

**HEALTH LITERACY PREPARATION OF BSN STUDENTS: A BASIC  
QUALITATIVE STUDY**

by

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## Abstract

Understanding the complexity of multiple health conditions, treatment options, and medications requires a high level of health literacy. Yet, 88% of Americans have some deficiency in health literacy. The nursing literature is lacking in best practices for teaching nursing students how to address health literacy concepts with their patients. Therefore, this basic qualitative study explored Bachelor's of Science in Nursing (BSN) students' educational preparation to integrate health literacy in patient education. The primary research questions asked, *How do BSN students describe their preparation to integrate health literacy in patient education?* The study used a purposive sample of 13 junior and senior BSN students to explore their experiences with health literacy. Nine participants were junior students, while the remaining four were seniors. An open-ended, semi-structured interview technique was used as a guide for asking seven health literacy sub-questions. Hatch's (2002) nine-step typological framework was used for the data analysis. Six themes identified from this research included that participants were taught health literacy concepts early in their BSN program and found clinical rotations to be the most helpful in fully understanding how to integrate health literacy in patient education. Teach-back and return demonstrations were methods the participants used to verify patient understanding. The majority of the participants experienced challenges related to cultural and language barriers. Implications for BSN curriculum include having students develop written patient education material at the patient's health literacy level, role-playing using clear, simple language, and using preceptors to demonstrate patient education. Further research of a quantitative nature is needed to determine effective teaching strategies.

## **Dedication**

This dissertation is dedicated to the memory of my parents and mother-in-law who struggled with understanding complex health issues. During critical times in hospitals they needed not only the compassion of nurses, but nurses who could help them understand their disease processes, their medications, and their plan of care. Their belief in my ability as a nurse motivated me throughout this journey.

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## **CHAPTER 1. INTRODUCTION**

### **Introduction to the Problem**

Low health literacy is not only a problem for nursing but also a concern for all healthcare professions. *Health literacy* is defined by the National Library of Medicine as “the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions” (Institute of Medicine [IOM], 2004, p. 32). Low health literacy affects all segments of society and contributes to higher costs of healthcare, increased emergency visits, and poor health outcomes (IOM, 2004).

An estimated 88% of the U.S. adults have some deficiency in health literacy (S. White, Chen, & Atchison, 2008). Yet, nurses may not be aware that their patients have a problem with health literacy (Cormier & Kotrlik, 2009; Sand-Jecklin, Murray, Summers, & Watson, 2010). Bachelor of Science in Nursing (BSN) students may or may not have experiences learning and applying health literacy concepts such as effective communication, chronic-disease management, or applying numeracy skills to educate patients on medication administration or interpreting test results.

Researching the health literacy preparation experiences of BSN students may lead to new and more effective teaching strategies for nurse educators who could integrate health literacy in the curriculum. Understanding what components of the BSN program, such as clinical time, didactic education, role playing, were most valuable could provide

nurse educators with considerations for changing curricula and incorporating evidence-based strategies. Lewis (2005) noted that the patient teaching responsibility is most important and considered by some to be the most essential function of the registered nurse. Lewis found that schools of nursing prepared students for patient teaching, but hospital administrators did not support nurses providing patient teaching through the provision of resources. To promote quality patient education, research is needed to show experiences of BSNs who have been prepared to deliver patient centered teaching at each patient's level of understanding.

### **Background of the Study**

As healthcare becomes more complex with multiple chronic illnesses, health literacy becomes more important for patients to comprehend their diagnoses and treatments. Cormier and Kotrlik (2009) stated that health literacy was the best predictor of patients' health status. The U.S. Health and Human Services (HHS) declared that almost 90% of Americans who are English-speaking adults have only limited health literacy (U.S. Department of HHS National Plan to Improve Health Literacy, 2010). To improve a patient's healthcare, health literacy, and quality care patient education must be considered.

Higher rates of hospitalizations and emergency visits are associated with low health literacy (Sand-Jecklin et al., 2010). Given the serious consequences of low health literacy, one would expect nursing students to learn to incorporate health literacy concepts with patient education. However, nursing students' knowledge of health literacy was lacking (Cormier & Kotrlik, 2009), and the recommendation was to incorporate health literacy in the nursing curriculum (Sand-Jecklin et al., 2010).

Avsar and Kasikci (2011) also found that clinical nurses were not implementing patient education adequately and stressed the necessity of developing patient education skills in nursing students. These studies were quantitative, and did not fully address the experiences of BSN students. The literature is deficient in qualitative studies where nursing students' describe experiences with health literacy, which are integrated in patient education. Research is needed concerning how and to what extent BSN students, are prepared to address health literacy in patient education. This study explored the preparation experiences of junior and senior BSNs related to health literacy for patient education. Researching the BSN preparation experiences may guide nurse educators to integrate health literacy learning strategies in the curriculum. Themes emerged from participant interviews and interpretive analysis, which may be valuable in producing best practices for health literacy education for BSNs.

### **Statement of the Problem**

Little is known about BSN student's preparation experiences with health literacy related to patient education. The extent to which these health literacy experiences influence the nursing role is lacking in the nursing literature. Speros (2009) found that the majority of health literacy literature is outside of nursing, and there is no substantive body of literature looking at nurses' knowledge of health literacy. Since the health literacy experiences of BSNs is unknown, exploring BSN student's preparation experiences for health literacy related to patient education, may indirectly guide teachers to determine learner centered teaching methods for integrating health literacy with patient education.

The IOM (2004) recommended that nurse educators include health literacy in the curricula. In addition, the IOM discussed several medical schools, which had added health literacy to the curricula, but did not mention any nursing schools. To adequately teach patients, the nurse must assess for health literacy limitations and communicate health teaching in a method and at a level of understanding the patient can comprehend (Sand-Jecklin et al., 2010). However, nurses have not been prepared to address health literacy issues (DeSilets & Dickerson, 2009; Speros, 2009).

Even though nurses have a professional, ethical, and legal responsibility to communicate health information, many lack the knowledge needed to adapt patient education to meet the needs of the patient (Speros, 2009). The HHS National Action Plan states the importance of health professionals providing health information in a way that is clear enough for patients to make informed healthcare decisions (U.S. Department of HHS National Plan to Improve Health Literacy, 2010). Nurses have health literacy knowledge gaps, which are not being addressed in the BSN curricula (Cormier & Kotrlik, 2009). Therefore, exploration of the health literacy preparation of BSN students is needed to determine beneficial methods of filling the gaps in health literacy knowledge.

### **Purpose of the Study**

The purpose of this basic qualitative study is to explore BSN student's experiences of health literacy preparation related to patient education. The goal of basic qualitative research is to understand, describe, or attribute meaning to a problem (Merriam, 2009). Exploring BSN student's educational preparation to address health literacy and patient education may add to the body of nursing education research, since

qualitative research on BSN's health literacy experiences has not been previously explored.

The analysis of themes emerging from the research may lead to improved methods of teaching health literacy concepts, which could benefit patients in understanding their health. Ultimately, analyzing BSN health literacy preparation experiences may prepare nurses to deliver health teaching to patients according to the patient's ability to understand. Patients who understand their health condition and treatment plan will have the ability to improve their health status.

### **Rationale and Relevance**

Health literacy is a concern for health professionals. It was during the early 1990s that articles began appearing in the healthcare literature discussing health literacy (Cutilli, 2007). The National Adult Literacy Survey (NALS) study prompted researchers to study the relationship between health outcomes and low literacy (Kirsch, Jungeblut, Jenkins, & Kolstad, 1993).

The next decade of researchers used instruments such as the Test of Functional Health Literacy in Adults (TOFHLA) and Rapid Estimate of Adult Literacy in Medicine (REALM) to assess patients' health literacy (Kutner, Greenberg, Jin, & Paulsen, 2006). The IOM (2004) reported that 90 million U.S. adults have low health literacy, which costs the U.S. \$73 billion per year. Therefore, it is imperative that nursing students learn to provide patient education, individualized for the patient's health literacy level. Nurses also have an accreditation obligation to provide adequate patient education (The Joint Commission, [TJC], 2010). The primary research question for this study was, "How do BSN students describe their preparation to integrate health literacy in patient education?"



The goal was to explore the in-depth health literacy preparation experiences of junior and senior BSNs.

As the largest healthcare profession (American Association of Colleges of Nursing [AACN], 2007) nurses have the potential to improve the health literacy of their patients and improve patient outcomes. A goal of nursing is to facilitate self-care in the patient (Orem, 1991; Wilson, Baker, Nordstrom, & Legwand, 2008). Patients who understand their health conditions can make better choices for self-care. The Agency for Healthcare Research and Quality (AHRQ, 2004) suggested addressing self-efficacy, self-care, and trust to increase patient understanding of health conditions. For complex health issues, patients may need repeated health education tailored to their health literacy level to achieve understanding and self-care.

Studies also looked at nursing students' knowledge of health literacy from a quantitative view and have noted that nursing students lack adequate health literacy teaching (Cormier & Kotrlik, 2009; Sand-Jecklin et al., 2010). The recommendation was to provide health literacy teaching in the BSN curriculum. To do so, research is needed to focus on the new BSN's health literacy preparation experiences throughout their BSN program, and to incorporate concepts that BSN students found to be most beneficial in understanding health literacy related to patient education. New health literacy educational teaching strategies may emerge from the themes generated.

### **Research Questions**

The research questions were determined from a review of the literature and reviewed by experts in health literacy. Ramirez (2002) described subject matter experts as having broad, unique insight. The feedback of the experts clarified words and

concepts in the questions. The primary question is: How do BSN students describe their preparation to integrate health literacy in patient education?

Sub-questions:

1. What components, such as classes, lectures, or clinical rotations, of the BSN program were helpful in understanding health literacy? Why were those components most helpful?
2. At what point in the BSN program was health literacy introduced?
3. How did BSN students learn to apply health literacy to patient education?
4. Which methods of ensuring patient understanding were most valuable? Why were they most valuable?
5. How do BSN students describe their role in integrating health literacy within patient education?
6. What ethical considerations related to health literacy do BSN students encounter during patient education?

### **Significance of the Study**

The findings from the study identified potential teaching strategies for nurse educators that could aid nursing students in understanding both health literacy and the nurse's role in patient education. This study is relevant to nursing education since it explores BSN student's health literacy preparation experiences for patient education. The research also sought to identify what components of the BSN preparation were most helpful in learning to provide patient education. Nursing students learning to integrate health literacy with patient education could ultimately decrease healthcare costs, and increase patient outcomes (IOM, 2004).

A basic qualitative design was chosen to explore BSN student's experiences related to health literacy preparation and how they applied that preparation to patient education. This study fills a gap in the nursing education literature in the area of nursing students' experiences of providing patient education at the patient's health literacy level.

This health literacy study is not only significant to nursing and nurse educators, but also to other healthcare disciplines, which could incorporate themes from this study in their practice and curriculum. Other healthcare disciplines are also interested in patient teaching. Hospitals and other organizations where nurses are employed could later benefit by patients understanding their health conditions and practicing self-care principles for better health outcomes.

### **Definition of Terms**

The following terms were significant to this study:

*Adult learning:* "Adult learners are mature, socially responsible individuals who participate in sustained informal or formal activities that lead them to acquire new knowledge, skills, or values" (Cranton, 2006, p. 2).

*Basic qualitative study:* "Basically, qualitative researchers are interested in understanding the meaning people have constructed, that is, how people make sense of their world and the experiences they have in the world" (Merriam, 2009, p. 13).

*Health literacy:* "The degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions" (IOM, 2004, p. 32).

*Interpretive analysis:* “Interpretation is about giving meaning to data. It’s about making sense of social situations by generating explanations for what’s going on within them” (Hatch, 2002, p. 180).

*Literacy:* “Using printed and written information to function in society, to achieve one’s goals, and to develop one’s knowledge and potential” (Kirsch et al., 1993, p. 1).

*Low health literacy:* There is no consensus for an exact definition of how low health literacy should be measured. Also, the NAAL, the TOFHLA, and the REALM use different measurements (IOM, 2004). The NAAL used Level 1 to Level 4 to categorize health literacy ability. The TOFHLA scores are related to three levels: inadequate, marginal, and adequate. The REALM correlates REALM scores to grade levels.

“Researchers using existing measures of health literacy have been able to establish differences in health-related outcome measures for patients based on differences in test scores” (IOM, 2004, p. 51). Each of these measurements use levels of measurement, and those scoring below average would have low health literacy.

*Nursing systems:* “... the totality of the actions and interactions of nurses and patients and/or family in a nursing situation at a point in time” (Hartweg, 1991, p. 45).

*Patient education:* “Patient education is the combination of learning experiences that help to protect health and develop changes in individuals’ behaviours” (Avsar & Kasikci, 2011, p. 67).

*Purposeful sampling:* “The idea behind qualitative research is to *purposefully select* participants or sites (or documents or visual material) that will best help the researcher understand the problem and the research question” (Creswell, 2009, p. 178).

*Self-care*: “the practice of activities that individuals initiate and perform on their own behalf in maintaining life, health, and well-being” (Orem, 1991, p. 117).

*Self-care deficit*: “the relationship between self-care agency and therapeutic self-care demands of individuals in which capabilities for self-care, because of existent limitations, are not equal to meeting some or all of the components of their therapeutic self-care demands” (Orem, 1991, p. 173).

*Transformational learning*: “a process by which previously uncritically assimilated assumptions, beliefs, values, and perspectives are questioned and thereby become more open, permeable, and better validated” (Cranton, 2006, p. 2).

### **Assumptions, Limitations, and Delimitations**

For this research, it was assumed that exploration of the health literacy preparation experiences of BSN students would offer insight about teaching strategies. It was also assumed that the responses given by the students would be honest and fully describe their health literacy preparation while in a BSN program. Another assumption was that patient education is a significant part of nursing care and that nurses are interested in and committed to delivering education that is patient-centered and understandable to those with low health literacy. More generally, it is assumed that patients want to have a healthy life, and are generally capable of performing self-care to achieve their health goals.

Limitations of this study are associated with using a basic qualitative design. As with other qualitative studies the sample size is small, but the information collected is rich. Qualitative studies cannot be generalized, but do include information to stimulate consideration of experimental studies or other further research (Creswell, 2008). In

collecting and analyzing the information, researcher bias could be introduced.

Participants could give responses that they perceive are the correct answers instead of a complete description of their lived experiences with health literacy. Using telephone interviews instead of face-to-face questioning could result in missing clues from body language, gestures, and facial expressions. The interviews were conducted after the experiences have occurred, which could mean that information may be misremembered (Maithreyi & Surapaneni, 2010). In describing interview questions, Patton (2002) stated that questions could be asked in the present, past, or future. However, M. Jones and Johnston (2011) reported that retrospective descriptions are prone to bias. The semantic memory is affected by the participant's current affective state, and memory is also prone to reconstruction (M. Jones & Johnston, 2011). Purposive sampling, which was used in this study, was not random sampling and therefore did not include nurses with differing experiences. The study was also limited by the scarce scientific literature available.

This study was purposefully limited in scope to obtain rich descriptions of health literacy experiences of the chosen sample. The delimitations include using only a single university, which would not be representative of the BSN student population. Using more than one university would have presented more data, but also would have been more challenging. A sample of BSNs is only a portion of nurses, and the health literacy experiences of Associate Degree Nurses (ADN) and Master's of Science in Nursing (MSN) graduates is also valid, but again would present a much more extensive study. The methodology was delimited to a basic qualitative design. Including a mixed method design would have given a quantitative view, but could be considered in another study

(Creswell, 2008). Contrasting BSN student's health literacy experiences to those of experienced nurses was not done in this study, but would provide valuable health literacy information.

### **Theoretical Framework**

The study provided a description of the health literacy preparation experiences of the participants using a basic qualitative design. In basic qualitative research, theory aids the researcher in focusing on the inquiry according to a need (Lopez & Willis, 2004).

Transformational learning theory was used to help guide the research through inquiry and discovery about how nursing students transfer knowledge from school to practice.

Transformational learning begins with an experience and then a reflection of that experience, which enables a person to change a belief or perspective (Cranton, 2006).

This study also used Orem's Self-Care Deficit Nursing Theory (SCDNT) to focus on the nursing need for health literacy to be integrated in patient education to promote self-care by the patient. The combination of the two theories provided guidance and added to the body of research supporting these theories.

### **Transformational Learning**

Transformational learning is applicable to the adult learning process, which would apply to BSN students. It requires self-reflective judgment of life experiences, which only adults are capable of doing (Cranton, 2006). Ultimately, transformational learning changes or transforms the individual's beliefs or attitudes. Transformational learning concepts include experience, critical reflection, reflective discourse, and action (Merriam, Caffarella, & Baumgartner, 2007). After going through the learning concepts of health literacy, a change in the application of knowledge may result. Through the

transformational learning process, which is supported with research, students can question their own assumptions and learn from their discovery. Transformational learning was selected as a learning theory since nursing students uniquely experience health literacy concepts, and then must reach an action state, where the new experiences are integrated into nursing care.

### **Orem's Self-Care Deficit Theory (SCDT)**

Orem's SCDT (2001) addresses nurses aiding patients to perform self-care, which includes patients having foundational capabilities to understand, communicate, and make health decisions (Wilson et al., 2008). Patients who are compromised in foundational capabilities may have difficulty performing self-care. BSN students should be prepared to tailor patient education to meet the self-care needs of the individual patient. A goal of nursing is to facilitate self-care (Wilson et al., 2008). BSN students need to develop the ability to assess the patient's health literacy level, so that self-care educational activities can be taught in a method that the patient can understand and accept.

The effects of low health literacy reach all aspects of society. With health conditions becoming more complex, about 88% of the U.S. adults have some deficiency in health literacy (S. White et al., 2008). To add to the problem, nurses may not be aware and may not even know how to assess if their patients have a deficiency with health literacy (Cormier & Kotrlik, 2009; Sand-Jecklin et al., 2010). There is a need to identify and understand holistically the components of the BSN program where learning experiences occurred that were helpful to students in integrating health literacy concepts in patient teaching.



Researching the health literacy educational preparation of BSN students may lead to new methods to integrate health literacy concepts in the curriculum. Understanding what components of the BSN program were most valuable could provide nurse educators with considerations for changing curricula, and incorporating health literacy concepts with evidence-based strategies. Lewis (2005) noted that the patient teaching responsibility is most important to nursing, and considered by some to be the most essential function of the registered nurse. Lewis found that schools of nursing prepared students for patient teaching, but hospital administrators did not support nurses providing patient teaching. This research provided data that nurse educators could present to hospital administrators on the value of equipping nursing students with health literacy knowledge.

BSN students would benefit from this research through knowledge of positive BSN health literacy experiences, where other learners had related health literacy to patient education. BSN nurses begin working with knowledge gaps in health literacy concepts and in implementing health literacy interventions (Cormier & Kotrlik, 2009). It would be helpful to hear BSN student's description of their preparation relating health literacy to patient education. New nurses could use that information to bridge their health literacy knowledge gaps.

### **Practical Implications**

The effects of low health literacy reach to all aspects of society. Health literacy was found to be associated with age, gender, race/ethnicity, overall health, and household income (S. White et al., 2008). Low health literacy contributes to patient's inability to take medications as prescribed, understand insurance forms, or even access healthcare

when needed (IOM, 2004). Yet new nurses may not realize which patients are at a higher risk for low health literacy, or simple screening techniques to assess health literacy, or how to adapt patient education materials for the health literacy level of the individual patient (Cormier & Kotrlik, 2009; Sand-Jecklin et al., 2010). There is a need to understand holistically the components of the BSN curricula and learning experiences that were most helpful to students in understanding how to integrate health literacy concepts in patient teaching.

Researching the health literacy preparation of BSNs may lead to new and more effective teaching techniques for nursing education. Understanding what components of the BSN program were most valuable could provide nurse educators with considerations for changing curricula, and incorporating health literacy concepts with evidence-based strategies. Lewis (2005) conducted a survey design to assess if nurses were prepared to teach patients. Health literacy was not included in Lewis's study, but Lewis did find that most of the nurse's time is devoted to interaction with the patient, and that schools of nursing were preparing nurses in patient education.

Avsar and Kasikci (2011) found that 98% of nurses did not plan or record patient education that may have been accomplished. Nor did the nurses in Avsar and Kasikci's study include family or caregivers in their teaching. This research provided data on which patient education techniques BSNs are using, and how nurse educators could better equip BSNs with health literacy knowledge.

BSNs would benefit from this research through knowledge of positive BSN health literacy experiences related to patient education. New graduates begin working with knowledge gaps in health literacy concepts and in implementing health literacy

interventions (Cormier & Kotrlik, 2009). It would be helpful to hear BSN student's experiences describing preparation relating health literacy to patient education to decrease knowledge gaps, such as teaching patients from various cultures, who may have low health literacy.

Practicing nurses and nurse managers could also benefit through using helpful patient teaching techniques taught during inservices and continuing education. Self-efficacy in patient education, knowledge of health literacy concepts, and assessment of patient understanding of teaching are possible topics. R.A. Jones (2010) found that education and years of experience significantly impacted nurse's competency and comfort with patient education. Ultimately patients and society would benefit from enhanced patient education, which leads to improved health outcomes, decreased healthcare costs, and decreased hospitalizations and emergency visits (AHRQ, 2004; IOM, 2004). This could be realized through nurses describing positive health literacy educational preparation and implementing new teaching strategies based on the positive descriptions.

### **Organization of the Remainder of the Study**

Chapter 2 offers a general literature review beginning with the historical context of health literacy. The high cost of health literacy, poor patient outcomes, and cultural factors are reviewed. Patient education related to health literacy, and the nurse's role is explored. Chapter 3 includes the research questions and design as well as the setting and sample. The methods of data collection and data analysis are also presented. Threats to validity are discussed. Chapter 4 offers an analysis of the collected data. Chapter 5 presents the results and potential future studies.

## **CHAPTER 2. LITERATURE REVIEW**

### **Introduction to Literature Review**

BSNs are in a position to impact healthcare outcomes for a growing number of people with chronic healthcare conditions and low health literacy. Health literacy is a national health problem, which has the potential of affecting the majority of Americans (Cormier & Kotrlik, 2009; IOM, 2004). Yet, the problem is not receiving the nursing focus necessary to provide sufficient education to patients. Only 20% of hospitals assess patients' literacy levels (Murphy-Knoll, 2007). In addition, 81% of physician visits contained at least one or more unclarified terms, and most occurred with providing recommendations (Castro, Wilson, Wang, & Schillinger, 2007). A review of the health literacy literature was conducted using databases such as ProQuest, Ebsco, Ovid, Pub Med, Summon, and CINHL using search terms such as health literacy, healthcare, nursing, patient education, patient information, health literacy and culture, health literacy and written information, and health literacy and cost. Further, using the references of studies provided opportunities to explore other studies. The data search resulted in finding that several health professions other than nursing have been responsible for the majority of health literacy literature. Few nursing health literacy studies are available in the literature (Speros, 2009). Since health literacy impacts a patient's understanding of healthcare, nurses should have health literacy studies available to tailor education and practice to meet the needs of patients.

## **Major Factors Associated with Health Literacy**

Health literacy is a new concept, which describes a patient's ability to understand their health condition and treatments. The following section will provide an overview of health literacy, the cost of low health literacy to society, how health literacy is associated with health outcomes, and the cultural considerations. People learn in different ways and at different rates, which makes health literacy an important concern for nursing education.

### **Historical Context of Health Literacy**

Health literacy evolved from recognizing a concern with patient education, to research from the National Assessment of Adult Literacy (NAAL) study showing over 90 million Americans having an inability to adequately make healthcare decisions for themselves (Kutner et al., 2003). The NAAL study greatly influenced America's perception of health literacy. Patient's inability to perform self-care and to achieve positive health outcomes led researchers to attempt to assess patient's literacy levels (Speros, 2005).

Health literacy began appearing in the literature first in 1974 (Oldfield & Dreher, 2010; Speros, 2005). The term *literacy* was known from educational research, but *health literacy* was not recognized. Literature on health literacy was uncommon until the 1990s. Doak, Doak, and Root (1985) were among the few researchers to publish health literacy studies in the 1980s. They realized the challenge and importance of teaching patients with low health literacy, and considered that a tool to measure health literacy was needed. In the 1980s, there were research instruments designed to measure literacy levels, but not health literacy.

Health literacy and literacy are closely related, but even people with a college education and adequate literacy skills can have low health literacy, which becomes magnified by the complexity of disease conditions (Kutner et al., 2006). A person's education does not always prepare him or her for understanding the vast realm of health conditions.

The first major study to identify those with low or marginal literary skills was the NALS, which found that approximately 25% of the population was either functionally illiterate or had marginal literary skills (Kirsch et al., 1993). Two years later, the TOFHLA was developed, and a definition of health literacy was first used (Speros, 2005). The TOFHLA provided a measure of health literacy and grouped patients according to their literacy level. That same year Williams et al. (1995) used the TOFHLA in a large hospital study, and found that 59.5% of patients sampled ( $n=2659$ ) could not understand a consent form, 41.6% could not understand how to take prescribed medications, 33% could not understand basic health material, and 26% could not understand an appointment form. Health literacy was then recognized as a U.S. health concern.

Another evaluation of adult literacy was used beginning in 1997. The Rapid Estimate of Adult Literacy in Medicine (REALM) measured sight-reading ability, but not understanding of medical terms (Mancuso, 2009; Schaefer, 2008). The gold standard is considered the TOFHLA since the TOFHLA uses health information to assess reading, numeracy, and comprehension skills rather than evaluating literacy (Mancuso, 2009). The TOFHLA has a strong reliability and validity, yet some researchers consider these types of tests to be intimidating to patients. Patients are frustrated when they attempt to

respond correctly to the test questions. Additionally, the concern is that even when using these health literacy assessments, outcomes are not improved. Schafer (2008) found that few health literacy studies between 1993 and 2006, showed improved patient outcomes. America realized the health literacy problem, developed assessments to identify those at risk, but did not develop a patient centered method to ensure health improvement.

### **Costs to Society**

The IOM (2004) report brought awareness of the consequences of low health literacy, such as poor patient outcomes, increased healthcare costs, and more frequent emergency visits and hospitalizations. The IOM reported that healthcare expenditures have increased at a greater rate than the overall economy. Higher healthcare costs are concerning to individuals with complex healthcare needs, employees who offer health insurance, and society, which pays healthcare expenses for those on a government type of healthcare program.

America has the highest healthcare costs in the world, at \$1.4 trillion (IOM). Patients with chronic disease use one-half of the total healthcare costs, and many of those patients have inadequate health literacy to manage their health (Redman, 2005). The healthcare costs resulting from low health literacy are \$106 billion to \$238 billion (Vernon, Trujillo, Rosenbaum, & DeBuono, 2007). These additional costs may be partially due to people with low health literacy not seeking care in a timely manner and needing to use emergency services. Health professionals could be incentivized to address health literacy related problems (Vernon et al., 2007). More research is needed to identify ways to address health literacy and reduce healthcare costs (Vernon et al., 2007).

After adjusting for education and comorbid conditions, Howard, Gazmararian, and Parker (2005) found that the total healthcare cost per Medicare patient with low health literacy was \$1,551 higher than for individuals with adequate health literacy. Those with the lowest health literacy level have an average of four times greater healthcare costs (Pawlak, 2005). Understanding who are at risk for low health literacy and developing services to aid them in understanding their conditions, and management of those conditions is a U.S. concern requiring health policy changes.

### **Health Outcomes**

The NAAL (Kutner et al., 2003) was the first large ( $n = 19,000$ ), national health literacy study that related health literacy to health outcomes. The NAAL looked at the relationship between health literacy and clinical factors, prevention factors, and the patient's ability to navigate the healthcare system related to literacy levels. The Board on Testing and Assessment (BOTA) recommended using performance levels, rather than an absolute score, and the U.S. Department of Education used below basic, basic, intermediate, and proficient as the health literacy performance levels. The NAAL found that a smaller percentage of participants who reported very good or excellent health had below basic health literacy. Those without healthcare insurance or who had Medicare or Medicaid were more likely to have low health literacy. In addition, those with low health literacy were less likely to get health information from written sources, and those with higher health literacy were more likely to use the Internet to get health information. The NAAL was the first large study to show the importance of developing health literacy in patients.



The detrimental effects of low health literacy are well publicized, but increasing health literacy to achieve improved health outcomes is less well known. Best practices for methods to increase health literacy in order to improve outcomes are needed (Shohet & Renaud, 2006). Several studies measured health literacy levels and correlated poor outcomes with low health literacy. A national study by S. White et al. (2008) found that preventive health practices were negatively associated with a low literacy level for adults 65 years and older. Older Americans consume a significant amount of total healthcare spending and increasing older American's preventive healthcare through health literacy may result in improved outcomes.

A literature review by DeWalt, Berkman, Sheridan, Lohr, and Pignone (2004) examined 73 health literacy articles to find out if literacy skills were related to health outcomes. Of the articles examined, 14 out of 16 found a significant relationship between literacy and health outcomes. Baker et al. (2007) also found that low health literacy was associated with mortality even when sociodemographic factors and chronic conditions were adjusted. However, years of education completed were a weak predictor of mortality, possibly because of lifelong learning's positive impact on health literacy.

Harrison, Mackert, and Watkins (2010) used a grounded theory study to find how women with visual impairments used health literacy to improve overall health outcomes. Four concepts were used to sort the data: "influences on health literacy, ability to process, ability to understand, and ability to access health information" (Harrison et al., 2010, p. 53). Improvements in health literacy were limited. Strategies to improve health outcomes consisted of ways of accessing health information, providing a private area for verbal discussion of healthcare, and to not assume that caregivers are always available for

the patient. Individuals who understood and agreed upon contractual health goals with their provider showed the most improved health outcomes.

Health literacy is more than knowledge of the disease and expected outcomes. Wilson, Baker, and Nordstrom (2010) used contracting (an agreed upon behavior between the provider and the patient) and media education to research the best method to result in positive health outcomes in low literacy participants. The participant's reading level was between the seventh and eighth grade. Low literacy decreased self-care ability. Men in both the audio-visual educational group and the contracting group increased in self-care capabilities showing the value of patient education. Participants showed that even with low health literacy, they were capable of managing their health and making informed decisions about their care, which led to improved outcomes. Nursing students could increase the patient's health outcomes with effective patient education designed for the patient's health literacy level.

Healthy People 2020 had 467 objectives designed to lead to positive health outcomes. The underlying assumption was that every American should have a long and healthy life. Another assumption was that many behaviors and social environments affect a person's health status. For instance, the choice to use tobacco may be influenced by the person's social environment rather than health literacy. The choice to continue the behavior has a direct impact on health outcomes. More research is needed to identify if behavior leading to unhealthy outcomes is influenced by the individual's health literacy, motivation, or social environment.

Health literacy is correlated more positively with patient outcomes than it is with age, educational level, or racial/ethnic group (Gatti, Jacobson, Gazmararian, Schmotzer,

& Kripalani, 2009). Gatti et al. (2009) studied 275 participants to identify “the relationships between beliefs about medications, health literacy, and self-reported medication adherence” (p. 657). Health literacy was not correlated with medication adherence in Gatti et al.’s study, but in several other studies cited by the authors, health literacy was significantly associated with medication adherence. Negative beliefs about medications were associated with medication adherence. The negative beliefs stemmed from concerns about addiction and adverse effects of the medication. The authors concluded that improved medication management potentially could improve disease control.

Another literature review was conducted by Cutilli (2007) which studied health literacy in older Americans. Most of the 20 studies identified were from physicians who showed a linkage between health literacy and health status. Low health literacy was positively correlated with poor physical and mental function. Health literacy was also positively correlated with knowledge of chronic disease such as asthma, diabetes, and congestive heart failure. Those with low health literacy were less likely to participate in preventive care. Cutilli’s (2007) review also found that medication adherence was positively correlated with health literacy. Nursing could improve education in older Americans by designing patient education material to meet the health literacy needs of the patient.

### **Cultural Considerations**

Improved health outcomes are the result of effective patient or family learning (Chang & Kelly, 2007). Implementing effective teaching strategies requires addressing cultural beliefs and health literacy. The outcome goals a patient is willing to set are

intertwined with a patient's cultural beliefs and health literacy. Also, a person's learning style is related to sociocultural values and traditions. Culture is a set of values, beliefs, and practices shared by a group of people (Chang & Kelly, 2007). The group's thinking, decisions, and behaviors are guided by the culture, which is usually unconscious (Singleton & Krause, 2010). Nursing students must be aware of how the cultural views affect patient teaching. Patient education may need to be modified based on cultural beliefs and practices.

A person's response to illness, their expression of pain, and their willingness to accept health teaching is grounded in the person's culture. Also, the patient may not be accustomed to making decisions, if another family member usually makes important decisions for the family (Redman, 2005). The patient may not want to make healthcare decisions, since the healthcare professional may be seen as an authority figure, and therefore should tell the patient what to do. Questioning an authority figure may not be culturally accepted. Cultural competence includes using cultural lenses to understand and respect patients (Stokes & Flowers, 2009). Clear communication is needed to understand the patient's cultural views. Also, English may not be the patient's primary language, which means that a suitable interpreter should be used.

Religious beliefs may also affect acceptance of health teaching. Some cultures believe that illness is a result of supernatural powers and likewise healing is divinely determined compared to resulting from biomedical intervention (Singleton & Krause, 2010). Nurses need to understand how these views may influence self-care even when patients have adequate health literacy.

Culture, language, and health literacy need to be considered as a triad to improve health outcomes (TJC, 2007). Patients with low health literacy and language barriers have a more difficult time understanding healthcare concepts than patients who have low health literacy and no language barriers (Singleton & Krause, 2010). Nurses are in a position to address the triad to ensure effective patient education.

### **Patient Education and Health Literacy**

The American Association of Colleges of Nursing [AACN] (2008) provided guidance to decrease health disparities and deliver appropriate patient-centered teaching that integrates culture and health literacy. Yet the nursing literature does not show that the AACN's guidance was followed. Patient education is a core nursing responsibility, which includes written, verbal, electronic, and demonstrated instruction (AACN, 2008).

Patient education has been an important aspect of nursing throughout the history of the profession (R.A. Jones, 2010). Patient education is part of the nursing literature, but using health literacy to evaluate the patient's ability to understand the nurse's patient education is lacking in nursing literature. There are several nurse components of patient education such as attitude, perceived role, educational preparation of the nurse, health models, anticipated patient compliance, and nurse's comfort with patient education (R.A. Jones, 2010). These components require research to determine how nurses can most effectively deliver patient education.

A large study (n = 1,220) found that nurses, especially staff nurses are not effective patient educators (Kruger, 1991). R.A. Jones (2010) asserted that nurses do not understand what is needed in patient education, unless a tool is used to determine the patient's health literacy level. Nurses need knowledge to provide patient-centered

education based on the results of a health literacy assessment with a recognized instrument.

Many patients have a need for a health professional to educate them about their condition. A better understanding enables the patient to make healthcare decisions (Shieh & Halstead, 2009) and perform self-care (Wilson et al., 2010). A low health literacy level in women has been correlated with inaccurate understanding of breast cancer risk, and less compliance with breast and cervical cancer screening (Shieh & Halstead, 2009). Patients with low health literacy need nurses to tailor education for enhanced patient understanding.

The TOFHLA, the REALM, and asking a patient about their confidence in filling out insurance forms are methods to identify a potential health literacy concern (R.A. Jones, 2010). After determining the patient's health literacy level, there are several tools to evaluate written patient education to be sure it is written for a low health literacy level. The Flesch-Kincaid Tool, The Simple Measure of Gobbledygook, and the Fry Index Measure are three tools to evaluate the level of written material (Shieh & Halstead, 2009). Designing patient education material for low health literacy requires using one-syllable words and short sentences. Avoidance of medical terms is necessary for the majority of patients including college graduates (Mayer & Villaire, 2009). Adding pictures and motivational behavior strategies may help patients to comprehend and remember the information. Including marketing professionals is another suggested method to increase written communication (Shieh & Halstead, 2009). Oral communication between the patient and nurse is also important and should be adjusted to fit the health literacy level of the patient.

The Joint Commission (2007) advocated patient-centered communication and recognized that not addressing health literacy was a safety concern. Teaching is only as effective as the communication and understanding. To ensure that communication is effective, providers are encouraged to use teach back as a follow-up to determine if the patient is able to articulate or demonstrate what was taught. The teach-back technique can be used for verbal or written instruction, and demonstrations of teaching (TJC, 2007).

Suggested ways of asking patients to explain what they have been told (teach-back) include: *I want you to explain how you will take your medication, so I can be sure I have instructed you correctly*, or *When you get home your family will want to know what we discussed, what will you tell them?*, or *Please show me how you will check your blood sugar so I can be sure I have given you clear instructions*. The goal is to use a patient centered approach for enhanced teaching and to place the burden of misunderstanding on the teacher not the patient. When the patient does not fully understand, the teacher needs to accept responsibility for clarifying the education (Powell, 2009). Teach-back will alert nurses that the patient did not comprehend the teaching and will clarify misunderstandings (Powell, 2009). Learning can be further verified with a telephone call a few days later.

The Ask Me 3 Program is another tool to increase communication, where patients are encouraged to ask what their main problem is, what they should do, and why they need to do what is advised (National Patient Safety Foundation [NSPF], n.d.). The Partnership for Health Communication's Ask-Me-Three program uses three questions to help patients begin asking their providers for information. The patient is encouraged to ask, "What is my main problem?," "What do I need to do about the problem?," and

“Why is it important for me to do as instructed? (National Patient Safety Foundation [NSPF], n.d).” Their research found that patients who understand health instructions make fewer medication or self-care errors. In addition, the patients are better able to manage their healthcare than those who do not understand the information obtained by asking the three suggested questions.

Personal Health Records (PHR) is another trend that requires adequate health literacy. PHRs enhance self-management and empowerment, but only if the patient can understand the record. Mitchell and Begoray (2010) suggested that PHRs need to match the patient’s health literacy level. Those with low health literacy could have more pictures. Being active in their care may encourage patient’s to ask questions and make informed health decisions. The PHR can be designed for patients to access educational material with an ultimate goal of improving individual health outcomes. Software decision-support programs are available for PHRs, which could foster communication. Advances in technology offer patients greater ability to manage their care, but only if health literacy issues are addressed in designing the software.

### **National Health Literacy Reports**

Large, nationwide, multicultural health literacy studies and reports have contributed to the recognition of low health literacy as a national concern. Health literacy research showed that higher healthcare costs and poorer health outcomes were associated with low health literacy. These reports also confirmed that literacy and health literacy are different. Someone can be literate, but may not understand their health condition or the treatment for the condition. Some treatments require a working knowledge of numeracy,



which was also measured as part of health literacy. The results of these studies have been used by other researchers to further explore health literacy.

### **National Adult Literacy Study (NALS)**

The NALS was the first detailed report of the status of literacy in America (Kirsch et al., 1993). Funded by the U.S. Department of Education, the NALS staff assessed literacy in 26,000 participants on a variety of literacy measures, which were organized in three groups: prose, document, and quantitative literacy. Prose literacy involved the knowledge needed to comprehend news stories, brochures, and instructional materials. Document literacy involves comprehension of job applications, payroll forms, transportation schedules, and maps. Quantitative literacy requires skill to perform numerical tasks, such as paying a tip or balancing a checkbook.

The results were organized by four levels (Kirsch et al., 1993). For example 21% to 23% of Americans scored in the lowest level (Level 1). Those scoring at the lowest level were immigrants, had not completed high school, were over age 65, or had disabilities. Level 2, the second lowest level, had 25% to 28% of the respondents. Together Levels 1 and 2 represented over 90 million American adults. Many of these individuals considered themselves as being able to read English well or very well and did not consider themselves to be at risk due to illiteracy. Scores in Levels 1 and 2 mean that those individuals are at risk for not having the ability to read, understand, and apply information (Kirsch et al., 1993). The Level 3 group had 33% of the participants, and 18% to 21% scored in Levels 4 and 5.

The years of education corresponded to the literacy levels in that most without a high school education scored in the lowest level and those with a four-year degree scored

in the highest level. Young adults scored lower than they scored on a similar survey in 1985 (Kirsch et al., 1993). The authors concluded that more young immigrants participated in the NALS. Older adults were more likely than other ages to have limited literacy. The difference in older adults was thought to be due to less education in older Americans as compared to younger adults. Minorities also scored lower due to less years of education.

Adults in Level 1 were more likely to receive food stamps, worked less, and almost half were living in poverty (Kirsch et al., 1993). These results were concerning to the stakeholders, and presented opportunities for education policy. Another concern was that healthcare might be impacted by literacy level. The NALS was a literacy study, and a large health literacy study was still needed.

### **National Assessment of Adult Literacy (NAAL)**

Over 10 years after the NALS, the 2003 National Assessment of Adult Literacy (NAAL) was conducted with 19,000 participants (Kutner et al., 2006). Like the NALS, the NAAL was a descriptive study. The NAAL measured health literacy by participant's ability to complete tasks, similar to the NALS study for literacy. Again, prose, document literacy, and quantitative literacy were measured. There were 28 health literacy tasks, which covered clinical, prevention, and navigation of the health system. Another similarity with NALS was the four levels of health literacy, but in the NAAL, the levels were referred to as below basic, basic, intermediate, and proficient.

The results showed that 22% had basic and another 14% had below basic health literacy (Kutner et al., 2006). Fifty-three percent had intermediate and 12% were proficient. To achieve intermediate level health literacy the tasks went beyond simply

finding information, to applying information presented in graphs, tables, or documents. Those proficient in health literacy were able to formulate abstract inferences.

Results for women were higher than for men (Kutner et al., 2006). African Americans, Hispanics, and American Indian/Alaska Native had lower results than white and Asian/Pacific Islanders. Again, those over age 65 had lower health literacy. Higher education was usually associated with higher literacy levels. However, 3% of participants with a college degree had below basic health literacy. Those with lower health literacy tend to get health information from the television or radio as compared to getting the information from written sources as those with higher health literacy did. Patients obtained information from sources other than healthcare providers with higher levels of health literacy. Those with higher health literacy scores reported better health.

#### **Agency for Healthcare Research and Quality (AHRQ) Report**

The AHRQ (2010) has provided evidenced based reports on health literacy for several years. In a systematic review of scientific literature, based on studies done from 2003 to 2010, AHRQ (2010) found a relationship between low health literacy and poor health outcomes such as more hospitalizations, and poorer chronic disease outcomes. The 2010 report was AHRQ's first report using health literacy as compared to a review of literacy articles related to health, as AHRQ did in 2004. AHRQ (2010) reviewed 3,496 health literacy articles, but only found 73 that addressed health literacy related to healthcare services, or outcomes, or costs, or interventions. Small sample sizes, studies done in only one setting, and studies measuring health literacy as reading ability (instead of including oral literacy) limited inclusion in AHRQ's study. There were not enough

articles with similar outcomes or similar interventions to do a meta-analysis, so the results were of the AHRQ (2010) report are qualitative.

The findings showed an increased risk of mortality for seniors due to having low health literacy. Patients were also unable to take medications appropriately when they had low health literacy. Low health literacy affects patient's ability to understand health information and results in less optimal health outcomes. The evidence for outcomes regarding specific health conditions such as diabetes, asthma, or HIV was usually insufficient. Proficient health literacy was related to an ability to utilize health resources, obtain prevention services, and a decrease in hospitalizations. Tobacco use was associated with a low literacy level. The AHRQ (2010) did not find enough evidence to directly link costs with health literacy, although the IOM (2004), Vernon et al. (2007), and Howard et al. (2005) did link cost and healthcare.

Interventions that demonstrated improvement between health literacy and health outcomes included patient self-efficacy, social support, and ability to use the healthcare system. AHRQ (2010) also reported that educational interventions helped to improve participation in several cancer screening exams. Other effective interventions included disease management programs (increased patient's knowledge) and self-management programs (shaped healthy behaviors). Knowledge improvement or behavior modifications need further studies to show how the increase in knowledge or change in behavior was applied, and how such an application resulted in increased health outcomes. Assessment on provider communication should be done to determine ways to increase patient comprehension, such as using teach-back. Intervention studies based on theory,

pilot-study feedback, and healthcare professionals delivering the intervention are key factors to increasing health literacy.

In the literature review, there were insufficient health literacy studies, which focused oral health literacy, and included speaking and listening effectively. Also, an instrument to measure oral health literacy was not found in the literature review. The current health literacy measures such as the TOFHLA and REALM are written assessments and need to be developed further for validity among oral health literacy level (IOM, 2004). Also, future studies are needed to examine how practice and policy are related to health outcomes. Longitudinal studies are needed to demonstrate the outcome of how oral patient teaching at the patient's health literacy level leads to improved patient results.

### **Health Literacy and Preventive Health**

The *Relationship of Preventive Health Practices and Health Literacy* is a follow on of the NAAL. It was undertaken to determine the relationship between health literacy and preventive health practices (S. White et al., 2008). The sample of Americans consisted of 18,100 adults over age 16, who mirrored the demographics of the U.S. population. In prior studies women with low health literacy had less knowledge of mammography, cervical cancer screening, prostate cancer, and vaccinations (S. White et al., 2008). The limited sampling for prior studies was not random and limited to specific populations, making it less generalizable across America. In the *Relationship of Preventive Health Practices and Health Literacy*, health literacy was assessed similarly to the NAAL.

Participants were administered a background questionnaire, a health literacy assessment, and an oral reading fluency assessment. The dependent variables included dental exams, vision exams, screening for osteoporosis, cervical cancer, breast cancer, prostate cancer, colon cancer, and vaccines for pneumonia and influenza. This study found that health literacy was significantly associated with age, gender, race/ethnicity, and overall health status (S. White et al., 2008). Surprisingly low health literacy was related to a decreased probability of obtaining cervical cancer screening, dental exams, and mammograms; but an increased probability of being vaccinated for influenza, screening for prostate cancer, a vision exam, screening for osteoporosis, and a pneumonia vaccine. The authors concluded that for those over 65 years old health literacy was associated with preventive health practices, but for those under 65 years old health literacy was not always associated with preventive healthcare. The implication is that those over 65 years with low health literacy may need health information tailored to their health literacy level.

### **Health Information Literature Research Project**

The Health Information Literacy Research Project (HILRP) was conducted to determine hospital administrators' and healthcare providers' views of the value of consumer health information resources (Shipman, Kurtz-Rossi, & Funk, 2009). The survey instrument was sent to 7,655 and 301 surveys were completed. The participants were 34% nurses, 11% physicians, and the rest were administrators and allied healthcare professionals. Also, a curriculum to increase provider's knowledge of health literacy was administered, and resulted in 86% of participants increasing their health literacy knowledge. Many administrators and providers were unaware of the public health

information websites. In addition, participants' understanding of patient health information needs was assessed. The final goal of the HILRP project was to assess the participants' attitudes toward funding library material for providers or for patients. The participants chose to fund a provider library and not a patient library.

The results showed that 82% of participants acknowledged that consumer health information was critically important, and can improve patient-provider communication (Shipman et al., 2009). With better understanding of their condition, patients are able to make quality decisions (92%). Most participants (95%) thought that an improvement could be made in health literacy by increasing awareness about health literacy's impact on patient care. Staff could receive training to become knowledgeable about health literacy barriers (91%). Quality care could be enhanced if healthcare professionals are aware of the impact of low health literacy on patient outcomes.

### **Institute of Medicine's (IOM) *Health Literacy: A Prescription to End Confusion***

The IOM (2004) report increased America's knowledge of the definition, the impact, and the future for health literacy awareness. The goal of the IOM report was to increase quality of care, to decrease costs, and decrease healthcare disparities. Other goals were to provide clear public health alerts, give people the tools to accurately assess health-related media information, and ensure clear communication from providers. The patient's health literacy level must be understood to adequately communicate health information. Healthcare is becoming increasingly complex, which makes understanding healthcare conditions beyond the ability of many patients.

The IOM's objectives were to define the scope of health literacy, identify barriers to health literacy, assess prior methods to increase health literacy, and formulate goals to

overcome the barriers. A major barrier to health literacy is a patient's shame at not being able to understand the information. Another barrier is conflicting information from the media, Internet, and product marketing. The IOM (2004) reported a strong link between education and health outcomes, and suggested that health literacy may explain that link.

Health literacy is a shared responsibility between the social community, the healthcare system, and the individual (IOM, 2004). To reach positive health outcomes an individual's culture and social factors, health system, and education need to be viewed as being intertwined. The linkage between the community, healthcare professionals, and individuals must be recognized when assessing a patient's comprehension and when providing health information. The IOM (2004) found that the literature addressed health literacy measures, but did not account for the combined culture, knowledge, or listening and speaking ability of patients. After reviewing over 300 health literacy articles, the conclusion was that current written health information is not written at the health literacy skills level of most patients.

Limited health literacy prevents patients from understanding their health condition and participating in healthcare decision-making. They must rely on the provider, other health professionals, or their family members to make personal health decisions. In addition, patients with low health literacy are less likely to use disease prevention strategies, and are less likely to adhere to a health promotion lifestyle. The majority of K through 12 schools does not include health education in their curricula (IOM, 2004). Neither was health literacy included in most health professional schools. The lack of health literacy education represented another important barrier to patient-provider communication. Health professionals need education and training to improve



health literacy skills in patients. Health literacy included in nursing curricula could decrease barriers to patient-nurse communication.

The IOM (2004) identified concerns in their quality of healthcare report, which were related to safety, provision of patient-centered care, and equitable patient treatment. Each of these is impacted by a patient's health literacy skills. For safety and to be patient-centered, informed consent must be in clear language that the patient understands. Lawsuits have resulted from patients not understanding the words on the informed consent (IOM, 2004).

Health activities take place in any setting individuals frequent, like their home, work, family gatherings, and community events. Health activities are vast and may include filling out health insurance forms, safety issues, environmental factors, dietary choices, and many more. The IOM (2004) refers to health location and health activities as health contexts. The literature consistently showed that health literacy is a link between the individual's ability and health contexts. A vision of the IOM is improvement of health literacy through national policy. To reach the vision the IOM identified health literacy in the Priority Areas for National Action in Quality Improvement. Also, the Surgeon General reinforced the view of the IOM report that health literacy decreases healthcare costs, and improves health outcomes.

### **Nurse's Role in Patient Education**

Nurses have a professional responsibility to provide patient education in a manner that the patient can comprehend the information being given about their health (AACN, 2007; TJC, 2010). When the patient is unable to comprehend, the caregiver must be able to understand the teaching. The nurse's role in patient education includes literature from

professional bodies of nursing asserting nursing's core responsibility of patient education. Likewise, nurse educators have a role to teach health literacy concepts to nursing students.

### **The Nursing Profession**

Patient teaching has been part of nursing in America for almost a century. The National League of Nursing Education (1918) stated the importance of nurses assuming a patient teaching role (as cited in Lewis, 2005). The American Nurses Association (2002) stated that patients could be empowered through patient education. The AACN (2007) went further to discuss quality in healthcare related to nurses providing outcome based care.

Since the nurse is with patients during episodic intervals, nurses must teach patients how to perform self-care to avoid hospital re-admission. Another assumption by the AACN (2007) is that through providing patients with specific healthcare knowledge, they can acquire additional knowledge needed to make informed decisions about their health. The AACN (2007) went as far as saying that "a health literacy plan should be a component of each care plan" (p. 8). Technology may provide an avenue for nurses to meet the goal of incorporating health literacy in patient teaching. With secure e-mails, text alerts, and short educational videos technology can be leveraged to allow patients to interact with nurses in new ways. Therapeutic communication can be interactive and ongoing through technology. The nurse should also include listening, critical thinking, non-verbal, and written communication skills. Through increased healthcare communication, the patient's quality of life can be enhanced.

Nurses have new opportunities since the Patient Protection and Affordable Care Act of 2010 (PPACA) was passed. The current healthcare system is fragmented, which makes healthcare delivery less efficient (ANA, 2002). Nurses are in a position to significantly contribute to holistic patient-centered education. Holistic care, which includes patient education and preventive care is a core nursing responsibility, and important in the future of healthcare. The PPACA established Accountable Care Organizations (ACOs), which are an integration of healthcare professionals working as a team to deliver comprehensive patient-centered care.

An early quantitative study on nurse's role in patient education was done in 1991 with 1,230 ANA nurses (Kruger, 1991). In the ANA study there was a strong opinion (4.3 on a 1 to 5 Likert scale) that nurses have a responsibility for patient education. However, achieving the goal for patient education was only a 2.8 on the 1 to 5 Likert scale. Nurses are not able to devote enough time to patient education. The ANA (1980) emphasized nurse's role. Yet, several studies from 1965 to 1987 showed that nurses did not have a clear understanding of how to accomplish their patient education role. Also, administrators were not supportive in allowing time for patient education. Patient education needs attention by nurse educators/leaders to promote nursing devoting time toward patient education.

### **The Joint Commission**

The standard for patient-centered communication, which includes cultural competence, was set by TJC (2010). Effective communication involves developing meaning for the patient. To reach understanding of healthcare information a two-way process needs to be achieved between the patient and the healthcare professional. The

process should include forming a partnership with patients. In TJC's Roadmap for Hospitals (2010), integrating concepts of communication into patient care was encouraged. Developing effective communication is an imperative for safe, quality care. From the patient's admission, to each assessment, treatment, and discharge plan effective patient communication must be ensured.

The R-3 Report (2011) goes further to clarify how accredited hospitals must identify and plan to meet both written and oral patient communication needs. Race, ethnicity, language, and disabilities must also be identified and incorporated into the patient education plan. The reason addressing oral and written patient communication is so important is because TJC has had over 3,000 sentinel events, and most cited communication as an underlying reason for the sentinel event.

TJC's (2008) Public Policy Initiative acknowledged that healthcare is complex and many patients do not have the ability to comprehend complex information. Hospitals can take steps to help patients understand, such as using simple, clear communication. TJC also advocates using teach-back, plain language, and not using healthcare jargon. Patient education takes time, which often is not built into current care models. The cost of taking time to teach patients needs to be weighed against the decreased emergency visits, re-admission rates of those who understand discharge teaching.

Egbert and Nanna (2009), experts from TJC, discuss the reason low health literacy has received so much attention. Health literacy has the potential to significantly impact healthcare outcomes. Yet, patients are reluctant to ask questions and may not have trust or confidence in the healthcare provider. Differences in demographic characteristics and decreased time between providers and patients add to decreased

communication. Without effective communication, patient safety is jeopardized. One of the National Patient Safety Goals addresses patients becoming active in self-care. To do so, patients need education about their condition and treatment plan. TJC found that 65% of healthcare errors are due to decreased communication.

Nurses can help a patient's ability to understand their healthcare conditions with every patient encounter. Using plain language rather than medical terms and asking patients to repeat what they learned are two simple methods of increasing learning. When nurses offer patients written literature, the readability needs to be assessed, keeping in mind that half of American people only read simple text or are unable to read (IOM, 2004). Adding graphics may help to clarify the written message.

### **BSN's Knowledge of Health Literacy Concepts**

Nursing students being taught to educate patients need to learn to assess the patient's health literacy level. The nursing literature is lacking on studies where nursing students are educated about health literacy (Speros, 2005), even though patient education is a nursing responsibility (Stonecypher, 2009). Nursing students have a need to learn the best practice methods of educating patients. Nursing students should be able to effectively communicate with their patients, which require identifying the patient's health literacy level.

Singleton (2009) stated that up to half of the patients in America do not understand complex health information because of either cultural barriers or low health literacy. BSN programs sometimes fail to integrate health literacy into the curricula. Sand-Jecklin et al. (2010) researched an educational intervention to educate BSNs about health literacy. Their exploratory study showed that with even a short health literacy

course, BSNs could gain knowledge of health literacy concepts and issues. With such education BSNs could identify patients at risk, ensure communication leading to the patient's understanding, and check patients for comprehension.

A qualitative study was done to describe BSNs' experiences providing patient education (Sheckel, Emery, & Noseck, 2010). Sheckel et al.'s (2010) study found that BSNs developed competencies in addressing health literacy. However, the authors concluded that BSNs need more formal health literacy education before graduation, especially to assess the effectiveness of their teaching. Sheckel et al.'s research was the first qualitative study looking at undergraduate nursing students' experiences of learning to provide patient education. BSNs responded to patient scenarios where patient education was evident. Respecting the patient's primary language was a central theme. Effective approaches to patient education by gaining a patient's trust resulted in increased ability for patients to understand the information.

Most nurses do not know how to match written patient instruction to the literacy level of the patient (DeSilets & Dickerson, 2009). Words and sentence structure may be geared for those with higher than average health literacy instead of being designed for the majority of patients. Also, nurses use healthcare jargon (words that healthcare professionals would know, but others may not understand) such as ambulatory. Words with more than two syllables are more difficult to understand and should be changed for clarity of the message. For instance, dose could be pill (DeSilets & Dickerson, 2009). Patients return to the emergency department or are re-hospitalized sometimes due to inability to understand health teaching rather than non-compliance (IOM, 2004). Ideally,

BSNs would be taught how to evaluate written and oral patient communication to ensure that the information is expressed at the correct health literacy level for the patient.

Cormier and Kotrlík (2009) used a descriptive survey design to evaluate BSNs health literacy knowledge. The students did not realize that older adults are at greater risk of low health literacy, or that several quick screening methods are available to check for patient's health literacy level. Employers expect that BSN graduates are prepared to educate patients, especially since TJC (2011) requires nurses to educate patients. The survey was designed by the authors, since no other health literacy survey was available to assess BSN's health literacy knowledge. BSNs were assessed for knowledge of health literacy, consequences of low health literacy, screening methods, and written healthcare materials. The participants had health literacy knowledge gaps in knowing which populations are at risk for low health literacy, screening for health literacy, and assessing written health information for readability. Therefore, the authors recommended that BSN programs include health literacy in the curricula. Students should be provided with experiences to help develop communication strategies with patients. Faculty may need a workshop to prepare for teaching health literacy and cultural competence.

Another descriptive survey design was used to assess if years of experience, academic education, or job role influenced nurses' attitudes toward patient education (R.A. Jones, 2010). In acute care hospitals, assessing the need for patient education is good, but rarely achieved due to time constraints. R.A. Jones (2010) performed an extensive literature review and found little literature on nurses' attitudes toward patient education. The analysis showed that no significant difference based on academic preparation (diploma, ADN, BSN, or MSN), or job role. Nurses with more years of

experience were more comfortable providing patient education. R.A. Jones' (2010) findings imply that for nurses to provide cost-effective, efficient care the role of the nurse as patient educator must be clarified. R.A. Jones (2010) concluded with the importance of patient education preparation for nurses. Schools of nursing must take an active role and enhance nurse's comfort with patient education.

### **Nursing Education's Role for Effective Written Health Communications**

Several authors reported that patient education material was written at a higher reading level than the reading level of the patient population served (Demir, Ozsaker, & Ozcan, 2008; Perkins & Cohen, 2008; Wilson et al., 2010). If the material is too complex, patients are unlikely to read and comprehend the material. Also, the time constraints of most healthcare professionals cause the healthcare professional to rely more on written material and less on face-to-face teaching (Perkins & Cohen, 2008). However, written material alone is not sufficient to educate patients (Mayer & Villaire, 2009). BSNs should learn how to supplement their oral patient education with quality understandable written education materials. The nurse needs to know how to critically evaluate the flow of the content, the readability level of the information, the font size, and type, and the use of pictures or tables. To move toward patients having an understanding of their health conditions, medications, and other treatment plans, nurses need to prepare oral and written information developed so that those with low health literacy can understand the information.

Roskos, Wallace, and Weiss (2008) evaluated the readability of intranasal corticosteroid (INCS) inhaler information inserts. Roskos et al.'s study was conducted due to allergic rhinitis affecting 9% of Americans. One would expect that the



information would be designed for those with low health literacy. The readability of consumer medication information was assessed using Fry's (1977) calculation (Roskos et al.). Fry offers a commonly used formula scoring the number of sentences and syllables in words used in the handout. Additionally, the font size, illustrations, and the flow of directions were included in Roskos et al.'s study. The font size was smaller than recommended and there were few illustrations. If patients cannot understand how to use the written information, failures may result.

The nursing literature offers nurses instructions on tailoring and evaluating written patient education to ensure the information is written at the recommended level. Using medical jargon such as "myocardial infarction" instead of "heart attack" confuses some patients (Thomas, Dickinson, Willis, & Pegelow, 2011, p. 55). If there is not another term to use the medical term should be defined. For example, pregnancy could be expressed as having a baby. Sometimes test results are expressed as negative. Hepatitis tests may be negative, which is a desired result, but patients may perceive the word negative to be a bad result. Eliminating or at least clarifying medical jargon would enhance patient communication and understanding. Since it is known that patient education information is often written at the 8<sup>th</sup> to 12<sup>th</sup> grade reading level (Mayer & Villaire, 2009), nurses have a responsibility to evaluate the information and the patient's health literacy level prior to offering the information to a patient. Assessing patient educational material could easily be incorporated in a BSN program.

One evaluation tool is the Flesh-Kincaid Reading Ease test, which can be calculated using Microsoft Word or by obtaining a free application (Cotugna, Vickery, & Carpenter-Haefele, 2005). However, the Fry Formula is considered more accurate since

words, sentences, and syllables are counted and plotted on a graph as compared to a less accurate computerized assessment (Mayer & Villaire, 2009). The Suitability Assessment of Materials assesses the readability and suitability of the information, incorporating assessment of the purpose for the information, the learning stimulation, and cultural appropriateness (Mayer & Villaire, 2009). If the patient population is varied, the reading information should be designed for the lowest reading level in the population. In addition to these tests illustrations, Font size (12-14 is recommended), and including only 2 to 3 objectives should be considered (Wilson et al., 2010). Medication information should also include what the patient should do if the dose is forgotten or not remembered on time. The tools and recommendations are easily available for nurses to learn to evaluate material given to patients.

Health literacy tests such as the REALM or TOFHLA require reading literacy, and patients may feel ashamed at not being able to read well enough to answer the questions (Powers, Trinh, & Bosworth, 2010). When written information is offered, a technique such as teach-back should be used to be sure the patient understands the information. Prior to offering written information, asking the patient about their confidence in filling out medical forms can give a rough estimate of a patient's ability to read medical information (Powers et al., 2010).

Stonecypher (2009) developed written education for stroke patients and included helpful tips about being positive, personalizing the information by using a familiar character, using white space to decrease confusion, black type for clarity, and illustrations. Nurses tend to assume that patients understand written material, but unless patients are asked to state in their own words what the education is saying, nurses cannot

be certain the patient understands. In addition, patients should know whom to contact if they have questions. Patients may not realize until later that they did not fully understand. More importantly, patients need to know conditions requiring them to call 911.

Wilson et al. (2010) researched patients' understanding of self-care for radiation side effects. Patients were given easy-to-read pamphlets with readability at the 5<sup>th</sup> to 7<sup>th</sup> grade level. Participant's health literacy was measured with the REALM. The patients' reading level was at the 4<sup>th</sup> to 6<sup>th</sup> grade even though higher-grade levels were reported by the participants. Those with the lowest reading levels had difficulty understanding the pamphlets. Another teaching strategy may have been better for these participants. Wilson et al.'s study is an example of the importance of nursing having the ability to assess their patient's health literacy level and nurses evaluating written patient information.

### **Nurse's Increasing Patient's Understanding of Health Teaching**

Health literacy empowers Americans to make informed healthcare decisions. Increasing health literacy would help the older population, lower socioeconomic groups, and minorities, who currently face poorer health outcomes (IOM, 2004; Porr, Drummond, & Richter, 2006). Health literacy also equips individuals and communities with knowledge and skills to optimize their health (Porr et al., 2006). The nurse's role is to become patient advocates, champions, and enablers. Nurses help patients to understand their medications, directions from health professionals, how to manage chronic illness, and how to reduce injury. Nurses have the expertise to translate instructions into clear language that is easily understood. Nurses can also provide a

supportive environment with verbal encouragement, praise, and positive feedback to increase the patient's self-efficacy (Porr et al., 2006).

Weiss (2009) pointed out that even when healthcare providers perceive that their patient education has been effective, 26% of patients actually do not understand when to return for a follow-up visit, 42% cannot state how to take their medications, up to 78% misinterpret warnings on prescriptions, and 86% of Medicaid patients did not understand their rights and responsibilities (Weiss, 2009). Health literacy is an important factor in obtaining control over health. Signs that patients may have limited health literacy include inability to complete forms, missed appointments, non-compliance, missed labs and other tests, and inability to name their medications (Weiss, 2009).

A recommended method for nurses to assess the patient's understanding of information is the teach-back technique. Teach-back was used to assess patient's comprehension of informed consent forms (Kripalani, Bengtzen, Henderson, & Jacobson, 2008). Patients were given oral informed consent information that corresponded to the written informed consent information. An interviewer used teach-back to assess learning in eight areas, and points were given for a correct response on the first or second attempt. Patient's literacy was measured with the REALM. Those with a reading level below the fourth grade were able to respond correctly twice as often as those scoring at or below the third grade level.

Shohet and Renaud (2006) discussed best practices in achieving health literacy, which includes clear communication. Clear communication using plain language and proper tone of voice and pace was preferred. The health literacy of the patient receiving the teaching must be considered, and the information adapted accordingly. Combining

oral and written education increases patient understanding. Shohet and Renaud found that much of the current research results cannot be directly applied to different populations, and a need exists to identify goals for health literacy research that will address the need.

A new approach to patient education was offered through a case study where nurses had ready access to quality patient educational information (Wojciechowski & Cichowski, 2007). The study was driven by shorter hospital stays and consequently nurses having less time for patient education. Patient education was defined as a planned event initiated by a health professional to instill knowledge and skills (Wojciechowski & Cichowski, 2007). The objective of patient education is to change the patient's behavior and to increase compliance with prescribed therapy. The study resulted in creating an ongoing Patient Education Advisory Committee to review resources, increase the data available, and develop a website (Wojciechowski & Cichowski, 2007). The website became user friendly and nurses engaged in patient education throughout the entire hospital stay.

Neafsey et al. (2008) used a Personal Education Program (PEP), which uses a touch-screen, wireless, portable computer for medication education. The PEP tailors patient education toward education for non-adherence, drug reactions or interactions, and over the counter medication use. Patients input their medication symptoms, compliance, and what to do if a dose is late or missed. Older hypertensive patients expressed high satisfaction with PEP's interactive design, animation, and corrective action printout. Blood pressure declined in 82% of the participants, who used PEP over four visits.

Nurses could decrease direct patient education time and increase learning by supplementing with computer programs.

Multiple teaching strategies, such as the PEP, are needed for enhanced understanding of health information (Speros, 2009). Speros views promoting health literacy in older adults as an imperative. For older populations to manage multiple, complex chronic diseases, nurses must provide patients with clear, understandable health education. Nurses have a professional, ethical, and legal responsibility to educate the patient. Educating older adults may be difficult due to older adults needing to absorb information at a slower pace, and needing small bits of information at a time. Therefore, a process must be developed. Confounding problems such as depression, a lack of motivation, and functional limitations present separate challenges for nurses. Caregivers or family may also require education to support and care for the patient.

### **Transformational Learning Theory**

Adult learning fits well with health literacy since adult learners are self-directed, have goals and objectives, and motivation to learn. These same attributes are beneficial for BSN students learning health literacy concepts. Nursing students are also adult learners, and go through a transformational process as they become nurses. Transformational learning adds to adult learner concepts, and offers a theory for learning that is relevant for today's learners. Transformational learning has been applied as a method to develop competent nurses (Horton-Deutsch & Sherwood, 2008). The Transformational Learning theory applies to both student nurses learning how to educate patients as well as patients learning how to understand and take control of their healthcare.

## **Adult Learning**

Understanding adult learning is necessary to appreciate transformational learning. Concepts of adult learning preceded transformational learning, and have been included in the concepts of transformational learning. Cranton (2006) reports that adult learning, or andragogy, was introduced by Knowles (1975, 1980). Adult learners have transitioned from dependence to self-direction, and learning is problem-centered compared to subject-centered as in high school (Merriam et al., 2007). Adults have learning goals and choose plans to achieve the goals. They prefer learning that can be applied to real-life situations, which is frequently their motivation for learning (Merriam et al., 2007). These differences in adult learners prompted nurse researchers to study adult learners entering nursing programs, and to implement a climate in classrooms that would promote adult learning. Nursing students enjoy learning that is applied to real life situations, which is another feature of adult learning. Adult learning concepts that lead to transformational learning result in a complete change or transformation of beliefs and attitudes (Cranton, 2006). Mature adults returning to college influenced Mezirow, a transformational theorist, to research factors that prompted these non-traditional adults to return to school (Kitchenham, 2008).

## **Transformational Learning Process**

Mezirow spent over 30 years studying transformational learning and developing transformational concepts. Transformational learning may not always be deliberate, but it is voluntary (Cranton, 2006). People willingly enter a learning situation, which is

disorienting at first, such as beginning a nursing program. Beyond a disorienting experience, transformational learning requires discourse, which involves sharing experiences and beliefs, to achieve meaning from a new encounter (Cranton, 2006). Discourse or questioning is done when an adult has an experience that does not fit with their prior point of view, or when the person is open (inclusive) to another view (Mezirow, 2003). Nursing students begin a program of study and are initially confused or disoriented by new technology, new concepts, and new experiences. Through discourse, which includes articulating experiences, new meaning and understanding is developed (Mezirow, 2003). Questioning an experience that does not fit the individual's prior view leads to understanding and is needed for health literacy. Nursing students may go through patient teaching experiences, and then question those experiences that differ from what they previously believed. The patient's reception to the student's teaching may cause the student to question how the teaching was delivered. The questioning of previous beliefs leads to a transformation of patient-centered education.

Learners need empowerment to voice their concerns. Brookfield (1995) suggested that instead of teachers having power over learners, they should have power with learners. Learners bring knowledge and experience to the class, and new teaching strategies, geared for adult learners, can promote transformational learning (Hegge & Hallman, 2008). Nurses having power to collaborate, engage in reflective dialogue, and problem-solve is necessary to establish an environment for transformational learning.

### **Transformational Action**

Action is important to cement transformational learning. A variety of experiences and resources serve to make delivery of the information learner-centered.



Perhaps nurses exposed to transformational learning would be inclined to present patient learning material as learner-centered, using a variety of teaching strategies, discussing concerns with the patient, and helping the patient to put into action their new learning. Several types of learning strategies fit well with transformational learning. Teaching through examples, role-playing, and Socratic dialogue are a few examples of teaching strategies that fit with transformational learning. Nursing students who have learned those teaching strategies could apply the strategies to patient education.

An example of transformational learning in action is Hunt's (2007) descriptive phenomenology study to explore student nurses' experiences and emotions after working in a service learning project with homeless families. Working with homeless families, the students experienced a disorienting situation, which was described as "eye-opening" and caused "feeling intense emotion" (Hunt, 2007, p. 278). Experiencing an event where the learner's cultural concepts, social beliefs, self-concept, morality, and aesthetics are questioned and examined is a first step in transformational learning (Cranton, 2006). Students found similarities between homeless families and their own family, which made the participants realize the reality of homeless families which had needs like other families (Hunt, 2007). After the nursing experiences with homeless families, the learners reflected on their feelings, and responded to critical questioning, through reflective writing. Self-reflection is another step in the transformational process (Merriam et al., 2007). In a trusting, learner-centered climate, the participants may have also shared their insights in a small group.

Another application of Mezirow's (1991) transformational learning was a case of a nurse who transformed from clinician to educator (Neese, 2003). Many

transformational learning experiences do not have a goal of transformation, but simply in learning. Neese wanted to become a nurse educator and embarked on a transformational learning experience. Neese reviewed the seven steps in the transformation journey, beginning with the event and assumptions, which were critically reflected upon, and eventually acted upon. Neese then engaged in discourse, revised the assumptions, and acted on the revisions. Neese identified the need for mentoring, collaboration, and cultivating a learning community. If these strategies were applied to BSNs learning to teach patient education then patient outcomes may be improved.

### **Application of Orem's Self-Care Deficit Theory**

To add to the body of scientific nursing research theory must be generated or tested (Weld, Padden, Ramsey, & Bibb, 2008). Mostly educational and behavioral theories have been used with health literacy studies. However, most health literacy literature is not within nursing (Speros, 2007). Also, Weld et al.'s study is not about patient's level of health literacy, which is what much of the research has focused on, but about exploring health literacy information learned in a baccalaureate nursing program. Therefore, a nursing theory and an educational theory were used for this study.

Orem began to define nursing as a unique profession in the latter 1950s (Gast & Montgomery, 2005). Her objective was to identify the boundaries and scope of nursing practice. Her view was that nursing existed due to persons experiencing times in life when their ability to perform self-care was compromised (Orem, 1991). Orem developed a concrete theory, which was derived from nursing practice. The SCDT is actually three interrelated theories: self-care, self-care deficit theory, and nursing systems theory (Orem, 1991). Self-care is within the self-care deficit theory, which is within the nursing

systems theory. The combination of three interrelated theories into one is complex, but explains the relationship between nursing and patients. The SCDT has six concepts, which are self-care, self-care agency, therapeutic self-care demand, self-care deficit, nursing agency, and nursing systems (Hartweg, 1991, p. 14). Unfortunately, there was no association with a philosophy in the SCDT.

Orem and the Nursing Development Conference Group (NDCG) used an inductive approach from what was known from practice to define nursing. Still, practicing nurses could do nursing, but could not explain nursing practice (Hartweg, 1991). The goal to explain nursing prompted Orem to focus on identifying when people sought nursing care rather than defining the concept of nursing. Explaining when people sought nursing care began the self-care deficit theory. The person was unable to perform self-care to meet their needs. Self-care is actions by persons to maintain life, health, and well-being. When persons need assistance in their self-care, then nursing is needed (Hartweg, 1991). Therefore, the purpose of nursing is to act deliberately to benefit others (Orem, 1991). Nursing is a practical profession, which is needed when the person is unable to perform self-care. As such, nursing has a service focus.

Nursing care is reliant on outcome goals, and actions to meet those goals. Even when nursing goals are accomplished, nursing does not always increase health. Nursing actions require continual investigation, reflection, and judgment (Gast & Montgomery, 2005). Nursing actions are interpersonal, social, and technical and each require evaluation to be sure the goals are achieved. Nursing is in the family of health professions, and uses knowledge from other health disciplines as well as nursing

knowledge. Using knowledge from other disciplines is the case with health literacy research. Most studies are from healthcare disciplines other than nursing.

Nursing agency or the abilities of nurses requires formal education. Nursing agency is employed when the patient needs total or partial help with their self-care, or supportive education (Gast & Montgomery, 2005). Nursing care help persons to meet their therapeutic self-care demands. Nursing exists for the benefit of others. When using nursing agency, the nurse develops a diagnosis, a prescription, and regulates the care for those with a self-care deficit (Hartweg, 1991).

Nursing systems can be wholly or partially compensatory or supportive education. Teaching patients is part of nursing systems for Orem. If the demand for self-care is greater than the self-care agency nursing is needed. Nursing systems are the interactions of nurses and patients in a practice setting (Hartweg, 1991). Nursing systems include social (a formal contractual agreement), interpersonal, and teaching dimensions (Hartweg). The goal is to restore the person to self-care. Nurses must have communication skills to guide, support, develop, and teach patients. The teaching dimension and communications skills are directly applicable for nursing students to help patients with health literacy knowledge.

Nursing and patients are complimentary. Nursing is to assess the health demands and patient's self-care agency (ability to meet the demand). Poor health leads to a decrease in self-care capability, which in turn leads to a self-care deficit. Numerous studies since the 1980's focus on the SCDT and nursing education, since an increased ability to perform self-care has been shown to increase control over disease processes.

An assumption is that humans evaluate situations based on how the situation will achieve the desired goal. Health is sound (strong and whole), and is not only within but how a person interacts with life. Well-being is not the same as health. Well-being includes contentment, pleasure, and happiness, and is linked with success. One could have times of well-being even with diminished health.

The person cannot be considered as separate from the environment (Orem, 1991). An assumption is that the person is self-determined and able to perform goal directed actions to maintain life and health (Hartweg, 1991). Self-care agency is the ability of persons to perform actions to achieve health goals. The actions needed are deliberate and designed to meet health goals. Self care is the person's right and responsibility. Abilities may be fundamental as with sensation, memory, and intellect (Gast & Montgomery, 2005).

Self care agency is the ability of the person to perform self-care. The ability to care for oneself develops early in life and diminishes late in life. Those with low health literacy may have less self-care agency. Self-care agency may also be power components such as attention, mobility, motivation, or decision-making. Self-care agency occurs over time. For example a newly diagnosed diabetic patient requires time before the person is competent with diabetic self-care. Self-care has three phases: estimative, transitional, and productive, which are similar to the three phases of nursing agency.

Measuring self-care is described as either measuring self-care actions or abilities, motivation, knowledge, or disabilities and self-care (Gast & Montgomery, 2005).

Universal activities are applicable to persons and include breathing, eating, elimination, balancing activity and rest, social contact, preventing injury and ill health, and promoting

normalcy. Person can also include families and groups (Gast & Montgomery, 2005). Propositions for self care deficit include the environment, the culture, and social context. Each of these can make self-care more difficult. For instance in some cultures it may be considered a weakness to seek care, which deters a person from seeking nursing care early in the disease process, when the condition may be easier to handle.

Ten broad basic conditioning factors include age, gender, developmental level, health state, sociocultural orientation, healthcare systems, family system, patterns of living, environmental factors, and resource availability (Gast & Montgomery, 2005). These factors influence the quality of self-care agency. For example as people reach an advanced age they may require assistance with mobility, teaching about chronic conditions, or medication education. Each of these conditioning factors contributes to the planning of nursing care and teaching.

Orem did not define health as the integrity of human structure and functioning until the 1980s (Gast & Montgomery, 2005). Orem's health definition included physical and mental components. Also, humans know by sensing, reflecting, and reasoning. People are capable to decide on which action to take, and then to engage with a purpose and deliberate (Orem, 1991). Assumptions related to patient education are that people need time and knowledge to engage in actions to achieve goals. People develop habits to meet recurring self-care responsibilities. To function, persons must perform self-directed actions based on their power to act. However, there are limits to self agency. Therefore, persons need help from others. Within nursing systems, propositions were used to clarify the roles of nurses and patients, and how practice is established and guided.

Orem's SCDT is popular due to many health conditions being related to lifestyle choices. However, the theory was not a health promotion model, but a disease or injury model (Gast & Montgomery, 2005). Orem was more interested in self-care for health conditions. Concerns with SCDT include defining the boundaries between self-care agencies, self-care deficit, and nursing agency. The theory does not give us definite boundaries, because people are different and have different health needs. Health literacy differs depending on the person's health complexity, language, culture, age, family support, formal education, and several other factors.

Many schools of nursing and continuing education programs have used Orem's SCDT, since the theory is directly applicable to practice (Gast & Montgomery, 2005). Orem's theory is well suited with the emphasis on evidence-based practice. It is also well suited for teaching self-care through patient education.

Orem's SCDT was applied in a diabetic case study (Kumar, 2007). The patient assessment and plan of care included Orem's concepts of self-care, self-agency, therapeutic self-care demand, and self-care deficit. Also following Orem's SCDT, patient demographic factors were considered such as age, gender, sociocultural factors, resources, and family support. In Kumar's case study, the patient was well educated who was employed, and had a supportive family. The plan of care included self-glucose monitoring, a diabetic weight-loss diet, and oral medication. To prevent complications of diabetes the patient was advised to follow the prescribed plan. The nurse must ensure that the patient understands each element of the plan and complications that could occur if the plan is not followed.

The patient must believe that she had control and was empowered to prevent diabetic complications. Empowering the patient is the SCDT's concept of self-agency. Therapeutic self-care demands are further activities of a healthy lifestyle, which would complement the plan, such as tobacco cessation, limiting alcohol, preventive screenings, and social engagement. The patient has peripheral neuropathy and a self-care deficit in ability to control her glucose. The patient has a vital educational demand. Her health literacy in a healthy lifestyle, tobacco abuse, alcohol use, preventive healthcare, and glucose control should be enhanced.

Nursing agency is needed to compensate for the limitations of the patient. The patient required a supportive educative nursing system. Education was needed to empower the patient to control her condition. The patient in Kumar's study probably would have scored well on a TOFHLA or REALM assessment, but still had the same self-care deficit as someone with a lower health literacy score. The patient needed diabetic education to understand and control her condition. After education and contracting self-care goals, the patient's health condition improved. After glycemic control the patient's peripheral neuropathy decreased. Kumar's study is an example of how a case study using Orem's SCDT can be used to assess, establish goals, and achieve positive health outcomes.

Another use of Orem's SCDT was in a study which described the health beliefs and self-care of Appalachian women. The study related health beliefs to self-care (Slusher, Withrow-Fletcher, & Hauser-Whitaker, 2010). Self-care activities included preventive cancer screening, blood-pressure checks, cholesterol levels, and weight assessment. The results showed that the participants did participate in self-care activities,



but education was needed for Appalachian women to become more compliant. As health knowledge increased, self-care also increased. Orem's SCDT's usefulness was supported. The SCDT provided a framework to relate patient assessment with a nursing diagnosis, patient outcome goals, and quality care.

### **Ethical Considerations**

Low health literacy puts patients at risk for poor health outcomes. Murphy-Knoll (2007) stated that when patients are unable to comprehend health information, they may not receive quality healthcare. Erlen (2004) viewed health literacy as a disability and as a barrier to healthcare. Patients may perceive that healthcare professionals are too busy and do not have time to answer questions or further explain their health condition. A lack of quality communication leads to poor patient health outcomes. To act in an ethical manner providers are to prevent harm and promote health (Erlen, 2004). Providing patient care also is a moral responsibility (Redman, 2005). Also, TJC's (2010) standards include providing information in a way so that the patient can understand.

Patients with low health literacy may feel powerless and perceive health professionals as having control. Patients having low health literacy become vulnerable to decisions made by others and have limited access to resources to provide them with needed information (Erlen, 2004). Worse still low health literacy leads to poor communication between the nurse and the patient, which may be unnoticed by the nurse. Protection or patient advocacy along with quality communication is needed. ANA (2001) defines the nurse's patient advocacy role to include compassionate and respectful care, a commitment to the patient, and promotion of patients' health, safety, and rights.

Solutions include raising awareness, informing others of available tests to assess health literacy such as the TOFHLA or REALM, and translating medical information (Erlen, 2004). National and community strategies are also offered. One strategy is to make effective communication an organizational priority (Murphy-Knoll, 2007). More strategies include teaching nurses to use plain language, teach-back, and refer patients who need to improve their literacy to adult learning centers.

Redman (2005) reminded readers that patient education is part of nursing's philosophy and practice. Patients are autonomous, moral agents, who must have a clear understanding of their condition to enact their values. Both clinicians and patients are to avoid harm. To deliver the best care, patients need to learn and perform self-management of their healthcare. Redman considers medical ethics to be paternalistic, which discourages patients from taking the initiative to learn self-care. Patients often rely on providers to make decisions for them, rather than having autonomy over their healthcare. Also those with limited health literacy have a difficult time with self-management and need repetition. Patient centered education requires investing in educational resources for patients with limited health literacy. The cost of patient education could be offset by a decrease in emergency care.

Some patients prefer healthcare professionals and family to make health decisions for them. In such cases, there is not a moral obligation to educate patients to the extent of self-determination (Redman, 2005). In addition, the educational system, not the healthcare system, is responsible to deliver education to increase literacy (IOM, 2004). The two systems need to work together to ensure patients receive the necessary literacy education and healthcare education to self-manage their conditions.

## **Conclusion**

The literature review showed the need for health literacy nursing research. Scant research is available for health literacy in nursing (Manusco, 2008; Speros, 2005). Yet, nurses have a clear patient teaching role. The nurse's role in patient education was stated by the ANA, the Board of Registered Nursing, and TJC. Patient health outcomes are dependent on quality patient education, which ensures patient understanding (Gatti et al., 2009; IOM, 2004; Kutner et al., 2003; Vernon et al., 2007). The patient's understanding of the teaching can be assessed using teach-back or Ask Me Three (NSPF, n.d.; Powell, 2009). Ensuring patient understanding is important because patients with low health literacy are vulnerable (Erlen, 2004). Chapter 2 presented the literature related to the research questions stated in Chapter 1. Chapter 3 presents the methodology which was used to study the research questions and describes the qualities of a basic qualitative design.

## **CHAPTER 3. METHODOLOGY**

### **Introduction**

The purpose of this study was to explore health literacy concepts experienced within a BSN program. Patient teaching, which should include health literacy concepts, is a primary responsibility for nurses (AACN, 2007; ANA, 1975; TJC, 2008). Nurses also have an ethical responsibility to provide patient teaching at the level of understanding of the patient (Erlen, 2004).

A literature review found quantitative studies that show nurse educators that there is a deficiency in nursing knowledge of health literacy concepts (Avsar & Kasikci, 2011; Cormier & Kotrlik, 2009; Sand-Jecklin et al., 2010). Additionally, national studies have shown the high percentage of the U.S. population with limited health literacy (IOM, 2004; Kutner et al., 2006; S. White et al., 2008). Several nurse researchers have shown the negative effect of low health literacy on self-care behaviors (Sakraida & Robinson, 2009; Slusher et al., 2010; Wilson et al., 2008; Wilson et al., 2010). BSN student's health literacy preparation experiences provide data, which may help nurse educators to develop curricula, which would prepare BSNs to deliver improved patient education.

Nurses have researched effective spoken and written communications with patients having low health literacy (Kripalani et al., 2008; Kumar, 2007; Walker & Gerard, 2010). Each of these studies showed that communication practices need to be developed to meet the needs of low literacy patients. This basic qualitative study explored the health literacy preparation experiences that BSN students considered most helpful for patient education, which is a nursing topic not previously explored.

A basic qualitative, interpretative design was used to provide an in-depth description and analysis of the experiences of junior and senior BSNs. An interpretive design goes further than simply describing an experience. It is a process for finding meaning in an experience (Lopez & Willis, 2004). Participants describe their experiences through a natural, individual lens. This basic qualitative design explored the BSN student's health literacy preparation and used a holistic, interpretive process to describe the experience of integrating health literacy concepts into patient education encounters. In qualitative studies, each participant will view their experience slightly differently, based on their lifeworld view (Lopez & Willis, 2004). Participants describe what they experience and believe. Through BSN student's interpretations, themes were discovered, which aided in answering the research questions.

Open-ended conversational telephone interviews were used to collect the data from BSN student's experiences with health literacy preparation (Marshall & Rossman, 2011). The telephone interviews were audio-recorded and transcribed into text (Appendix C). Then the transcribed interview was member checked with the participant. A basic interview script with the primary research questions and sub-questions was used. Just one interview required follow-up questions for clarification. The place and time of the interview was dependant on the participant's preference. The conversational interviews were semi-structured since the researcher guided the interview through a scripted research question and sub-questions, but each participant elaborated on their responses, which triggered further questioning during the interview. The interview dates and times were arranged to meet the schedule of each participant.

Data gathered through basic qualitative research is too involved to be captured in a survey and requires open-ended questions, which allow participants to respond to the topic in their own words (Merriam, 2009). This type of exchange provides rich information to understand the experience from the participant's view. Further, a qualitative design uses an in-depth interview to obtain a subjective narrative of the experiences rather than using a survey with a Likert-type scale (Lopez & Willis, 2004). The interviews were done in a manner to convey the value of the views of the participant (Marshall & Rossman, 2011). Each participant's view of their patient teaching experiences was unique and each was important to the study. Moustakas (1994) recommended allowing the participants to prepare for the interview. Therefore, the basic questions were provided to the participants a few days in advance, which provided them with enough time to consider their health literacy experiences and resulted in enriching the information obtained.

### **A Basic Qualitative Approach**

This research used a basic qualitative design, which looked at the health literacy educational preparation of BSN students. Qualitative research has a goal of understanding the meaning applied to a social phenomenon (Merriam, 2009). Additionally, understanding requires reflection of experiences in contextual settings where nursing occurs (Lopez & Willis, 2004). These settings may include hospitals, clinics, or other patient care areas where patient teaching transpired. Both descriptive and interpretive qualitative studies use open-ended questions to guide an in-depth interview, while allowing participants to fully describe their experiences (Lopez &

Willis, 2004; Merriam, 2009). The study used open-ended questions, which promoted depth of the study.

In basic qualitative research, the researcher is the instrument (Merriam, 2009). The researcher offers open-ended questions, and is responsive and adaptive to the participant's responses. The dialogue encourages exploration, rich description, and discovery. Qualitative research uses an inductive approach to building meaning, rather than a deductive approach as is used with quantitative research. With the inductive approach, the researcher is flexible and allows the data to evolve (Merriam, 2009). This research used an interpretive, basic qualitative design. The researcher's biases were identified and recognized, and an attempt to suppress researcher bias was done to better explore the participants' view.

True descriptive qualitative research requires the researcher to avoid bias and not even conduct a literature review before interviewing the participants (Lopez & Willis, 2004). Even the literature review could influence the researcher to develop opinions on the topic. However, an in-depth review of the literature offers a more complete understanding of nurses incorporating health literacy in patient education. An interpretive view of health literacy experiences look for the meaning of the experience for each participant and then analyze the commonalities of the participants. An assumption of interpretive designs is that experiences occur in context with social, cultural, and political views, which should also be considered (Lopez & Willis, 2004). A BSN program's nursing and learning theory may also be helpful, since those theories may have impacted the experiences of the participants. A description of the BSN student's social context at the time that the health literacy experiences took place was beneficial to

understanding the experience. The experiences mostly occurred in the hospital setting. The research added to nursing education knowledge by exploring and describing BSN student's health literacy preparation experiences, which focused on a detailed description to capture the learner's experience and meaning of health literacy related to patient education.

### **Field Test**

The interview questions were developed from a review of the health literacy literature and field tested by experts in nursing and health literacy. Three experts were sent a letter requesting their review of the research questions. The letter to the experts included the title, purpose, conceptual framework, research questions, and research sample. Expert review is beneficial to assess the meaningfulness of the questions, and to determine if the participants would comprehend the questions (Ramirez, 2002). Comments from the experts identified unclear words, such as components. One expert also suggested discussing the participant's BSN program in general to create a more relaxed context for the interview. Another suggestion was to discuss what health literacy means to the participant to ensure the interviewer and participants are discussing the same phenomenon.

### **Guiding Interview Questions**

There are three types of qualitative interviews: informal conversation, general interview guide, and the standardized open-ended interview (Patton, 2002). For this study, an interview guide was used since the same basic questions were asked to each participant, but conversation was constructed depending on each participant's responses. The interview guide provides flexibility while also giving focus and standardization



(Patton, 2002). However, a weakness is that the flexibility of the interview could have resulted in substantially different responses. Therefore, the participants had the flexibility to fully respond to the questions, but the interview guide questions provided a template and structure. The following open-ended questions were asked:

1. Reflect on experiences while you were in your BSN program of applying health literacy concepts to patient education, and consider the social context that those experiences took place. How would you describe your educational preparation during your BSN program to integrate health literacy in patient education?
2. What components, such as classes, lectures, or clinical rotations, of your BSN program were helpful to you in understanding health literacy? Why were those components most helpful to you? At what point in your BSN program was health literacy introduced? Describe your understanding of health literacy.
3. What learning experiences and situations were obtained during your BSN program to help you learn to apply health literacy to patient education? What did you learn that enabled you to evaluate health literacy education material?
4. Which methods of ensuring patient understanding did you consider most helpful? Why did you consider these most valuable?
5. How would you describe what you do to include health literacy principles in patient education?
6. Ethical situations require a decision for rightful conduct. What ethical considerations related to health literacy do you encounter during patient education?

7. Do you have any other thoughts about health literacy that you would like to provide?

### **Population and Sample**

The population inclusion criteria included junior and senior BSN students. It was important to include participants, who have knowledge and experience with health literacy, which occurred during their BSN program, so purposive sampling was used.

Marshall and Rossman (2011) recommend including a sample, which represents the population. Participants should represent the junior and senior BSN population, in terms of race/ethnicity, location of permanent residence, and gender. Obtaining a representative sample is not common with qualitative research since a small sample size is used. A sample size of 8 to 12 participants is the recommended number to obtain sufficient data from the narratives (Creswell, 2003). This study aimed for 10 to 12 participants, but saturation or redundancy of information obtained occurred after 13 participants were interviewed. The objective was to obtain a comprehensive description of health literacy preparation experiences from a small sample, rather than less information from a large sample. Patton (2002) stated that reaching a state of redundancy, where no new information is obtained is more important than the number of participants. Also, using a small sample, as is done in qualitative research, is not generalizable. The objective in qualitative research is to obtain a richness of data, rather than a quantitative measure of data.

The BSN student participants were juniors and seniors. Juniors and seniors were chosen because of their experiences of integrating health literacy in patient education. Purposive sampling was used to intentionally select qualified and experienced

participants who could provide information-rich descriptions of their experiences (Creswell, 2008, Patton 2002). A purposive sample illustrates factors in the participants that would be of interest for the research (Silverman, 2005). The inclusion criteria for the purposive sample consisted of BSN juniors and seniors who acknowledged that they had been involved in patient teaching. Other types of sampling, such as opportunistic sampling or random sampling, may not have resulted in finding BSN student participants who could respond to the research questions.

### **Sampling Procedures**

The number of participants was determined by the number needed to reach redundancy in data collected. Patton (2002) stated that there is no ideal sample size and that validity and meaningfulness result more from information richness of the data than from sample size. Likewise, Hatch (2002) did not give a numerical size but noted that the size depended on the study. Marshall and Rossman (2011) recommended a sample large enough to show reasonable variation. A sample of 10 to 12 participants was expected to provide redundancy of information, but 13 participants were needed to reach a redundancy of information.

Nurse educators at the university were asked for assistance, via an e-mail letter and an informational letter for potential participants, which was followed by another e-mail for clarification and assistance with recruitment of participants. An incentive of an Amazon gift card resulted in obtaining a sufficient number of participants. Contact information for the researcher was provided on the informational letter. The nurse educators were asked to present a brief description of the research study to their junior and senior BSN students via an informational letter. It was clearly stated that

participation was a voluntary choice by the student. The nurse educator was asked to provide BSN students with the purpose of the study, the need for the study, the procedures for interviews, and the risks/benefits of the study via the informational letter. The nurse educators facilitated in finding junior and senior BSN students who were willing to discuss their health literacy preparation experiences. Participants were reminded that there is an intrinsic value from contributing to their professional body of knowledge. The request for assistance in recruiting BSN students was sent via mail to the nurse educators who directly interact with the BSN students and could facilitate information about the research.

### **Informational Letter**

BSN students who were potential participants received an e-mail letter from the researcher explaining the problem, the purpose of the study, the importance to nursing, the confidentiality of information provided information about the researcher, and informed consent. A demographic questionnaire was also given via the student's e-mail after the participant agreed to participate in the study and signed and returned the informed consent. The demographic information collected included age, gender, race/ethnicity, and academic year of the BSN.

The informed consent included the title and purpose of the research, the risks and benefits of participation, the investigator and contact information for the investigator, confidentiality measures, and a statement that participation is voluntary. Capella University's adult research consent form was modified as necessary to include information for this research. Researcher information, including contact information, was part of the e-mail to the nurse educators and included in the letter to the potential

participants. The phone interview was conducted at the date and time agreed upon by the participant and researcher, and a follow-up phone call was used if more information was needed. The audio-recorded interview was between 16 and 29 minutes, plus at least five minutes of pre-interview phone time to ensure that the participant was comfortable being audio-recorded and understood the purpose of the interview. The electronic transcript of the audio-recording, the signed consents, and all other participant information is being kept on a disk in the researcher's locked file cabinet to protect confidentiality. Each interview was also numerically coded to protect the identity of the participant.

### **Data Collection**

Before any data collection the researcher obtained permission from the research university and permission from Capella University's Institutional Review Board to conduct the research. Participants were instructed to e-mail or call the researcher to discuss any questions or to express concerns. A follow-up e-mail to the nurse educators, to answer questions and encourage students to participate was done one week after the initial e-mail. Another e-mail was needed a week later since participation was insufficient. Participants who had health literacy preparation received an introduction letter/informed consent and then a demographic questionnaire via e-mail if they decide to participate. Signed consents were scanned and e-mailed or faxed to the researcher.

After the consent was obtained, another e-mail was sent to the participant to establish a date and time for the telephone interview. The research questions were sent at least a few days prior to the telephone interview to allow participants time to reflect on their health literacy preparation experiences, and were then better prepared to fully answer the interview questions. Participants were encouraged not to discuss the

questions with other students. The purpose was to collect data on health literacy experiences from the participant. There were no right or wrong answers. Participant's concerns or questions were responded to by the researcher within 24 hours.

The researcher called and conducted the phone interview at the scheduled time, remembering to introduce the researcher and sincerely thank the participant for their willingness to participate. A reminder to the participant that the interview was voluntary and that the interview was being audio-recorded was also stated. Participants were informed that a follow-up interview may be necessary. After the interview was transcribed and themes were coded, participants received the data to check for accuracy of the information. Merriam (2009) refers to this as a member check, which is the "single most important way of ruling out the possibility of misinterpreting the meaning of what participants say and do" (p. 217). In addition, participants and nurse educators were reminded that the research analysis will be shared with them at the completion of the study.

### **Data Analysis Procedures**

Data analysis involves a systematic search for meaning (Hatch, 2002). It includes syntheses, evaluation interpretation, and categorization. Analysis begins even while conducting interviews, when ideas for making sense of the data may come to mind as the data is collected (Patton, 2002). The process is not a linear one but one where relationships among themes are described and analyzed (Marshall & Rossman, 2011). First in preparing for data analysis, the interview audio-recording were checked right after the interview to be sure the responses were clear (Patton, 2002). The researcher's notes were compared to the audio information, which was helpful in ensuring the quality

of the raw data. Interviews were transcribed as soon after the interview as possible, using a transcription service. A numbering system, of numbers 1 through 13 was used to identify the participant's transcript. Participant names or any other identifying data did not go to the transcription service. Interviewing methods were slightly modified with each participant based on the data obtained and ideas which emerged (Corbin & Strauss, 2008; Hatch, 2002). For example, sometimes questions were not clear, and then the question needed to be clarified for the participant.

The purpose of the first reading of the transcript was to gain an understanding of the topic from the experiences of the participants (Corbin & Strauss, 2008; Hatch, 2002). Additionally a typological analysis was used, which began with dividing the data into categories. Typologies or categories come from theory, common sense, and research objectives. These categories may be modified as the analysis progresses (Marshall & Rossman, 2011). These typologies were derived from the different questions and ways that participants responded to the questions.

Qualitative interviews generate a large amount of data. To organize and utilize the data Computer Assisted Qualitative Data Analysis Software (CAQDAS) was used. CAQDAS programs help researchers with data identification and data manipulation but do not do the analysis for the researcher (Merriam, 2009). Atlas.ti (2002-2012), one type of CAQDAS, was used to import the interviews, code the themes, and summarize the data in a framework. Atlas.ti (2002-2012) was selected for the available tools to access marked pages, highlight text, and providing directories for objects. Objects are codes, memos, or linkages. The Quotation Manager, a part of Atlas.ti, is also needed with the huge amount of interview data. Since qualitative researchers are advised to keep memos

(Merriam, 2009), the Memo Manager, another part of Atlas.ti, was used to sort memos for review. In qualitative analysis the researcher moves from an inductive discovery process to a deductive confirming process (Merriam, 2009). The identified themes were confirmed using deductive reasoning. Atlas.ti allows relationships between codes to be tracked, and allows codes to be grouped, weighted, and color coded for easier identification. The Atlas.ti Word Cruncher promotes locating embedded meanings, increasing the validity of the analysis.

Corbin and Strauss (2008) used a memo system of recording the concepts on separate pieces of paper for each category, as the data is being examined in depth. This was captured electronically through Atlas.ti (2002-2012) for improved organization and auditing. Hatch (2002) recommended the typological nine-step framework for finding meaning from qualitative interviews. The nine steps are as follows:

Step 1. Identify typologies to be analyzed. Typologies were developed from the research questions and the literature review. Patton (2002) gave the example of a “hamburger,” which can be cooked rare to well-done (different categories) and can have multiple toppings like ketchup, mustard, or lettuce (p. 458). The hamburger may also have a relationship with French fries, baked beans, or other side dishes. After reading the first interview, it could have been prudent to discuss cheeseburgers or a slightly different category. Health literacy experiences were varied and involved different patient demographics, different health conditions, or different medications and treatments. The participants described emotions, communication strategies, contexts for health literacy, ways of learning, or a transformational learning experience related to health literacy. The



typologies were modified to reflect the data, show patterns, and identified categories (Patton, 2002).

Step 2. Read the data, marking entries related to typologies. One way to do step 2 is to highlight in different colors portions of the transcript that represent each typology (Hatch, 2002).

Step 3. Read entries by typology, recording the main ideas in entries on a summary sheet for each participant. Step 3 is not interpretative but a summary of a large amount of data (Hatch, 2002). The researcher should annotate on the summary sheet or memo where exactly the information was obtained from the transcript.

Step 4. Look for patterns, relationships, and themes within typologies. Step 4 begins by looking for meaning. Patterns are regularities, relationships are linked concepts, and themes run throughout the data. Some parts of experiences may be totally different, while others may be related. The words may not be the same, but the meaning may be similar.

Step 5. Read data, coding entries according to patterns identified and keeping a record of what entries go with which elements of the patterns. Coding or extracting concepts from the transcript will begin as soon as possible after the first transcript is obtained, because coding data becomes a foundation for subsequent data collection and analysis (Corbin & Strauss, 2008). Patterns were identified as in the previous step. The data was coded so that the researcher could locate the places where the data is found (Hatch, 2002).

Step 6. The researcher needed to decide if the patterns are supported by the data, and search the data for non-examples of the patterns. Searching for patterns involved the

constant comparative process that Corbin and Strauss (2008) discussed. Not all data fit into the categories developed. So, some themes only represented the views of the one participant. Non-examples may be contradictory or just not within the supported pattern.

Step 7. Look for relationships among the patterns identified. The prior steps separated the concepts. Now, in Step 7 links were noted. A diagram is helpful to show the links.

Step 8. The patterns were written as one-sentence generalizations. In Step 8, the researcher brings together the relationships between the concepts.

Step 9. Data excerpts that support the generalizations were selected. Also, exemplary examples that were used to report the findings were selected.

### **Threats to Validity**

Validity requires that the investigation and analysis be done in an ethical and credible manner (Merriam, 2009). Additionally, the conclusions of the researcher must make sense and be described in sufficient detail (Merriam, 2009). In qualitative research, a threat would be something that prevented understanding. Interviews must be conducted to obtain a rich and full understanding of the experiences of the participants, and analysis must reflect the themes generated by the participants.

Bias and assumptions are also threats to validity. Marshall and Rossman (2011) suggested that researchers should be aware of assumptions and biases since the researcher's own bias can be a threat to validity. A researcher exploring health literacy would need to be aware of patient teaching assumption and bias. Bias and assumptions could be related to the method of patient teaching that nurses used prior to incorporating health literacy in patient education. Emotions and passions can be turned around to

become research tools by reflecting on the reasons for the feelings. Bracketing one's bias is also helpful to keep one's bias from influencing the research (Marshall & Rossman, 2011). The goal was to obtain rich responses from the participant's experiences, and the researcher's bias should not limit the study.

Some measures to promote validity include having participants check the transcripts and themes for accuracy, and devoting the time to obtain enough interviews to reach a point of saturation of data (Merriam, 2009). When participants use words such as always or never, further questioning need to be done to gain an understanding of what the participant actually meant. The researcher needs to continually think analytically about what the participant is saying (Corbin & Strauss, 2008). Being in a continuous questioning frame of mind and looking for the contradictory examples is recommended.

A peer review and examination is another method to avoid compromising the data with bias or overlooking an important theme. In this study, another researcher was asked to review the data for themes. Their themes were similar to this researcher's themes. Also, an audit trail could show decision points (Merriam, 2009). A journal is one method of producing an audit trail. A personal journal of responses and feelings could show why decisions were made. A journal was kept of the recruitment process, the interview discussions, the analysis, and the meaning of the themes.

Corbin and Strauss (2008) pointed out the positive factors of the researcher having similar experiences to those of the participants such as having insight into what the participant is describing and bringing up other possibilities for finding meaning in the experiences. Nursing researchers having experience with patient education can relate to

the participant's experiences, which can promote more in-depth questioning, leading to understanding.

### **Credibility**

After an extensive literature review of health literacy, as it relates to patient education, it was clear that there was a gap in nursing literature related to health literacy. Conducting interviews for basic qualitative research, with open-ended questions, produced themes describing health literacy preparation. Furthermore, accurately recording comprehensive responses to the research questions and actively listening to the individual participant was needed for credibility.

The basic qualitative design was well suited for this study since BSNs' educational preparation with health literacy is not known. These BSN students represent the future for nursing, and their experiences with health literacy are important to understanding what BSNs are learning about health literacy's relationship with patient education.

Credibility involves demonstrating that the research method was sound, appropriately identified and described (Marshall & Rossman, 2011). "Quality research does not claim to be replicable" (Marshall & Rossman, 2011, p. 254). Since the social environment continually changes, each study is unique. Still, the researcher kept detailed notes and a journal-log of decision-making and also kept data in an organized and retrievable form. Participants were asked to check the summarized data for accuracy and completeness. Atlas.ti was selected to maintain the credibility and organizational structure of the data. Also, assumptions and biases were noted and mitigated.

Alternatively, explanations and negative examples were identified, and ethical considerations were adhered to.

### **Dependability**

Dependability refers to ways of accounting for change (Marshall & Rossman, 2011). Social events are expected to change. The guiding problem and research questions provided initial stability to researching the health literacy experiences of BSN students. Also, using transformational theory and Orem's Self Care Deficit Nursing theory provided guidance and parameters. Negative instances were sought to develop a clear, unbiased interpretation of the experiences. An audit trail of data collection and analysis was delineated through journaling and Atlas.ti. The Hermeneutic Unit of Atlas.ti is a storage area for transcripts, coding, identifying quotes, adding comments or question, and much more (Atlas.ti, 2012).

### **Transferability**

Transferability was demonstrated by showing the sample similarities to the population. A purposive sample was used. A stratified sample would have improved obtaining demographic characteristics of the sample which would have been similar to the population, but recruiting participants would have been more challenging. Research records (with participant identifiable information removed) will be maintained and available for other analysis.

### **Limitations of the Research Design**

This research may be limited in interpretation of the experiences of the BSN students due to a gap between the student's perception of reality and the researcher's perception. The student may not communicate in depth well enough for the researcher to

understand the student. Obtaining experiences from multiple BSN students decreases the chance of gaps in perception of reality. The views of any one individual are not necessarily the views of others who also were juniors or seniors at university. The sample cannot be generalized since the sample represents a few BSN students and not a statistically significant sample or a random sample. The results may also be limited if the participants were not fully accurate in their descriptions of their experiences.

### **Ethical Assurances**

The Institutional Review Board (IRB) for Capella University reviewed the proposed research to determine if there could be any harmful consequences ethical concerns to the participants. The IRB provided approval to conduct the study, since there would be no harm to the participants. This research did not involve patients. Informed consent was obtained from the participants, and participants were instructed that they could withdraw from the study at any time. Participants were informed that they would receive a small compensation in the form of a gift card for participation. Capella University's IRB also approved the use of the gift card to recruit participants. Also, the participants did not incur any negative results for declining to participate. No accepted participant withdrew from the study. There was no conflict of interest between the participants and the researcher. Care was taken to store both written and electronic information in a way to protect confidentiality of the participants and will be destroyed after it is no longer needed.

### **Conclusion**

Chapter 3 presented the methodology which provided an answer the research question, "How do BSN students describe their preparation to integrate health literacy in

patient education?” Although this study has several inherent limitations, the experiences of BSN students could provide insight to guide further research on integrating health literacy into BSN programs. Chapter 4 will present the findings from the research. The results from the interviews will be discussed, as will the emerging themes derived from the analysis of the data obtained from the interviews. The analysis and evaluation of the data will be described.

## **CHAPTER 4. DATA COLLECTION AND ANALYSIS**

### **Introduction to the Analysis**

The purpose of this basic qualitative study was to explore BSN student's experiences of health literacy preparation related to patient education. Exploring BSN student's experiences of health literacy may lead to improved methods of teaching health literacy concepts, which could benefit patients in understanding their health. This section presents the data collected based on the interviews, following Hatch's (2002) nine steps on interpretative approach, as well as the analysis and interpretation of each theme identified from the research question. Hatch's (2002) method of analyzing the data was selected to obtain an understanding of how BSN students describe their experiences of applying health literacy in patient education.

Each participant views their experiences slightly differently (Lopez & Willis, 2004). Through the participant's experiences of health literacy concepts, themes were developed. Hatch's (2002) method follows a logical step-by-step approach to organizing a large amount of data while also identifying each participant's unique views. Chapter 4 is organized by a description of the sample and a restatement of the research questions, followed by the demographics of the participants. Then the methodology is discussed, followed by the findings and a conclusion.

### **Description of the Sample and Research Questions**

A total of 13 BSN students agreed to participate in the study, providing extensive answers and discussion to every research question asked to them by the researcher. This was a purposive sample. Marshall and Rossman (2011) suggested open-ended interview



questions to find answers to the research questions. After the informed consent was obtained, the interviews were conducted over the phone with the researcher asking six open-ended questions.

**RQ1:** How do BSN students describe their preparation to integrate health literacy in patient education?

**RQ2:** What components, such as classes, lectures, or clinical rotations, of the BSN program were helpful in understanding health literacy? Why were those components most helpful?

**RQ2a:** At what point in the BSN program was health literacy introduced?

**RQ3:** How did BSN students learn to apply health literacy to patient education?

**RQ4:** Which methods of ensuring patient understanding were most valuable? Why were they most valuable?

**RQ5:** How do BSN students describe their role in integrating health literacy within patient education?

**RQ6:** What ethical considerations related to health literacy do BSN students encounter during patient education?

### **The Participants**

The participants, their ages, class in the nursing program, ethnicity, and length of interview is represented on Table 1.

Table 1

<i>The Demographics and Description of the Participants</i>			
Name	Age	Class	Ethnicity
BSN# 1	22 years old	Senior	Asian
BSN# 2	22 years old	Junior	Asian/ Hispanic
BSN# 3	49 years old	Junior	Caucasian
BSN# 4	21 years old	Junior	Caucasian
BSN# 5	25 years old	Senior	Asian
BSN# 6	57 years old	Junior	Caucasian
BSN# 7	22 years old	Senior	Hawaiian
BSN# 8	21 years old	Junior	Asian
BSN# 9	22 years old	Junior	Caucasian
BSN# 10	34 years old	Junior	Caucasian
BSN# 11	41 years old	Junior	Hispanic
BSN# 12	29 years old	Senior	Caucasian
BSN# 13	39 years old	Junior	Caucasian

The participants were 13 junior or senior BSN students who had knowledge and experience of health literacy concepts, which they learned during their BSN program. After interviewing 13 participants, saturation was reached. Merriam (2009) recommended that the sample size was sufficient when the interviews reached a saturation point or no new valuable information was obtained. After 13 interviews the majority of responses were similar to the first or second most common theme for the question. For example the first theme for RQ1 garnered 60% of the responses.

The participants' age ranged from 21 to 57 years old, and all were female students. Nine participants were junior students, while the remaining four were senior students during the time that the interviews were conducted. The participants were seven Caucasians, three Asians, two Hispanics, and one with an Asian-Hispanic race. None of these participants withdrew from the study. As mentioned in the previous chapter, the

names of the participants were labeled into numbers so as to protect the identities and provide the confidentiality promised the participants before the interviews.

### **Research Methodology**

The research study was made known to the BSN students by nurse educators at the university through e-mail letters and informational letters to the potential participants of the study. The BSN students, who agreed to participate after reading a brief description about the purpose and background of this research study, were given an informed consent. The potential participant reviewed and signed the informed consent, and returned the informed consent to the researcher through e-mail or fax. Then the potential participant was contacted by the researcher to arrange a time and date for the phone interview, and to obtain demographic information (Appendix B). As Moustakas (1994) and Patton (2002) recommended, the interview questions were presented to the participants prior to the interview, which allowed them to reflect on health literacy experiences prior to discussing their experiences. Follow-up phone calls were made if more information was needed from the participants. Only one follow-up call was needed to collect more demographic information. The duration of the thirteen recorded interviews was 16 to 29 minutes, plus 4 to 5 minutes of introductory discussion to ensure that the participants felt comfortable with the interview being recorded. Corbin and Strauss (2008) stated that interviews may need modification to obtain data. Clarification of health literacy concepts, such as teach-back, were necessary during the interviews.

### **Data Analysis**

For the data analysis of the study, the researcher used Hatch's (2002) interpretative approach. According to Hatch (2002), the interpretative analysis model

offers a process for finding meaning within the data that goes further than the analytic emphasis. Hatch (2002) suggested the following steps for interpretative analysis:

1. Read the data for a sense of the whole;
2. Reviewed impressions previously recorded in research journals and/or bracketed in protocols and recorded these in memos;
3. Read the data, identified impressions, and recorded impressions in memos;
4. Studied memos for salient impressions;
5. Reread data, coded places where interpretations were supported or challenged;
6. Wrote a draft summary;
7. Reviewed interpretations with participants; and
8. Wrote a revised summary and identified excerpts that supported interpretations.

The main purpose of the nine steps was to explore and refine the data in order to find answers to the research questions formed in the study wherein the study's conclusions and recommendation will be based as well. Atlas.ti 7 (Berlin, Germany, <http://www.atlasti.com/index.html>) was used to as a hermeneutic unit to store each of the 13 transcripts. Each transcript was read, studied, and re-read. Then codes were written in the Atlas.ti margins. Quotations were marked for later use. After all 13 transcripts had been coded, families of codes were created using Atlas.ti. The findings from the code families are reported in the next section of this chapter.

### **Findings**

The data findings encompass a vast description of the BSN students' understanding, experiences, and knowledge about health literacy and patient education.

Themes emerged from responses to the six questions. They are arranged into six themes, with one having a sub-thematic category: (a) Description of BSN students' preparation to integrate health literacy in patient education: The BSN students were taught how to properly communicate with the patients to better educate them especially before patient discharge (e.g. talk to them in layman's terms not in medical jargon, and use return demonstration to evaluate patient learning); (b) The components, such as classes, lectures, or clinical rotations, of the BSN program that were most helpful in understanding health literacy were: *Clinical rotations since BSNs interact with patients through hands-on experiences*; with the sub-thematic category of the point in the BSN program when health literacy was introduced: *During the start, in the first semester of the BSN students' Fundamentals course*; (c) The ways the BSN students learned to apply health literacy to patient education: *Effort to make the setting and environment less stressful as well as make the words simpler for patients to better understand; repeat/reinforce questions to evaluate patient understanding of the lesson*; (d) The methods of ensuring patient understanding that were most valuable: *Usage of supplementary materials such as pamphlets to support the lessons and information being conveyed to the patients (e.g. discharge instructions and materials)*; (e) The BSN students' description of their roles in integrating health literacy within patient education: *The BSN students lead in using the technique of teach-back or to repeat back what they have heard or seen (Mauk, 2010); and The BSN students facilitate learning by using return demonstrations or when the patient performs the skill or procedure without any coaching from the nurse (L. White, 2005)*; and (f) The ethical considerations related to health literacy that the BSN students encountered during patient education were: *Cultural and language barriers*

*when patients cannot speak or understand English.* In this section, the appropriate original excerpts were included to support the themes gathered from the interview transcripts of the 13 participants.

It must be noted that only the significant thematic expressions that garnered two responses and above will be discussed in this section, while those that received two and below are seen on their respected tables.

**Theme One from RQ1: How do BSN students describe their preparation to integrate health literacy in patient education?**

For theme one, the most common and significant thematic expression that emerged was the BSN student's preparation to integrate health literacy in patient education was that, *The BSN students were taught how to properly communicate with the patients to better educate them especially before patient discharge* (e.g. talk to them in layman's terms not in medical jargon, and use return demonstration to evaluating patient learning). Patient communication is needed for the patient to make informed decisions, and to improve patient outcomes (IOM, 2004; Shipman et al., 2009). Porr et al. (2006) stated that communication will equip patients with the knowledge and skill needed to optimize health outcomes.

The BSN students explained that their nursing instructors provided them with the concepts of health literacy, so that the BSN students should be able to explain and demonstrate to their patients the knowledge and skill that they need their patients to learn and acquire, especially in cases when the patients are about to be discharged from the hospital. Discharge teaching was the most frequent example of applying health literacy to patient education.

Also, most of the interviewed BSN students stated that they were trained to communicate in such a way that they avoid using medical jargon with the patients, to enhance communication. Medical jargon, such as myocardial infarction instead of heart attack may cause the patient to not learn what was being taught or conveyed by the BSN student. TJC (2010) encouraged healthcare professionals in hospitals to avoid any medication jargon to increase communication with patients. In addition, the students emphasized that interaction with their patients and demonstration of skills and practices could increase their attention and interest, and would therefore have a higher chance of conveying the patient education. As seen on Table 2, eight of the thirteen participants, or 62%, echoed the same sentiments as discussed. Some of the excerpts will be presented below. BSN student P1 one began her own description of her participation and said that:

Well, the teachers kind of explain everything, and then they give us materials to further enforce whatever they want us to learn... They'll teach us, I guess to better educate our patients and to have a better understanding of where they're at.... At the beginning, they taught us the basics so that we could understand it for ourselves before we could jump into the clinical to try and educate patients... Then it got to the clinicals, and the family members asking questions, and so we have to understand it for our self.

Cutilli (2007) and Gatti et al. (2009) both found that health literacy increases medication compliancy. In addition, the participants related their preparation with health literacy and patient education through their communication with patients during patient discharge teaching. BSN student P7 shared her experiences as:

In the program we do a rotation. Sometimes I would get patients that had been discharged, so I always had to do patient teaching on their factors for furthering the disease that they had. I always had to do teaching on that or health teaching on medications. Working in the community at the clinic for native Hawaiians like you actually call the clients and tell them are you taking your medications? We'd always have to make sure that they had the right dose... I actually think that health literacy is important for the nurse. It aids high quality interaction with

patients if you know what you're talking. If you feel comfortable with what you do, it helps with impacting the patients.

Discharge instructions and a plan to ensure quality discharge communication is important for patient safety (TJC, 2008). BSN student P10 furthered this by stating the same experience but elaborating on using simpler words to better communicate with the patients.

I guess thinking about that there's a couple of instances where we've created patient information such as discharge instructions. We sort of made, I don't know, like a Dummies Guide for how to take home your baby and those things, to kind of bring it down to an average everyday person's level. So we did that and passed that out. Well, we went over it with the patient's in the hospital. We created them for our class, the OB... I guess that was kind of basically how our teachers were trying to prepare us to present information to people on kind of a lower level, just saying. Some people have a lower reading level and maybe they only understand a sixth grade level.

Presenting information to patients on a lower grade level is a lesson learned and expressed by the BSN students as the impression appeared several times throughout the various interviews conducted. BSN student P5 also shared that:

And my assessment, the physical assessment class because you're able to perform skills on each other and learn how to communicate with the patient... so pretty much learning not to talk in medical terms or jargon, so pretty much talk to them in fifth grade level talking so they know and understand.

Moreover, in order to integrate health literacy with patient education more successfully, the participants shared that they also interacted more and demonstrated certain skills to their patients. Return demonstrations helps to demonstrate patient learning of the education (TJC, 2008). BSN student P11 shared:

I've given a lot of teaching to my patients, especially in like OB. There's a lot of new young moms here in Hawaii. It's always a little challenging try to explain some of the post-partum stuff to them. I do a lot of demonstrations on how to take care of the baby rather than just giving them the pamphlet. I mean, I do ... I



read, I make sure they understand it. I tend to ask questions to really see that they got the content.

Another expression that emerged was that, *The BSN students were expected to be literate in healthcare terminologies to be able to teach their patients and to better prepare themselves as nurses*, with four BSN student participants, or 31%, describing the same experience. Cormier and Kotrlik (2009) found that BSN students have a learning gap in screening for health literacy. The student participants said that they were trained and prepared to answer the questions of the patients with regard to the patient's medical conditions, although the participants did not use one of the patient screening methods such as the TOFHLA and REALM (R.A. Jones, 2010). The participants also said that they had to study the patient's condition in advance to be prepared to educate the patients. Participants would get their assignments the day prior to caring for the patient to allow time for the BSN to study the patient's diagnoses, medications, and treatment plan. BSN student P4 shared her perspective on the matter as:

I think it's very – it's not that in-depth. It's more kind of like they expect you to be literate in all the healthcare terminology so you can explain it to the patient in lay terms. They don't really teach us so much as they want you to learn/be literate, and then pass that on to the patient.

In BSN student P13's interview, she elaborated on P4's experience by stating that:

Yeah, I think so. I mean certainly learning about what accompanies diseases and just in general what makes people healthier I can incorporate that as I'm nursing and helping people with the different things that I see at the hospital... So, yeah, I think the nursing program, yeah, I mean I feel like I'm definitely better prepared to help people with health literacy questions.

With regard to being better prepared to help patients with health literacy questions, BSN student P3 integrated the same preparation process but included that she mostly relied on her own individual way of learning to reinforce the knowledge being

taught by the teachers, she said: “I think it’s actually been excellent preparation to integrate health literacy and patient education... I’m kind of an all-around, holistic kind of learner and by actually doing and teaching myself; it kind of helps to reinforce it too.”

In this context, it can be inferred through the BSN students’ various descriptions of their preparation to integrate health literacy and patient education that they have had positive experiences of successfully integrating health literacy in patient education. The thematic category that emerged however was that good communication between the nurse and the patients is still the key to conveying the message and skills being transmitted and passed on to the patients.

Table 2

*Theme One Response Summary*

Invariant Constituents	# of occurrences	% of occurrences
The BSN students were taught how to communicate with the patients; to better educate them especially before patient discharge (e.g. talk to them in layman’s terms not in medical jargon, demonstrate how to perform the skill to be learned).	8/13	62%
The BSN students were expected to be literate of all health care terminologies to be able to teach their patients and to better prepare themselves as future nurses.	4/13	31%
Health literacy is still new, an emerging practice for us; we are trying to learn as we go along.	1/13	8%

**Theme Two from RQ2: What components, such as classes, lectures, or clinical rotations, of the BSN program were helpful in understanding health literacy? Why were those components most helpful?**

The most significant thematic expression that emerged from research question number two as discussed by the BSN student participants, were the components, such as classes, lectures, or clinical rotations, of the BSN program that were helpful in understanding health literacy: *The clinical rotations were the most advantageous since the participants can interact with patients through the hands-on experiences.* These participants explained that the clinical rotations were the most vital as they get to see and practice the health literacy concepts and lessons taught to them in the classroom by their instructors. For them, the clinical rotations provided the area where they could apply their skills and experience everything hands-on, and at the same time the BSN students could spend time with their patients to get to know them more and be able to fully practice their role as nurses.

The BSN participants went through a transformational learning process as they learned in the didactic portion of the BSN program, but the concepts became real when they used the concepts in the clinical areas (Cranton, 2006). Through self-reflection the clinical health literacy experiences of the participants became meaningful (Merriam et al., 2007), in that the participants saw the importance of health literacy in patient education. Nurses who have even brief health literacy education are able to incorporate the concepts in their clinical practice (Sand-Jecklin et al., 2010). In this particular category, the responses were very close to each other, the most significant thematic expression

garnered five similar answers, or 38% of all replies. BSN student P1 described personally how clinical rotations helped her into honing her skills as a nurse:

Clinical rotation, personally, it was just actually getting into the field and getting to practice that, patient education with healthcare literacy. That's what helped me the most... Well ... The patients that come out of surgery. We have to explain to them deep breathing and coughing, and sometimes we use, I guess you could call it medical jargon, so we have to try to explain it to them in a way that ... How we learned it, but we have to interpret it to the patient in a way that they can understand it to get what we want from them... To me, personally, I learn better when I get to actually apply things instead of just reading and listening to lectures. That's just how I work. I need to apply my skills, hands on, working with people, or doing the skill.

BSN student P8 furthered this by explaining that clinical rotations aided her as a nurse, since being new in the field, the experienced nurse-preceptors were readily available for them to ask, and guide them when they were unsure of certain things, and she shared that:

I guess the clinical rotations because we have the nurses right there that we can just ask, and they'll help us learn as well. They're very open to helping us and teaching us, how they're in the field already and that's their unit, so they know all those education tools because they have to teach all the time. We go over it in class kind of when we're just going over our lectures; tell teachers how important it is to teach them a certain topic.

Personally increasing their own health literacy for their patients was also BSN student P9's main concern. The BSN student must have a good understanding of the healthcare condition, the treatment plan, and knowledge of the medications to be able to educate her patients. As BSN P9 felt the need of having hands-on experiences and spending time with her patients were the primary keys to preparing herself as a patient educator in the future, she identified:

I guess that initially gave me the skills to be able to be straightforward and honest and simplify things. Because it's really the clinical studying that helps me feel prepared for my future, most definitely... Yes, definitely. I feel really lucky to

have three days of clinicals and two days in the classroom. The majority of my time is spent with patients.

BSN student P12 furthered the effectiveness of clinical rotations to the understanding of health literacy for patient education, she stated that, “Yeah, it was kind of just like this is how you treat it so that you need to know. It was always I guess the patient education really came more from our clinical side or more actually in the hospital and hands-on that helped.”

The second highest response for this theme, with four participants or 31% of the overall replies, was: *Lectures and simulation labs because BSNs learn how to communicate better and gain knowledge of health literacy techniques and principles.* Most of the participants said that the combination of the lectures and simulation labs was most helpful, as they reinforced each other. The lectures cover the knowledge and critical thinking, while the simulation labs cover the application part. BSN student P2 shared that:

Yes. It depends on which lecture, though. Some lectures are based more on patient care. OB lectures definitely help us to teach the client, the patient, some health literacy there. I also find that the sim labs, the simulation labs, really help us to learn better health literacy techniques... sim labs because sometimes it is not easy to teach them these things, and we want to try to make it a lot easier for the patient to understand in layman’s terms. Yes, lectures are a big place; I would say I learned most of it, because it’s less stressful than being actually on the floor and trying to learn it.

BSN student P6 simply stated that: “Oh gosh, probably watching my teachers do it... And watching the RNs on the unit also, who were also my teachers at this point do it. They demonstrated how to do it.” So, in P6’s case, watching others in the clinical environment proved to be the most helpful.

BSN student P7 elaborated on why health literacy and patient education are learned best through lectures and simulation labs, by discussing that:

I was able to perform what I learned in class. For me, it was really the lectures that started it, the fundamental lecture, the physical assessment were mostly. They just taught me a lot of information which is very intense. Every single class it was about one specific duty that's like three hours long. In the beginning, I was just going through the motions, like this is what I'm supposed to do... She made the tests so hard that you really had to use critical thinking. That's the one thing I think that the lectures give is the lectures provide the ability to critically think instead of being on the spot where in the hospital and you're unprepared and you forget. I also liked that we had the simulations in class, in the lab. I always spent time on my own just me and one instructor... I really found that the lectures and simulations prepared me to go out into the community or the hospital or just having a preceptor by my side to tell me okay the next time you should do this. The next time this is what you should do because of this. It's always healthy to know the why. I definitely think it was the lectures and the simulations that helped me.

The two previous components were followed by the third theme, which received three responses from the participants, or 23% of the overall replies. This was: *All components of the BSN- classes, lectures, and clinical rotations because the three can be integrated for application.* These three components were thought to be equally helpful by the participants as the components complement one another and at the same time reinforce the lessons in each component. BSN student P3 explained why:

I would have to say all of it... Just because the different instructors have different ways of approaching their delivery and... I don't know. I'm kind of an all-around, holistic kind of learner and by actually doing and teaching myself, it kind of helps to reinforce it too... But I don't know why I remember different things from each of them just because of the way their personality came through.

BSN student P11 followed this through by saying that the three covered different aspects of her course:

I just would have to say all of those. We had a lecture, and she talked about it. That's where we did the book. Then we do so much in clinical. I mean I talked about smoking cessation. I talked about a lot of post partum, a lot of discharge,

post physical care. So I guess we do it everywhere. We learned in lab, lecture, and in clinical.

The same sentiment was shared by BSN student P13:

I feel like all of them have been really helpful. I mean it's ... I mean in my mind health literacy is mostly about meeting people where they are so getting a better understanding of the diseases and the pathologies is important but it's not ... It's more like that's information that helps me know what kind of information to share. I mean I'm thinking right now on my surgical unit for one of my rotations and that's been very helpful just in seeing the variety of present health challenges that people come into the hospital with and I think that the nutrition education and education about diabetes mellitus has been extremely helpful in when I've been talking with patients about when they have concerns about the diabetes.

In conclusion, the components perceived to be the most helpful by the participants of the study were the clinical rotations in the hospitals and communities. Other components were also identified to include lectures and simulation labs as the combination of the two help in applying the knowledge learned in their lectures in real life through the simulation labs. And lastly, the integration and mixture of all the mentioned components emerged, as participants stated that they really learned a lot from the three. The overall data collected for theme number two or the second research question is found below, on Table 3.

Table 3

*Theme Two Response Summary*

Invariant Constituents	# of occurrences	% of occurrences
Clinical rotations because BSNs can interact with patients through the hands-on experience	5/13	38%
Lectures and simulation labs because BSNs learn how to communicate better and gain knowledge on health literacy techniques and principles.	4/13	31%
All of it- classes, lectures, and clinical rotations because the three can be integrated for application	3/13	23%
Selected component, own time and individual learning.	1/13	8%

**Sub-thematic category 2 from RQ2a: At what point in the BSN program was health literacy introduced?**

The sub-thematic category, which centered on the point in the BSN program when health literacy was introduced received a unanimous response from all 13 participants or 100% of them (Table 4), stated that: *During the very start, the first semester of the BSN students' Fundamentals course.* Health literacy researchers recommended adding health literacy to the nursing curriculum (Cormier & Kotrlik, 2009; Sand-Jecklin et al., 2010). Some gave very short responses like BSN student P1, P3, P6, P8, and P10 who shared, “During the first semester.” While others further explained how and why health literacy was introduced to them. BSN student P2 shared:

The very beginning! I think it was in my health assessment class. Yes, when we were performing our assessments, we were always, well, why do we have to do this? and What do we do when we are doing the assessments, and they are just



staring back at us? Our professors would always say, teach them what you are doing. Teach them the importance of why you are doing this. I think right from the very start we learned health literacy.

BSN student P7 also echoed on the previous statements, however, she felt that even though health literacy was introduced in the Fundamentals course in the first semester, health literacy was put into practice during the second semester of the program, with the application of what she learned in class, she stated:

Health literacy was actually introduced with Fundamentals which was my very first semester in the program. The med/surg course really helped me to define health literacy for me because I was behind most people because I thought that my learning process was a lot slower. It was introduced in the beginning, but for me health literacy was really defined for me when I got into the hospital and that was the second semester. The med/surg. the lecture was the second semester of the program.

R.A. Jones (2010) emphasized the importance of adding health literacy and BSN student P9 integrated her answer with her understanding of the importance of health literacy and how health literacy should be applied, as she explained:

Right away...Yes, first semester, first class, first day, I'd pretty much say... Maybe it was the second day, but it was definitely one of the biggest teaching points. They want us to know how important it is that not only do we know what's happening, but passing education onto the people that we're treating.

Based on the above excerpts, all BSN students were introduced to health literacy and patient education during their Fundamentals course or the first semester. They explained that from the very first day, lessons were connected to health literacy and patient education, and as nurses they should be able to communicate with patients to increase the patient's understanding of their health condition and treatment plan.

Table 4

*The point in the BSN program when health literacy was introduced*

Invariant Constituents	# of occurrences	% of occurrences
During the first semester or the BSNs' Fundamentals course.	13/13	100%

**Theme Three from RQ3: How did BSN students learn to apply health literacy to patient education?**

For research question number three, the most significant thematic expression that emerged from the interviewed participants was how they learned to apply health literacy to patient education: *BSN students should make the setting and environment less stressful as well as make the words simpler for patients to understand better; they should also repeat/reinforce questions to evaluate the patient's understanding of the lesson.* The Joint Commission (2010) noted that not only is it important to ensure health literacy with the patients, but for their safety in managing their healthcare, they should be well informed. This thematic expression garnered six responses out of thirteen, or 46% overall.

These BSN student participants stated that after several practices and interactions with their patients, the students started to develop ways to successfully apply what they learned previously by other course components, such as lecture, and were able to transfer health literacy to their patient education experiences. Most of these six participants who shared the condensed first theme gave excellent examples on how they were trained to make the setting and environment less stressful for the patients. One successful way to do so was to avoid using medical jargon when explaining health information to patients.

Another health literacy concept mentioned by a participant was to teach only small amounts of health information during a teaching episode. BSN student P2 described how she tried to integrate health literacy and patient education when she interacted with her patients:

I think it is hard for them sometimes in certain settings, because they are either ill or they are not feeling well, so I think I teach them health literacy at a less, condensed version, a little simpler, like bullet points, no overloaded. I feel like doing that makes it easier for them to understand better instead of just flooding them with all this information trying to get them to understand.

BSN student P3 also shared a similar perspective but elaborated on how she integrated health literacy concepts into a patient teaching course project:

Probably one of my favorite projects was for the final project of Fundamentals. The instructor had us write a children's book, 15 to 20 pages long. Write and illustrate a total book of a health-related topic and it was to be geared at a second grade level so that anybody could read it and understand it and get the basics of whatever disease process we were talking about and how to prevent it or just healthy lifestyle, that kind of stuff. I just thought the whole way of going about that to incorporate what we've been taught through our textbooks but to try to make it meaningful to somebody else, and to present it at that educational level where just about anybody could understand. That was more of a challenge than what I was expecting. When I first read the syllabus, I thought, oh piece of cake. Once I got right into the heart of it, it's like, okay, not such piece of cake.

Another significant practice of applying health literacy given by these participants, which also appeared a number of times in the interviews, was to simplify the words being used to educate patients. Mayer and Villaire (2009) suggested using common words in patient teaching materials. BSN student P5 simply said: "So pretty much learning not to talk in medical terms or jargon, so pretty much talk to them in fifth grade level talking so they know and understand." BSN student P10 also made a similar statement, "I guess that was kind of basically how our teachers were trying to prepare us

to present information to people on kind of a lower level, just saying. Some people have a lower reading level and maybe they only understand a sixth grade level.”

BSN student P9 provided a more detailed description and expounded on how she learned to communicate health literacy concepts to patients while educating them on their health:

I guess one of the most important things is finding metaphors or explanations that you can simplify things, really try and steer away from using the biggest words first, but explain things on a smaller scale... To evaluate, I honestly feel like that is more a personal observation. Maybe I wasn't taught techniques on how to evaluate that so much but just to assume that everybody is starting at ground zero, and then as you introduce topics, just based on their reaction... I think another big part is having them repeat back to you their understanding of things to see if you guys are on the same page.

Such ways were followed by another similar method, which was mentioned by three participants, or 23% of the overall. In this theme, the participants stated that the nurses should expend the *effort to assist patients to learn individually and increase understanding of what is being presented, and at the same time to ask questions to be sure the patient understands the patient education*. Healthcare providers sometimes perceive that their patient education has been effected, but the patient may not have understood (Weiss, 2009). The BSN participants gave examples of using questions to ensure patient understanding. BSN student P2 shared a very effective method:

If we don't understand it, then we need to look it up further. Clinicals you just teach, and if they seem to not understand, then you need to try and explain it a different way. Have them demo, or maybe ask them a question to see if they understand it or can read. You get the pamphlet, and you go to the bedside, and you kind of explain it to them, and then you might give them a small question like, Do you understand this? Or do you have any questions? Maybe you might ask them something about the material to check if they understand it.

BSN student P2 elaborated the method by explaining that she tried to establish a connection with the patients for them to be comfortable enough and would therefore be able to learn easily and answer questions properly:

I ask questions and I ask do you have any questions. I also just try to establish a rapport with patients. I ask questions about their cultural background. I ask questions about where they've been in their lives and then when we're talking about health concerns that they have I will ask deeper questions. I may answer a question and then they respond after I've answered that question with another question. So I'll give an answer and a question back to them to get them to give me feedback on what I've just told them. Then sometimes when I'm teaching classes I will say things and then come back to them at a later time and say what did I say about this and who can tell me this? I'll ask basically for a return demonstration kind of things.

The theme: *Effort in encouraging and being patient with what you are teaching and attempting to convey; and to try various ways that will increase understanding and patient's confidence in what the nurse does or says* also received the same number of responses as the previous one discussed, with three participants, or 23%, providing similar answers (Table 5). Wojciechowski and Cichowski (2007) offered the objective of health literacy was to change behavior and increase desired compliance. BSN student P7 explained this as the "key in patient education" and at the same time gave a good example to substantiate why this is key in patient education:

I was like this is why we have to do this. Just give us three good readings. It's all about encouraging and being patient and being confident in what you're saying. I think that's key in patient education... Another one was teaching a patient how to use an spirometer. I had never used one with a monitor that they have, so when I had the patient blow in, he exhaled. It was kind of hard for him. He was getting really frustrated because the meter wasn't reading his breath. That kind of patient teaching just took a lot of patience because I had to tell him okay it says you have blow out a little bit faster or you cough. He kept getting very, very frustrated. I was like this is just measuring your breath and how much air you can expel from your body because he was a smoker and he had asthma.

Being patient and responsive to nonverbal cues is another important principle in health literacy and patient education. Other undergraduate nursing students reported similar concerns such as learning persistence, and helping patients to understand, and having sensitivity to the patient's needs (Scheckel et al., 2010). BSN student P8 described her experience as:

I guess just asking them if they understand it. You can kind of tell by their nonverbal communication, like if they look confused and they probably don't understand it, maybe you can teach it in a different way, or if you're just talking to them, maybe you need to have like a model there or just when you're telling them to do it and then teaching them as you do it. I guess different ways of teaching it – if one way doesn't work, then you try the other way. Then if that doesn't work, then you try a different way.

In conclusion, the main method for the BSN student participants is to take the effort to make the setting and environment less stressful, as well as making the words simpler for patients to better understand as well as repeat/reinforce questions to instill the lesson. To accomplish this, the BSN student needed to accept the responsibility for patient education and to clarify the information, to achieve patient understanding (Powell, 2009). This was followed by taking the effort to learn individually for patients to better understand what they were trying to tell them, as well as to ask repeatedly to make sure patients comprehend, which received a response lower from the previous theme.

Table 5

*Theme Three Response Summary*

Invariant Constituents	# of occurrences	% of occurrences
Effort to make the setting and environment less stressful as well as make the words simpler for them to understand; Repeat/reinforce questions to increase understanding of the lesson.	6/13	46%
Effort for patients to learn individually and increase understanding of what is being presented; and at the same time to ask the patients to be sure they understand the patient education.	3/13	23%
Effort in encouraging and being patient with what you are teaching and attempting to convey; to try various ways that will increase understanding and patient's confidence in what the nurse does or says.	3/13	23%
Effort to go beyond the instructions of the teacher; make own notes and bullet points to remember the important lessons.	1/13	8%

**Theme Four from RQ4: Which methods of ensuring patient understanding were most valuable? Why were they most valuable?**

For theme four, the most common thematic expression that emerged by the interviewed participants, focused on the methods of ensuring patient understanding that were most valuable: *Usage of supplementary materials such as pamphlets to support the lessons and information being conveyed to the patients (e.g. discharge instructions and materials)*. The BSN participants were attempting to achieve self-care in the patient, by using communication skills to teach their patients (Hartweg, 1991). Orem's SCDT empowers patients to perform self-care activities (Kumar, 2007). Five out of the thirteen

interviewed participants, or 38%, (Table 6) provided the similar response of such usage of supplementary materials to properly convey the lessons and knowledge to patients.

In this theme, participants stated that the distribution of booklets, pamphlets, brochures, handbooks, and other print materials were very useful and could enhance patient understanding. Understanding is achieved when nurses give an initial explanation, and then patients use written materials to reinforce what they have learned. BSN student P4 shared her experience as well as her ways of ensuring that her patients understand what was being taught after teaching the patients healthcare information and practices. She said:

At OB, they have these pamphlets that you give the patients and videos also. I have given clients pamphlets and things like that, and I have my own pamphlet. I have some pamphlets on suicide and smoking cessation, but I haven't really had that opportunity to really use them yet, but I did in OB, but that was already part of their process of the request of the client. How would I ensure – I think when you just – the only way to know is that if they kind of respond to you and act like they understand, and just say it maybe a few more times so that if they didn't understand the first time, at least they still have a chance ask you about it again because sometimes, when you do something, people feel obligated to act like they understand it the first time just out of maybe being nice, but if you keep introducing it, they're more likely to ask questions.

Patient teaching requires more than literature and videos (Mayer & Villaire, 2009). BSN student P5 also shared the same method but integrated her teaching with patient education literature and demonstrations to make the materials more useful and effective:

We'd give brochures out. We also give handbooks. We did an a training class with students to look at our asthmatics, and we gave them a booklet and interactive lessons, make them learn some things about triggers and that helped them. We also gave demonstrations on how to use an inhaler. They did it well. They did deep breathing exercises. The only way for them to understand is to give a demonstration and not only have them verbalize what they think it is. Rather, have them follow you and verbalize it as well, so they can talk through it.



When using written materials the nurse must have the patient state in their own words what the education is saying (Stonecypher, 2009). Meanwhile, BSN student P7 described how hospitals make use of written materials and reinforced how important these materials are to the change in attitude and perspectives of patients toward health literacy and patient education:

In the hospital they provide pamphlets, like if the patient had a heart attack or sometimes if they came in for pneumonia or diabetes. There are always pamphlets that the hospital provides... I think the written materials are always best because you can always explain it. You explain what you said and then everything that the patient didn't really listen to and just heard, they can see it for themselves. Now they have the choice to either read the material and to make a change, to listen because now they've heard it. Now they can read it. Then they can repeat it back. That's what I would do when I have those written materials. I would explain it. I would give it to the patient then ask them to repeat it to me. Sometimes it feels like you're a school teacher to them when they're older, they're adults, but it just reinforces to me that they did understand what I said. I do use written material when it's available. When it's not, I just throw it out there and I make them repeat. For the most part, I do rely on written materials.

Additionally, BSN student P8 also shared that she integrated the supplementary written materials with verbal instructions to ensure that the patients acquire and understand the information those materials contain:

Yes, for OB, we made kind of like a hand out pamphlet. If they wanted it they could keep it. It explains everything about how to take care of the baby and what to do with the signs of infection that you need to come in or breast feeding and bottle feeding, just a pamphlet for them to keep... how you teach them as well, like you verbally teach them because sometimes they don't read it.

The discussed theme was followed by the second and third most used ways to ensure patient understanding, which were *conducting an assessment from the demo as through this we can ensure that the patients are reinforced with the knowledge and checking their understanding by the way they respond to clarify and get a feedback if*

*they were able to digest the information or knowledge successfully* (e.g. teach back and return demonstrations), both receiving three responses, or 23%, each (Table 6). For the method of assessment, the interviewed participants shared that an assessment method helps in confirming the patients' understanding of the medical information being transferred to them. BSN student P1 described how she performed such a task:

Just like a small quiz, just to see if they can read, or if you have to read it for them for them to understand... You have them demo it for you, and make sure that they get to a certain level. Then you tell them, okay, you need to take a slower breath for longer, or, you need to try and get up to this level. You just have them demo it for you to reinforce teaching.

A similar patient education technique was shared by BSN student P10 who used return demonstrations and repeat-back to verify understanding:

There are some areas where you can ask them to demonstrate something that you told them. That's probably the best way I've found. Or ask them to repeat it to you so that... tell you, maybe repeat back in a different way how they understand how to do something so that you fully understand that they've got it.

The theme that followed and received the same number of responses as the second one was checking understanding by the way they answer to the questions, such as feedback, and also the right return demonstrations. BSN student P3 asks questions to determine patient understanding such as:

If I don't say something that initiates the question from them... That they want something clarified or reinforced, I'll ask them, "What's the most important part of what I just explained to you? What has the most meaning to you?" Then I'll go around and I'll ask them... I think so because at least I got some kind of feedback from them.

BSN student P12 also shared a similar method by asking questions and having the patient repeat back the health information:

Yeah, I would usually at the end after teaching them and having them repeat back, I would always just ask is there anything that you are unsure of or unclear of. Is

there anything that when you go home you are going to have a question or just ask them if there is anything else that they would like to ask.

In conclusion, the BSN student participants utilized various methods in order to ensure patient understanding. In this case, the most significant theme that materialized from the interviews was the usage of supplementary materials, combined with verbal instructions. This was followed by two similar methods of conducting a quiz or test from the demonstrations, as well as observing from their responses and feedback if patients indeed understood and comprehended the information being taught.

Table 6

*Theme Four Response Summary*

Invariant Constituents	# of occurrences	% of occurrences
Use of supplementary materials such as pamphlets to support the lessons and information being conveyed to the patients (e.g. discharge instructions and materials).	5/13	38%
Conducting an assessment from the demo to ensure that the patients are receiving the information.	3/13	23%
Checking the patient's understanding by the way the patient responds to clarify and get a feedback if they were able to digest the information or knowledge successfully (e.g. teach back and return demonstrations).	3/13	23%
Training and knowledge from professors who are have practiced and have experiences which can be taught to us.	1/13	8%
Reading client testimonies to gather feedback and ensure that health literacy and patient education were adequately delivered at the level of patient understanding.	1/13	8%

**Theme Five from RQ5: How do BSN students describe their role in integrating health literacy within patient education?**

For question five, the most significant thematic expressions that emerged from the interviewed participants was the BSN students' description of their roles and method in integrating health literacy within patient education: The BSN students facilitate learning by *using the technique of teach-back or to repeat back* what they have heard or seen (Mauk, 2010) as well as to facilitate learning by *using return demonstrations* or when the patient performs the skill or procedure without any coaching from the nurse (L. White, 2005). The two thematic expressions received an equal number of responses with four, or 31%, each (Table 7). According to participants, their role is to facilitate learning by using the technique of teach-back or to repeat back what they have heard or seen (Mauk, 2010).

BSN student participants shared that they served as the channel through which the patients could see and hear/receive certain information especially when using the teach-back technique. BSN student P4 shared, “Oh yes, definitely, like when you show them something, and they’re able to – yes, for sure. Teach-back... Yes, that’s true because the more interactive it is, the better because they’re going to actually need to do it, so they might as well do it right there.” BSN student P6 also shared similar roles by saying that, “Oh teach-back maybe. We are instructed to have them show us not tell us that they understand it,” and BSN P9 said, “Just observing body language, I’d say. That and then just having them repeat things back or encouraging them to ask questions.”

The next thematic expression that received the same amount of responses as the previous one discussed is similar. BSN student participants shared that they facilitate learning by using the *return demonstrations* or when the patient performs the skill or procedure without any coaching from the nurse (L. White, 2005). BSN student P5 explained how she conducts return demonstrations with her patients, “I guess for our return demonstration, we ask them, Are you breathing in through the device, or are you breathing out? Then, if they’re wrong, if they’re breathing in or out or whatever device that they’re using, then you would correct them.”

BSN student P7 elaborated her role in facilitating learning by the return demonstration technique:

I think demonstration. I think demonstrating to a patient and then having them demonstrate it back to you or repeat what you said seems most valuable because I feel like working in a health care setting everyone is so accustomed to the jargon that when it comes to talking to patients, they're like oh, yes. I think having them repeat it back or demonstrate something back to you helps them to understand in their own words what you're trying to say. When they explain it to you understand if they understood you or not or if you need to pinpoint on the problems that you think they might have because of the jargon that you used. I think demonstration or repeating in the patient’s own words is most valuable.

BSN student P11 proved that her role as a demonstrator truly helped in making the patients fully understand the medical knowledge or information they were teaching them:

If I can, I have them demonstrate back. In particular, two step like with a baby. I’ll show them. I’ll explain how to put the baby in the car seat and make sure it’s safe. Then I undo everything and then I have them do it to make sure that they got it right. I help with the breastfeeding. I read them things, I show them things, and then I have them ... I work with them for a while before they go. Seeing how they’re holding the baby. Just trying to help work with what they think they understand, or I just ask them to explain back... Ask them about the resources... I usually try to give a lot of information to take home, very simple stuff as well.

Subsequently, three out of the 13 interviewed participants, or 23%, (Table 7) also shared a different role in making the patients understand health literacy together with patient education. In this theme, the BSN students believed that people learn in different ways; thus, aside from reading materials and demos, visual aids were also used help in teaching the patients. BSN student P1 shared that:

Yeah. Maybe you have to draw something. You might have to draw something instead of ... Because maybe you can't get your point across with words... That would work for me too, because health care literacy isn't just about reading material. I think it's about visual material too, because people learn in different ways.

BSN student P10 supported the sentiment of BSN number one by stating: "Right, we give discharge, kind of the instructions, then sometimes we'll give them pamphlets and resources that they can you know use later off the Internet or support groups... Things like that are usually pretty helpful."

A thematic expression that received two responses, or 15%, (Table 7) of overall responses was their role of checking up on their patients, educating patients with each visit to their rooms, as well as asking open-ended questions to make sure patients understood what was being explained to them. BSN student P2 agreed that she uses questions to verify patient understanding, stating: "Yes, seeing if they understood what I said earlier."

In conclusion, the BSN student participants mainly believed that they had different roles as nurses to integrate health literacy and patient education. However, there was one point that came across with various nursing roles, wherein 100% of the participants believed that their role is to serve as educators to their patients. The participants believed that nurses are the mediums through which healthcare knowledge

could be transmitted in simpler and more defined vocabulary for the patients to improve their health literacy.

Table 7

*Theme Five Response Summary*

Invariant Constituents	# of occurrences	% of occurrences
The BSN students facilitate learning by using the technique of teach back or to repeat back what they have heard or seen (Mauk, 2010).	4/13	31%
The BSN students facilitate learning by using return demonstrations or when the patient performs the skill or procedure without any coaching from the nurse (L. White, 2005).	4/13	31%
People learn in different ways, aside from reading materials and demos, visual aids may help as well (e.g. discharge instructions with supplementary materials).	3/13	23%
Visit patients in their rooms while asking questions to make sure they understand.	2/13	15%

**Theme Six from RQ6: What ethical considerations related to health literacy do BSN students encounter during patient education?**

For question number six, the most significant thematic expression that emerged from the interviewed participants discussed the ethical considerations related to health literacy that BSN students encounter during patient education. This theme was the obstacle of the cultural and language barriers when the patients cannot speak or understand English. These patients are vulnerable and should be provided with sufficient information that they can comprehend (Erlen, 2004). Therefore, the BSN participants are

hindered from being able to fully express and convey the patient education information that they want their patients to know. Interpreters were not readily available to these participants. TJC (2007) states that culture, language, and health literacy should be considered together. This thematic expression received four out of thirteen, or 31%, of responses (Table 8). BSN student P2 shared her own experience of the ethical incident she encountered:

Oh, a few. Some of them due to language barriers. Sometimes I will try and teach, but I know they don't understand because a whole different culture, whole different language. We have a lot of Marshallese here in Hawaii, so it is sometimes harder for us to try and teach and have them understand. They will just tell you, yeah, okay.

Patients are autonomous, moral agents and need an understanding of their healthcare condition to enact their values (Redman, 2005). BSN student P8 also shared the same experience, and even relied on the patient's relative to translate:

On the post-surgical, we had a language barrier, but she kind of understood enough where I could teach her, but it was difficult because that was the first language barrier patient I had... No, she couldn't understand us, but she couldn't really speak English, though she knew certain words, so we kind of had to put it together unless her son came. Yes, she could, but she didn't speak English very well.

Another incident, where the BSN student participant encountered a similar experience, was that of BSN student P10, who also encountered relying on the patient's relative to translate instead of using an approved translator:

I sort of feel like we have a lot of issues with a language barrier, and I don't know if I would consider that health literacy when the patient is ... It kind of is, because if you're trying to talk to the patient and they don't speak English and their spouse is the only one that does, you don't know what they are saying to them so you don't know if they fully understand what's happening.



Meanwhile, BSN student P13 shared how she deals with and answers the said issue when she encounters it while treating her patients and at the same time integrating health literacy and patient education: “Yeah, there certainly has been. Yes, yes. ... I also try to make it very ... I try to make it simple if I know that there are language barriers there.”

The next thematic expression that followed the first, received three responses from the 13 participants, or 23%, (Table 8) was the *difference in cultural values, beliefs, and practices*, which can be considered very significant as well. BSN student participants shared how difficult it is to encounter such ethical incidents as they still have to give respect to the norms and beliefs of the patient, as well as value the healthcare aspect of the situation. In ensuring cultural competence the student must be able to look through the lens of the patients (Stokes & Flowers, 2009). Also, Redman (2005) prepares nurses for the patients who look to another family member when making a decision. BSN student P5 shared a description of a personal incident related to health literacy she previously experienced:

It has to deal with always medication, usually with if they believe something does not work, and then they have their own cultural beliefs about medicine, or what can you do about that. Especially with my dad, again, he twisted his ankle and the doctor gave an ankle brace, but he didn't want to use it, and I would always see him limping. I don't know what his deal is. I would tell him to use it. There's a reason why they would do that, but he kept insisting not to, and he's still limping, and it's been months. He just does not want to use it, even if I always tell him. They have their own witch doctors that they rub all these oils on, and they believe that more than they do western medicine, so that could be an ethical situation.

A similar incident was encountered by BSN student P12, wherein she was torn between respect for the patient's decision and culture vs. the accepted healthcare practices. The

Micronesian patient could not make a birth control decision without the advice of the patient's husband:

I did my clinical rotation through the Women's Health Clinic and got a lot of Micronesian women and the doctors would tell me, okay for their Paps they can leave their skirt on and leave their bra on, just have them unhook it. They are real modest. I'm trying to think....I don't know if it was culture... So if they wanted to be on birth control they would say, oh, I have to ask my husband." "Right, in their culture they wouldn't make their decision and what we are used to is that women make that decision- respect their decision and culture.

Meanwhile, there were two other thematic expressions that emerged from research question six. Each received two responses, or 15%, (Table 8) each. These were none, as of the moment due to limited experience but will probably encounter ethical issues in the future and the patient kept on insisting her personal wants and choices disregarding the advice of those in healthcare practice. For the third thematic expression, BSN student P1 shared that: "No, not that I can think of. I'm pretty sure that somewhere along the line I probably will."

Subsequently, for the fourth thematic expression, the BSN experienced *a conflict between the patient's concerns and the precepting nurse's concern*. BSN student P7 shared her experience as:

Yes, because it was Haldol and it would have caused respiratory depression. They were trying to do; I forgot which one it was. They were trying to look at her lungs because she had a DVT, a possible DVT on her lab results. They wanted to lower her dose. I was trying to encourage her to move around to help with pain instead of just lying there. She just wanted medication, was the thing. Then she was getting itchy. That's when the situation with the nurse occurred.

In conclusion, it can be inferred that from the interviews, BSN student participants mostly encountered ethical considerations with regard to cultural and language barriers. Due to the location of their hospitals and clinics, some residents and

patients were not able to speak or understand the English language, and thus could not understand what the BSN participants were trying to teach them. Also, even when patients understood English cultural differences played an ethical role, as a significant number of the students discussed the cultural practices differing from healthcare practices, which caused an ethical concern.

Table 8

*Theme Six Response Summary*

Invariant Constituents	# of occurrences	% of occurrences
Cultural and language barriers when the patients cannot speak or understand English.	4/13	31%
Difference in cultural values, beliefs, and practices.	3/13	23%
None as of the moment but will probably encounter in the future.	2/13	15%
The patient kept on insisting what she wanted, disregarding the thoughts of the healthcare professionals.	2/13	15%
None so far, due to limited clinical experience.	1/13	8%
No encounter with language barriers and difference in cultural values, beliefs, and practices.	1/13	8%

**Conclusion**

Chapter 4 presented the data findings from the semi-structured interviews of a purposive sample of 13 BSN students. The conducted interviews followed Hatch's (2002) approach, wherein he explained that the word hermeneutic was used synonymously with interpretative. This process translated into interpretative and

descriptive research used to explore the lived experiences or life worlds of the participants in the study. Such an approach was apparent throughout the data collection and data analysis. Chapter 4 also presented the data collection process explained in the previous chapter and included the demographics of the participants of the study with a table and a short analysis. Chapter 4 displayed the interview findings and provided excerpts of the interview transcripts to support the themes found from the responses given by the participants when asked each research question.

The research found that the emerging theme for the first research question, *How do BSN students describe their preparation to integrate health literacy in patient education?*, was that *the BSN students were taught how to communicate with the patients to enhance patient education to promote health literacy, especially before patient discharge (e.g. talk to them in layman's terms, not in medical jargon, and demonstrate what was being taught).*

For the second research question of, *Which components, such as classes, lectures, or clinical rotations, of the BSN program were helpful in understanding health literacy?*, the study found that the *clinical rotations* were the most helpful, as the BSN students were able to interact with patients through hands-on experiences, which reinforced what the students had previously learned. As for the sub-thematic category of the point in the BSN program when health literacy was introduced, the study discovered that 100% of the participants were *first introduced to health literacy during the first semester of the BSN program, during the Fundamentals course.*

For the third research question of, *How did BSN students learn to apply health literacy to patient education?*, the researcher found that the effort to *make the setting and*

*environment less stressful, as well as making words simpler for patients to better understand while repeating/reinforcing questions to evaluate patient's understanding of the lesson, were methods the BSN students used to apply health literacy to patient education.*

Concerning the fourth research question of, *Which methods of ensuring patient understanding were most valuable and why?*, the researcher found through the interviews that *the usage of supplementary materials, such as pamphlets, to support the lessons and information being conveyed to the patients* (e.g. discharge instructions and materials) was the most valuable method to ensure that the patients were able to comprehend and acquire health literacy from the patient education being taught to them.

As for the fifth research question, *How do BSN students describe their role in integrating health literacy within patient education?*, there were two equally prevalent thematic expressions that emerged, which were: The BSN students facilitate learning by using the *technique of teach-back* or to repeat back what they have heard or seen and the BSN students facilitate learning by using *return demonstrations*, or when the patient performs the skill or procedure without any coaching from the nurse (Mauk, 2010; L. White, 2005).

Lastly, for the sixth research question of, *What ethical considerations related to health literacy do BSN students encounter during patient education?*, the researcher collected that the most frequent ethical situation that these BSN students encountered was the *cultural and language barriers*, as some patients could not speak English. Therefore, BSN students were hindered from conveying the health information that they wanted their patient to receive and learn. These data and results collected help in achieving the

goal of finding more effective teaching strategies to integrate health literacy and patient education to the current curriculum of nursing as earlier mentioned in the study.

## **CHAPTER 5. RESULTS, CONCLUSIONS, AND RECOMMENDATIONS**

### **Introduction**

Almost one-half of adults in the U.S. do not have the degree of health literacy needed to access health information (IOM, 2004). Therefore, BSNs must become proficient in providing patient education in a way for the patient to understand and act on the education. BSN students must be proficient in identifying patients who do not have that understanding needed of their health conditions to ensure the patient engages in healthy behaviors. The purpose of this study was to explore BSN student's health literacy preparation in relation to patient education. A basic qualitative study was chosen since nursing health literacy literature has been lacking (Speros, 2009). A qualitative study has a goal of a deeper understanding of a human situation (Creswell, 2008). A semi-structured interview was used to explore health literacy experiences of BSN students.

Chapter 5 presents a summary of the findings, a discussion of the interpretation of those findings, and a comparison and contrast of the findings in relation to the literature. Finally, Chapter 5 offers recommendations for further research and a summary. The objective of Chapter 5 is to interpret the findings from the 13 interviews with junior and senior BSN students to what has been presented in nursing literature.

### **Summary of the Findings**

**RQ1:** How do BSN students describe their preparation to integrate health literacy in patient education?

Findings: Sixty-two percent of the BSN students *were taught how to properly communicate with the patients to better educate them especially before patient discharge* (e.g. talk to them in layman's terms and not in medical jargon and use return demonstration to evaluate patient learning). A second finding was: *The BSN students were expected to be literate in healthcare terminologies to be able to teach their patients and to better prepare themselves as nurses* (31%).

**RQ2:** What components, such as classes, lectures, or clinical rotations, of the BSN program were helpful in understanding health literacy? Why were those components most helpful?

Findings: *The clinical rotations were the most advantageous since the participants can interact with patients through the hands-on experiences* (38%).

The second finding for this question was: *Lectures and simulation labs because BSNs learn how to communicate better and gain knowledge of health literacy techniques and principles* (31%).

A third finding was: *All components of the BSN- classes, lectures, and clinical rotations because the three can be integrated for application* (23%).

**RQ2a:** At what point in the BSN program was health literacy introduced?

Findings: *During the very start, the first semester of the BSN students' Fundamentals course* (100%).

**RQ3:** How did BSN students learn to apply health literacy to patient education?

Findings: *BSN students should make the setting and environment less stressful as well as make the words simpler for patients to understand better; they should also repeat/reinforce questions to evaluate the patient's understanding of the lesson* (46%).



Another finding from RQ3 was: *Nurses should expend the effort to assist patients to learn individually and increase understanding of what is being presented, and at the same time to ask questions to be sure the patient understands the patient education* (23%).

This third finding received as many responses as the second finding: *Effort in encouraging and being patient with what you are teaching and attempting to convey; and to try various ways that will increase understanding and patient's confidence in what the nurse does or says* (23%).

**RQ4:** Which methods of ensuring patient understanding were most valuable?

Why were they most valuable?

Findings: *Thirty-eight percent of the participants prefer to use supplementary materials such as pamphlets to support the lessons and information being conveyed to the patients (e.g. discharge instructions and materials).*

A second and third finding: *Conducting an assessment after the demo to ensure patients that the patients are reinforced with the knowledge; and checking their understanding by the way they respond. Also, participants clarified and got feedback to assess if the patients were able to digest the information or knowledge successfully (e.g. teach back and return demonstrations).* These two responses accounted for 23% of the answers.

**RQ5:** How do BSN students describe their role in integrating health literacy within patient education?

Findings: *The BSN students facilitate learning by using the technique of teach-back or to repeat back what they have heard or seen as well as to facilitate learning by using return demonstrations* (62%).

Another finding, which received 23% was: *People learn in different ways, aside from reading materials and demos, visual aids may help as well (e.g. discharge instructions with supplementary materials).*

**RQ6:** What ethical considerations related to health literacy do BSN students encounter during patient education?

Findings: *Cultural and language barriers when the patients cannot speak or understand English (31%).*

A second finding was: *Difference in cultural values, beliefs, and practices (23%).*

Each of the findings will be discussed in relation to the literature in the next section. Several of the findings were similar to findings from other authors.

### **Discussion of the Findings**

#### **RQ1**

The participants learned to integrate health literacy by speaking to patients in clear, simple English, and avoiding the use of medical jargon. Most of TJC's 3,000 sentinel events are related to ineffective communication (TJC, 2011). Therefore, it is imperative that nurses are able to communicate health information to their patients.

However, the participants had not learned how to assess the patient's health literacy level. The BSN students geared their patient education to a low level to meet the learning ability of most patients. Health teaching may not be effective if the patient's health literacy level is not first assessed (Sand-Jecklin et al., 2010). Health literacy assessment can be done in less than three minutes with The Newest Vital Sign (Cornett, 2009). Still, using health literacy assessments may make patients feel ashamed when they cannot answer questions (Powers, 2010). Patients already feel a loss of self-control

and an inability to make self-care decisions when they have low health literacy (Erlen, 2004). Assessing the patient's health literacy needs to be done in a way to show respect and concern for the individual.

An unexpected finding was that the participants were learning about health conditions, medication, and treatments just as their patient's needed to learn. To teach their patients, they first had to understand the patient's health condition and plan of care. The BSN students would need to prepare a day in advance for the care of a patient, so that they would be knowledgeable enough to conduct patient education. Understanding how the lab values, medications, diet, and patient behaviors fit together for the specific health conditions was a challenge for the participants.

## **RQ2**

Clinical rotations were the most eye-opening experiences for the participants. During lectures, textbook readings, and class activities/assignments, the participants learned on the knowledge level, but in patient care areas, the participants were able to apply what they learned. Conversely, in the clinical areas there is often insufficient time to ensure patient education (Perkins & Cohen, 2008). None of the 13 participants expressed insufficient time for patient education. In the clinical areas the students were able to synthesize their classroom learning and practice patient teaching, and were able to see the value in patient education. Through effective patient education patients could develop self-care abilities (Slusher et al., 2010; Wilson et al., 2008). Ensuring that their patients understood how to take medications or how to care for a newborn made their classroom learning applicable to a real-life situation.

Some of the participants (31%) found that lectures and simulation were more helpful in understanding health literacy. Actually being with patients was stressful to some students and made learning difficult. In the BSN student's simulation area they were able to practice without fear of making a mistake. The participants enjoyed leaning from their instructors, which could be done in lecture or simulation. Scheckel et al. (2010) also found that students need to watch experienced nurses teach patients, and then learn from their examples. Clinical practice may have been perceived as more challenging due to increased complexity of patient care. Many patients have several disease processes (cardiovascular disease, diabetes, hypertension, or hyperlipidemia), which make patient care and patient teaching more complex.

#### **RQ2a**

All of the participants learned about health literacy at the beginning of the BSN program, which emphasizes the importance of integrating health literacy in patient education. The IOM (2004) recommended that schools of nursing add health literacy to the curriculum. Two research studies with BSN students found that health literacy concepts need to be included in the BSN curriculum (Cormier & Kotrlik, 2009; Sand-Jecklin, 2010). The participants in this study did learn health literacy concepts and applied those concepts to patient teaching. In the beginning of the BSN program the students created patient teaching for healthcare conditions at the sixth grade level. They learned to use simple, one-syllable words, and avoided using complex sentence structure. They also learned the value of illustrations for patients. Since the patient's literacy level was not assessed, the participants geared their materials for the majority, which is recommended (TJC, 2007). It is recommended to use sentences of 15 words or less, use

illustrations, and use a font that is large and clear (Mayer & Villaire, 2009). The BSN students may have found that some patients had a high health literacy level, though none of the students reported having a patient with a high literacy level. Their examples were of patients who needed health teaching and responded well to their teaching.

### **RQ3**

The participants felt a need to make the learning environment less stressful for patients. They accomplished this by using single syllable words and avoiding medical jargon. They would also try to conduct patient education in short sessions, by teaching every time they entered the patient's room. Cornett (2009) offered methods to reduce a stressful environment such as making written and verbal instructions clear and simple and creating a respectful and caring environment. If the patient perceives that then environment is stressful, their ability to learn and remember will be decreased (Cornett, 2009).

By asking open-ended questions the participants could evaluate the patient's understanding. Based on the response given by the patient, the students would determine if more teaching was needed or if the patient needed written material to reinforce their education. The participants knew that open-ended questions were better than asking, "Do you understand?" The participants found that each patient is an individual and required patient education to be delivered to meet the patient's unique needs. Participants found that they could not simply hand patients a pamphlet. To assess health literacy the participants had to use teach-back or return demonstrations. These participants understood health literacy concepts better than some experienced nurses. Few nurses know if the pamphlet is right for the patient. However, the participants did not address

using a readability test such as the Flesch-Kincaid Reading Ease or the Fry Formula (DeSilets & Dickerson, 2009). Mayer and Villaire (2009) recommended using these tests or several others that are easily accessed to evaluate the readability and the use of graphics.

#### **RQ4 and RQ5**

Responses to RQ4 and RQ5 discussed using teach-back and return demonstrations. The participants were well aware of how to use teach-back and return demonstrations, and frequently used both tools to assess learning. Teach-back was shown to be effective when teaching a patient skills (Cormier & Kotrlik, 2009; Kripalani, 2008). With teach-back the nurse can immediately determine if more teaching or another way of explaining is needed. Both the participants and the literature suggest that supplementary educational materials, such as pamphlets, are helpful in patient education (Kripalani, 2008). The participants explained the supplementary educational material and wanted the patients to have the material to refer to after they went home.

#### **RQ6**

Over 50% of the participants had experienced cultural and language barriers preventing patients from understanding teaching. None of these participants were able to use an acceptable interpreter. Some used family members to relay health information. Not only was it important to have an interpreter to explain usual patient education, but most hospitalized patients are fearful and anxious. Their emotional and behavioral response to their health condition is culturally based (Chang & Kelly, 2007). Also, patients will be more compliant when the patient education is not in conflict with their cultural beliefs and values (Chang & Kelly, 2007). Knowing who the decision-maker is

for the patient is needed prior to patient teaching. In some cultures, the head of the family makes decisions. It would be helpful for BSN students to develop cultural competency for the cultures encountered in the places where they do clinical care.

### **Relationship between the Results and Theoretical Framework**

Transformational learning was apparent when the participants realized the importance of patient education in their clinical practice. They understood that what they learned in the classroom could be applied in their patient care. Transformational learning is about examining our beliefs and revising our perspectives (Cranton, 2006). Until the BSN students applied what they learned in the classroom, their beliefs were not affected. In the classroom the students could not see the importance of health literacy being applied in patient education, but in the clinical setting the participants transformed their perspective.

Part of transformational learning is a frame of reference or an individual's point of view based on beliefs and culture (Cranton, 2006). The patients had cultural views which differed from the participants. The participants then questioned their own views and the view of the healthcare profession. This process required self-reflection as a problem solving approach to perform patient education with respect to the patient's dietary practices, views on medications, and perception of wellness. Finally, transformational learning requires taking action (Merriam et al., 2007). The participants ensured that their patient education resulted in learning. They used teach-back and return demonstrations to assess patient learning. Transformational learning occurred when the BSN students transformed to patient educators.

Orem's Self-Care Deficit Theory (SCDT) was applicable in patient teaching with the new moms, who received education prior to discharge, so that they could provide care for their newborn. The participants ensured that patients understood skills, such as how to use a car seat, prior to discharge. They used return demonstrations and coaching to bring the parents to a level of understanding. Also, when teaching to use the inspirimeter, they used return demonstrations. The patients were prepared to perform self-care when they left the hospital.

The self-care deficit theory involves the actions of nurses, which lead to developing self-care in the patient (Orem, 1991). Teaching patients how to perform self-care when the patient is discharged from the hospital is the objective of SCDT. The participants not only instructed their patients but ensured that their patients understood the discharge teaching. The participants used open ended questions, pamphlets, and teach-back.

### **Limitations**

There were several limitations of this study. Since this was a qualitative study and a small sample (13) was used, which prevents the results from being generalized to other populations. Also, there were only female BSN students in the sample. Males may have been able to add another perspective. The interviews were telephonic for convenience. Ideally, the interviews would have been face-to-face to identify nonverbal communication. Researcher bias is another limitation of qualitative studies (Marshall & Rossman, 2011). The researcher could have misinterpreted information because of the views and experiences of the researcher.



## **Implications of the Results for Practice**

There are several health literacy concepts that could be incorporated in the curriculum. Simple interventions to build on the patient education that is currently being delivered could enhance long term patient outcomes.

1. Developing pamphlets and role-playing are teaching strategies that could be added to the curriculum. With either on the students would learn to use clear, simple English.
2. Using a few simple questions to determine the patient's level of health literacy would allow teaching to be geared to meet the patient's needs. If the patient's health literacy level was in their personal health record, healthcare professionals would not need to re-evaluate as often.
3. Since BSN students are just learning about health conditions, medication, and treatments, they often need preceptors or teachers to demonstrate how to assess a patient's health literacy level, receptiveness to education, and methods of delivering appropriate patient education.
4. Role-playing or practicing in the simulation lab to develop incorporating health literacy in patient education. Using patient scenarios where the patient has a complex health condition or several health conditions will help prepare students. Some BSN students may need more practice time prior to actually teaching patients, asking open-ended questions, and assessing learning. Learning teach-back and return demonstrations could also be taught in the simulation lab.

5. Health literacy concepts should be taught at the beginning of the BSN program and continued throughout the courses (Cormier & Kotrlik, 2009; Sand-Jecklin et al., 2010).
6. Patients need to be empowered to make self-care decisions. The learning environment should be conducive to learning, and interpreters should be available if there are language barriers.
7. Cultural competencies should be taught to the BSN students prior to entering the clinical environment.

### **Recommendations for Further Research**

The findings of this study show that health literacy concepts are being taught early in the BSN program and are interwoven throughout the nursing courses at this university. This was a recommendation of previous research studies (Cormier & Kotrlik, 2009; Sand-Jecklin et al., 2010). The results of this study show that research is needed in several areas.

### **Assessing Patients Health Literacy Level**

Nursing programs incorporating health literacy in patient education should identify preferred methods of assessing the patient's health literacy level (IOM, 2004; R.A. Jones, 2010; Mancuso, 2009). The participants learned to teach at a low health literacy level to be sure their patients understood and learned. The participants also assessed the patient's learning. By preparing to teach patients and answering the patient's questions, the BSN students learned more about health conditions, medications, and treatment plans. This type of application may have a positive result on the National

Council Licensure Exam scores. Future quantitative studies could compare results of programs with full health literacy concepts to those without health literacy concepts.

### **Health Literacy Outcome Assessments**

The literature clearly shows the need for health literacy outcome assessments (Kutner et al., 2003; Shohet & Renaud, 2006). For patients to receive quality patient education at their specific health literacy level, readmissions to the hospital or emergency department visits may be decreased. This would be an area for further research. Self-care abilities resulting from quality patient education is another area for further research.

### **A Quantitative Health Literacy Study**

The research questions should be re-worded in a quantitative study to determine the ideal teaching strategies to incorporate health literacy in patient education. This study showed that the participant's clinical experiences followed by simulation experiences of health literacy were preferred methods to learn the patient education role of the nurse. However, since this study was a basic qualitative study the results cannot be generalized to the overall population.

### **Linking Health Literacy and Cultural Considerations**

Health literacy education needs to consider cultural values and beliefs. A link between health literacy and cultural competence should exist in the BSN students (Cormier & Kotrlik, 2009).

### **Assessing Written Health Education Material**

Written health education material evaluation should be included in the curriculum. Using the Flesch-Kincaid Tool, The Simple Measure of Gobbledygook, the Fry Index Measure, or other health literacy level evaluation tools should be understood

by nurses to ensure the patients receive literature appropriate for their health literacy level (Shieh & Halstead, 2009).

### **Health Literacy Perceptions of Nurse Educators**

Evaluating the perceptions of nurse educator for incorporating health literacy in patient education should also be explored. Nurse educators may identify obstacles that need to be removed to fully embrace health literacy in patient education, such as sufficient time for this type of education.

### **Conclusion**

This basic qualitative study explored BSN student's health literacy in patient education experiences. The participants described their experiences with health literacy beginning early in their BSN program and then integrated health literacy throughout the BSN program. Integrating health literacy in the BSN curriculum was recommended in the literature review (Cormier & Kotrlik, 2009; DeSilets & Dickerson, 2009; IOM, 2004). Through the participant's descriptions of their health literacy experiences, themes emerged, which could be helpful in continuing to integrate health literacy concepts in BSN programs. An example is teaching BSN students to use teach-back to assess the patient's learning. Cultural and language barriers continue to compromise patient education and require further research to identify best practices to overcome the barriers. Further research is also needed to study nurse educator's perspectives of how BSN students learn to integrate health literacy concepts. Findings from this study can be used to develop more health literacy studies to bridge the gap of literature in this area (Speros, 2005). The results of this health literacy research could benefit nursing faculty, students,

and nurses, but ultimately the results could benefit the patients who deserve to understand their healthcare.

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## APPENDIX A. STATEMENT OF ORIGINAL WORK

### Academic Honesty Policy

Capella University's Academic Honesty Policy (3.01.01) holds learners accountable for the integrity of work they submit, which includes but is not limited to discussion postings, assignments, comprehensive exams, and the dissertation or capstone project.

Established in the Policy are the expectations for original work, rationale for the policy, definition of terms that pertain to academic honesty and original work, and disciplinary consequences of academic dishonesty. Also stated in the Policy is the expectation that learners will follow APA rules for citing another person's ideas or works.

The following standards for original work and definition of *plagiarism* are discussed in the Policy:

Learners are expected to be the sole authors of their work and to acknowledge the authorship of others' work through proper citation and reference. Use of another person's ideas, including another learner's, without proper reference or citation constitutes plagiarism and academic dishonesty and is prohibited conduct. (p. 1)

Plagiarism is one example of academic dishonesty. Plagiarism is presenting someone else's ideas or work as your own. Plagiarism also includes copying verbatim or rephrasing ideas without properly acknowledging the source by author, date, and publication medium. (p. 2)

Capella University's Research Misconduct Policy (3.03.06) holds learners accountable for research integrity. What constitutes research misconduct is discussed in the Policy:

Research misconduct includes but is not limited to falsification, fabrication, plagiarism, misappropriation, or other practices that seriously deviate from those that are commonly accepted within the academic community for proposing, conducting, or reviewing research, or in reporting research results. (p. 1)

Learners failing to abide by these policies are subject to consequences, including but not limited to dismissal or revocation of the degree.

### Statement of Original Work and Signature

I have read, understood, and abided by Capella University's Academic Honesty Policy (3.01.01) and Research Misconduct Policy (3.03.06), including the Policy Statements, Rationale, and Definitions.

I attest that this dissertation or capstone project is my own work. Where I have used the ideas or words of others, I have paraphrased, summarized, or used direct quotes following the guidelines set forth in the *APA Publication Manual*.

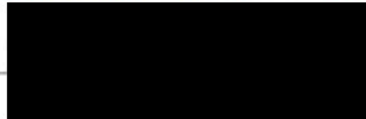
Mentor name

and school

Dr. Judy Akin Palmer, School of Education

Learner signature

and date



3 May 13

## APPENDIX B. DEMOGRAPHIC QUESTIONNAIRE

1. Gender (check one): a. Male \_\_\_\_\_ b. Female \_\_\_\_\_
2. Current age: \_\_\_\_\_
3. What is your identified ethnic or racial category (please place an X by selected category):
  - \_\_\_ a. American Indian or Alaska Native
  - \_\_\_ b. Asian
  - \_\_\_ c. Black or African American
  - \_\_\_ d. Hispanic or Latino
  - \_\_\_ e. Native Hawaiian or Other Pacific Islander
  - \_\_\_ f. White
  - \_\_\_ g. Other
4. Class Status: (May check more than one response if applicable)
  - \_\_\_ a. Junior
  - \_\_\_ b. Senior
  - \_\_\_ c. Prior college degree
5. Contact information for interview:  
First Name:  
Phone number:  
E-mail:  
Most convenient time to contact you:



## APPENDIX C. TELEPHONE INTERVIEW GUIDE

Participant ID: \_\_\_\_\_ Date: \_\_\_\_\_ Interview Length: \_\_\_\_\_

### **Verbal Introduction:**

Thank you for participating in this research study on health literacy and Baccalaureate nursing students. I am conducting this study to obtain a detailed account of your experiences and opinions, which are extremely valuable. Even though we have planned an hour for this interview, you may take as much time as you need to respond to each question. I will record your interview to ensure that I accurately capture and analyze your experiences. After the interview your information will be kept in a locked file cabinet in my office. Do you have any questions or concerns about the research or interview?

### **Please describe your experiences with integrating health literacy into patient education during your BSN program.**

1. Reflect on experiences while you were in your BSN program of applying health literacy concepts to patient education, and consider the social context that those experiences took place. How would you describe your educational preparation during your BSN program to integrate health literacy in patient education?
2. What components, such as classes, lectures, or clinical rotations, of your BSN program were helpful to you in understanding health literacy? Why were those components most helpful to you? At what point in your BSN program was health literacy introduced? Describe your understanding of health literacy.
3. What learning experiences and situations were obtained during your BSN program to help you learn to apply health literacy to patient education? What did you learn that enabled you to evaluate health literacy education material?
4. Which methods of ensuring patient understanding did you consider most helpful? Why did you consider these most valuable?
5. How would you describe what you do to include health literacy principles in patient education?
6. Ethical situations require a decision for rightful conduct. What ethical considerations related to health literacy do you encounter during patient education?
7. Do you have any other thoughts about health literacy that you would like to provide?

## **Verbal Closing**

Thank you for taking the time to share your experiences and views. I really appreciate your input and participation.