6. What methods of teaching/learning strategies were used in your educational experience for you to learn about wound care and management?
7. How was your competency assessed in caring for patients with wounds?
8. Tell me about the amount of time spent on learning objectives aimed at wound management.
9. Tell me about the wound management content of your textbooks.
10. Describe how wound management and care was integrated across the nursing curriculum and covered in your different nursing courses.
11. Describe your experience of learning about preventing wounds. Did your experience change your perception of care related to wound prevention?
12. Describe your experience of learning about the assessment of wounds.

13. Describe your experience of learning about treating wounds and the treatment types available.
14. Describe your experience of learning about the documentation of wounds.
15. How do you think your learning experiences affected your technical skill development?
16. How do you think your learning experience related to wound care management affected your critical thinking skills?
17. How do you think your learning experience related to wound care management affected your ability to make decisions about the care of patients with wounds?
18. How confident do you feel the wound care teaching you received developed your knowledge related to maintaining skin integrity for all patients?
19. Describe your confidence in your preparedness to manage the care of patients with wounds.
20. How do you think your learning experiences prepared you to educate patients about the prevention and treatment of wounds?
21. How did your perceptions of nursing care change as a result of learning to care for patients with wounds?
22. How do you feel about the sufficiency of your education related to wound care?
23. How do you feel your understanding of wound care principles changed as a result of your learning?
24. What do you think would have made your learning about wound care management better?
25. According to Patricia Benner, nursing proficiency in various contexts can be viewed in stages. Based on these stages, tell me which stage you would place yourself in with

regard to the care and management of a patient with wounds. Explain why you feel that you fall into this stage.

Stage 1- Novice nurse- the nurse has no experience with the content or context in which the nurse is to perform.

Stage 2- Advanced beginner nurse- the knowledge of the subject and skill development is advanced due to previous experience with the content or context of the work to be performed.

Stage 3- Competent nurse- the nurse is efficient and has confidence with the skills to be performed in the content and context of the work to be performed.

Stage 4- Proficient nurse- the nurse has previous experience with events that could occur in a given situation and can plan and/or modify the plan of care based on the patient condition or situation circumstance.

Stage 5- Expert nurse- The nurse has a vast amount of experience and has a sense of intuition in a clinical situation and is able to make decisions for clinical practice.

APPENDIX E  
THE UNIVERSITY OF ALABAMA  
INFORMED CONSENT TO PARTICIPATE IN RESEARCH

You are being asked to participate in a research study.

The name of the study is “Undergraduate Nursing Students’ Experiences with Learning about Wound Care.” The study is be conducted by Donna Guerra MSN, RN, a doctoral candidate in the Instructional Leadership, Nurse Educator Program at the University of Alabama in Tuscaloosa, Alabama. The study is being supervised by Dr. Aaron Kuntz, an Associate Professor in the Department of Educational Studies at the University of Alabama in Tuscaloosa, Alabama. The study is a part of Ms. Guerra’s doctoral dissertation.

What is this research study about?

The purpose of this study is to explore student wound care experiences and describe how students feel their educational opportunities have prepared them for wound care related work.

What is the investigator trying to learn from the study?

The investigator is trying to learn about what senior, undergraduate nursing students in a baccalaureate nursing program experience as they learn about wound care. The investigator also wants to learn how these students feel they are prepared to provide nursing care to patients with wounds.

Why have I been asked to participate in this study?

You have been asked to participate in this study because you are a senior nursing student in an undergraduate baccalaureate nursing program. You have had some experience with learning about wound care. You have an opportunity to help other students enhance the learning experience as it relates to wound care.

How many people will be in this study?

There will be 10-12 senior level undergraduate nursing students who will be in this study.

What will I be asked to do in this study?

You will be interviewed by the investigator about your experiences with learning about wound care during your undergraduate nursing education, and how you feel these experiences have prepared you to provide care for patients with wounds. You will be allowed to choose a convenient location for the interview which we both agree upon.

How much time will I spend being in this study?

The initial interview will take about 1 to 1 ½ hours. The follow up interview will take 30 to 45 minutes. A transcript of the interviews, along with themes identified by the investigator as important will be emailed to you. You will be asked to read the transcript to verify accuracy and

truthfulness about what you said in the interview. This should take about 30 minutes. The total amount of time you will spend for the study will be about 2 ½- 3 hours.

Are there any benefits to me for participating in this study?

No benefits can be promised to you as a result of participating in this study. However, you may feel good about helping to improve nursing education for future nursing students.

Are there any benefits to science or society for my participation in the study?

There may be benefits to future undergraduate baccalaureate nursing students as a result of your participation in the study. The results of the study will allow the investigator to share information with other educators about your experiences and how well you feel you are prepared to provide wound care to patients.

Are there any risks (dangers) to me from participating in this study?

Little or no risks are foreseen as a result of your participation. Participation in the study will in no way affect any of your grades in the program.

Is the investigator being paid for this study?

The investigator is not being paid to conduct the study. The study is a part of the investigator's doctoral dissertation.

Will I be compensated for being in this study?

You will not be compensated for participating in the study.

Will participating in this study cost me anything?

Your participation in the study will not cost you any money. The only cost to you is your time spent in taking part in the interviews and reviewing the transcript.

What are the alternatives (my other choices) to being in this study?

Your alternative to being in the study is to refuse to participate in it.

How will my privacy and confidentiality be protected?

Your privacy will be protected at every stage of the study. Any communication that you have with the investigator will not be shared with anyone. It will not be necessary for you to be in contact with anyone other than the investigator for the study. The interviews will take place in a private location that you choose, and we both agree upon. Your identity will be withheld, and you will be referred to by a participant code number (e.g. Participant #1) on your consent, transcripts, and audiotapes. This information will be kept in a locked cabinet in Ms. Guerra's office. The consent forms, transcripts, and audiotapes will remain in a locked cabinet in Ms. Guerra's possession for five (5) years, and then will be destroyed.

The results of the study will be used in Ms. Guerra's dissertation and published in a professional journal, but no names will be used. Participants will only be referred to by the assigned

participant code number if people’s own words are used. Additionally, the dissertation and the article will not give the name of the university/college of nursing that you attend. It will only be referred to as a “university in a southern state”.

What are my rights as a participant in this study?

Your decision to participate or not participate in this study is completely voluntary. You have a choice about your decision to participate. You may refuse to participate or agree (give your consent) to participate. If you decide to participate in the study and then change your mind, you are free to do so. If you start the study, you may stop at any time. There will be no effect on your decision by the investigator, the University of Alabama, or your university.

Who do I call if I have questions or problems?

If you have questions, concerns, or complaints about the study right now, please ask them. If you have questions, concerns, or complaints about the study later on, please call the investigator Donna Guerra at (256) 824-2443.

If you have questions about your rights as a person in a research study, call Ms. Tanta Myles, the Research Compliance Officer of the University, at 205-348-8461 or toll-free at 1-877-820-3066.

You may also ask questions, make suggestions, or file complaints and concerns through the IRB Outreach website at [http://osp.ua.edu/site/PRCO\\_Welcome.html](http://osp.ua.edu/site/PRCO_Welcome.html) or email the Research Compliance office at [participantoutreach@bama.ua.edu](mailto:participantoutreach@bama.ua.edu).

After you participate, you are encouraged to complete the survey for research participants that is online at the outreach website or you may ask the investigator for a copy of it and mail it to the University Office for Research Compliance, Box 870127, 358 Rose Administration Building, Tuscaloosa, AL 35487-0127.

I have read this consent form. I have had a chance to ask questions. I agree to take part in it.

I will receive a copy of this consent form to keep.

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Signature of Research Participant \_\_\_\_\_ Date \_\_\_\_\_

Signature of Investigator \_\_\_\_\_ Date \_\_\_\_\_

APPENDIX F  
DEMOGRAPHIC DATA QUESTIONS

1. What is your current level in the undergraduate nursing program?
2. What is your age range?
  - a. 20-30 years
  - b. 31-40 years
  - c. 41-50 years
  - d. 51-60 years
  - e. >60 years
3. What is your gender?
  - a. Male
  - b. Female
4. Is this your first undergraduate degree?
  - a. Yes
  - b. No
  - c. If no, what is the focus of your other undergraduate degrees?
5. Which undergraduate nursing courses have you completed?
6. Which undergraduate nursing courses are you currently enrolled in?

APPENDIX G  
IRB APPROVAL LETTERS



March 17<sup>th</sup> 2016

Donna Guerra  
Clinical Assistant Professor  
College of Nursing  
The University of Alabama in Huntsville

Dear Ms. Guerra,

The UAH Institutional Review Board of Human Subjects Committee has reviewed your proposal, *Undergraduate Nursing Students' Experience with Learning about Wound Care*, and found it meets the necessary criteria for approval. Your proposal seems to be in compliance with this institutions Federal Wide Assurance (FWA) 00019998 and the DHHS Regulations for the Protection of Human Subjects (45 CFR 46).

Please note that this approval is good for one year from the date on this letter. If data collection continues past this period, you are responsible for processing a renewal application a minimum of 60 days prior to the expiration date.

No changes are to be made to the approved protocol without prior review and approval from the UAH IRB. All changes (e.g. a change in procedure, number of subjects, personnel, study locations, new recruitment materials, study instruments, etc) must be prospectively reviewed and approved by the IRB before they are implemented. You should report any unanticipated problems involving risks to the participants or others to the IRB Chair.

If you have any questions regarding the IRB's decision, please contact me.

Sincerely,

March 3, 2016

Donna Guerra  
College of Education  
The University of Alabama  
Box 870231

Re: IRB # 16-OR-097-ME, "Undergraduate Nursing Students' Experiences with Learning about Wound Care"

Dear Ms. Guerra:

The University of Alabama Institutional Review Board has granted approval for your proposed research.

Your application has been given expedited approval according to 45 CFR part 46. Approval has been given under expedited review category 7 as outlined below:

*(7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.*

Please note: Recruitment of research subjects at University of Alabama Huntsville (UAH) may not begin until the study is officially approved by this institution's IRB. Please forward a copy of the UAH IRB approval letter to [rscompliance@fa.ua.edu](mailto:rscompliance@fa.ua.edu) upon receipt.

Your application will expire on March 2, 2017. If your research will continue beyond this date, please complete the relevant portions of the IRB Renewal Application. If you wish to modify the application, please complete the Modification of an Approved Protocol Form. Changes in this study cannot be initiated without IRB approval, except when necessary to eliminate apparent immediate hazards to participants. When the study closes, please complete the Request for Study Closure Form.

Please use reproductions of the IRB approved stamped consent forms to obtain consent from your participants.

Should you need to submit any further correspondence regarding this proposal, please include the above application number.

Good luck with your research.

Sincerely,