USE OF A SHADOW THE NURSE INTERVENTION IN EARLY BACCALAUREATE NURSING EDUCATION AND ITS INFLUENCE ON PROFESSIONAL ROLE PERSPECTIVES

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ABSTRACT

Nursing students experience a great discrepancy between their ideal views of nursing obtained while in school and the realities of practice (Chappy, Jambunathan, & Marnocha, 2010). A key issue is role discrepancy which has been shown to result in difficult transitions into nursing and reality shock for the newly licensed nurse (Duchscher, 2009; Hickey, 2010; Young, Steunkel, & Bawel-Brinkley, 2008). Using the Reflection, Feedback, and Restructuring model as a conceptual framework, this study sought to examine if a shadow the nurse experience (STN) for novice baccalaureate nursing students led to a transformation in professional nursing role perceptions and goal development. Twelve sophomore level nursing students enrolled in a baccalaureate nursing program shadowed a registered nurse for a total of 16 hours and responded to guided reflective questions before and after the experience. Reflections were analyzed and synthesized through an interpretative phenomenological lens resulting in three themes related to role development before and three themes related to role development after the shadowing experience. Overall respondent’s perspectives changed from a focus of the nurse as a primary caregiver in a hierarchal structure to a broader perspective recognizing the complexity of nursing and what it means to care. Additionally students linked practice to classroom learning and developed academic goals to address anticipated learning needs.
TABLE OF CONTENTS

ABSTRACT ........................................................................................................ iii

LIST OF TABLES ................................................................................................. v

LIST OF FIGURES ............................................................................................... vi

ACKNOWLEDGMENT & DEDICATION ............................................................... viii

CHAPTER 1 – INTRODUCTION ........................................................................... 1

CHAPTER 2 – MANUSCRIPT ONE ................................................................. 10
  Shadowing in the Context of Nursing Education: An Integrative Review

CHAPTER 3 - MANUSCRIPT TWO ................................................................. 45
  An Integrated Model for Learning, Knowing, and Role Development in the Clinical Setting.

CHAPTER 4 - MANUSCRIPT THREE ............................................................. 73
  Shadow the Nurse Intervention in Early Baccalaureate Nursing Education and its Influence on Professional Role Perspectives

CHAPTER 5 – SUMMARY & CONCLUSIONS .................................................. 110

APPENDICIES
  A. Student demographic data form ................................................................. 124
  B. Guided Reflective Questions .................................................................. 125
  C. University of Massachusetts – Dartmouth IRB Approval Form ............. 126
  D. Northeastern University – IRB Approval Form .................................... 130
  E. Email to Students Seeking Volunteers .................................................... 133
  F. Letter to Nursing Staff at Healthcare Organization Seeking Volunteers .... 134
  G. Observation Agreement ......................................................................... 135
  H. Confidentiality Agreement .................................................................... 138
  I. Psychometric Testing of Guided Reflective Questions ......................... 139
LIST OF TABLES

Table 1. Summary of Publications on Shadowing in Nursing ............................ 44

Table 1. Guided Reflective Questions ................................................................. 64, 84

Table 2. Student Demographic Data ................................................................. 88

Table 3. Responses to “Why do you want to become a nurse?” ............................ 97
LIST OF FIGURES

Figure 1. Data Collection and Search Process ....................................................... 20

Figure 1. Reflection, Feedback, and Restructuring Model of Clinical Learning and Role
Development.............................................................................................................. 59, 84
ACKNOWLEDGEMENTS & DEDICATION

_Ancora Imparo_  

In 2005 my children, Evan and Janice, gifted me a pendant for Christmas inscribed with the words _Ancora Imparo_, a quote attributed to the Italian painter Michelangelo meaning “Still I am learning”. Nearly a decade later as I near completion of my formal academic studies I continue to wear that pendant aware that even now still I am learning.

I would like to thank my children, Evan and Janice, and especially my husband, Dennis for their intense patience, love, and support. Working on a nursing dissertation in a house with an engineer, historian, and a carpenter made for some interesting and stimulating conversations. All have contributed in their own unique and special way whether it was by engaging in spirited debate over a model’s applicability to other settings or teasing me away from my computer for a moment to share in a laugh or dinner for two. I am forever grateful for their valued perspectives and contributions.

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I dedicate this dissertation to my husband – I would not have been able to do anything without his words of encouragement and love and to Dr. Marilyn Asselin an inspiring, courageous, and dedicated mentor. Thank you both so very much for everything.

_Ancora Imparo_
CHAPTER ONE - INTRODUCTION

Shadowing in the Context of Nursing Education

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Shadowing in the Context of Nursing Education

The purpose of this study was to examine if a Shadow the Nurse (STN) experience early in Baccalaureate nursing education would lead to a perspective transformation in thinking about the role of the professional nurse and personal and academic goal development towards that new perspective. Previous research has shown that nursing students experience a great discrepancy between their ideal views of nursing obtained while in school and the realities of practice (Chappy, et al., 2010). A key issue is role discrepancy which has been shown to result in difficult transitions and reality shock for the newly licensed nurse (Duchschier, 2009; Hickey, 2010; Young, et al., 2008). Many nursing students come into nursing with an “idyllic” view of nursing (Grainger & Bolan, 2006) believing that nursing involves minimal academic study and is more vocational in design (O’Donnell, 2011). New graduates reportedly experience a disconnect between what they were taught in nursing school and internalized about the profession and what was experienced in practice (Pellico, Brewer, & Kovner, 2009).

Some nursing programs have addressed transition to practice issues by offering preceptorship programs that have been shown to enhance student’s critical thinking and competence (Udlis, 2008). Preceptorships have also been shown to ease the stress of adaptation, socialization, and enhance collaboration (Wieland, Altmiller, Dorr, & Wolf, 2007). However, these programs are typically only offered during the last semester of the student’s nursing education. Introducing students to the role of the professional nurse early in their nursing education through a Shadow the Nurse (STN) intervention may facilitate preparation of the student for the professional role while decreasing role discrepancy (Kuiper, Murdock, & Grant, 2010).
Problem Statement

Role discrepancy has been shown to result in difficult transitions for newly licensed nurses as they move from the academic to professional setting. Although a number of studies had examined educational strategies such as preceptorships near the end of formal nursing education, no studies had examined professional role preparation through a STN experience for the beginning nursing student. This gap in the literature required attention.

Research Questions

The research questions guiding this study were:

1. How does a beginning nursing student perceive the role of the professional nurse after participating in a 16 hour shadow the nurse experience?

2. What is the role of a shadow the nurse experience in developing personal and academic goals for the beginning nursing student?

The purpose of this study was to examine if a STN experience would lead to a transformation in student thinking about the professional nursing role and if such an experience would lead to personal and academic goal development. Additionally, the author’s goal was to provide a contextualized understanding of sophomore level baccalaureate nursing student’s perceptions of the professional nursing role before and after a 16 hour STN experience. It was anticipated that presenting beginning nursing students with an opportunity to observe the multifaceted roles of a professional nurse via a STN experience before formalized clinical education experiences may lead to a transformation in their understanding of the role of professional nurse.

The results of this research are presented in three separate manuscripts. The first manuscript describes the results of an integrative review on the concept of shadowing in nursing education. The second details the evolution of a conceptual model developed to provide an understanding of role development for nursing students in a clinical setting. The last manuscript
provides the results of a 16 hour shadowing experience on professional role perspectives by sophomore level nursing students in a baccalaureate nursing program. What follows is a brief introduction to each manuscript.

**Manuscript One**

In the first manuscript the researcher began with an integrative review of the literature on shadowing in the context of an educational strategy in nursing education. The experience of shadowing has been used by over 20% of all high school students (Stone & Aliaga, 2005) as a way to learn about a job and can help develop realistic perceptions of a career choice (Lozada, 2001). In post-secondary education, job shadowing has been utilized successfully for medical students (Turner, White, & Poth, 2012), health and social care students (Wright, Hawkes, Baker, & Lindqvist, 2012), physician assistant training (Meusch, Elliot, & Frasser, 2013), and business education (McCarthy & McCarthy, 2006) as a way of stimulating interest and developing an understanding of a career. Of the papers that discussed its usage in nursing education four themes emerged: its use to stimulate career interest, interprofessional communication and collaboration, role conceptualization, and variability of shadowing programs. The integrative review revealed the use of shadowing as an educational pedagogy to bridge the theory to practice gap for nursing students has received little attention. Thus, there was a gap in the literature worthy of exploring.

**Manuscript Two**

In the second manuscript, the researcher described the evolution of a conceptual model that ultimately directed the development of guided reflective questions that were used to elucidate if a perspective transformation had occurred in nursing students following a shadowing experience. Influenced by Mezirow’s (1978) transformative learning theory and Tanner’s
(2006) clinical judgment model a new Reflection, Feedback, and Restructuring Model of Clinical Learning and Role Development model was developed that expanded our understanding of the process of learning about role development in the clinical setting in the context of new experiences for the student nurse. The new model facilitates understanding the process of learning about role development particularly after a new experience and inclusive of the role of noticing, reflection, feedback, and restructuring. It was anticipated that the Reflection, Feedback, and Restructuring conceptual model and the use of the guided reflective questions based on the model may be a useful tool to guide students and nurse educators in making sense of experiential learning and the role development that occurs with this learning.

**Manuscript Three**

In the final manuscript the researcher detailed the results of a qualitative interpretive phenomenological study examining the changing professional role perceptions of 12 sophomore level baccalaureate nursing students after shadowing a professional nurse in an acute care setting. Three themes emerged of student perceptions before the shadowing: doing tasks to manage illness, the special role of the nurse in a hierarchy, and uncertainty. After the shadowing, three new themes were identified related to role perceptions: what it means to “care” for patients, teamwork, and the hard work of nursing. Two additional themes not related to role perception were identified following the shadowing experience, linking practice to classroom and adulation/role modeling. The findings of this study suggest student’s perceptions of the role of the professional nurse changed from a focus of the nurse as a primary caregiver in a hierarchy doing tasks to manage illness to a broader perspective with a recognition of the complexity of the role of the professional nurse and what it means to provide care. Additionally, students were
able to link practice to classroom learning and some students subsequently developed academic goals to address anticipated learning needs.

**Contributions to Nursing Science**

The goal of this project was to provide a contextualized understanding of a 16 hour shadowing experience on sophomore level nursing student’s perceptions of the professional nursing role and to determine if such an experience would lead to goal development. The findings of this study support the use of shadowing as an innovative pedagogical strategy for facilitating role development in novice nursing students. Furthermore, findings from this study support bridging the theory to practice gap in terms of offering the students an opportunity to experience the authentic role of the professional nurse including interactions with other healthcare members, advocacy, and authentic caring earlier in nursing education which may contribute to student’s decision to stay or leave nursing. This study is significant to nursing education as it aligns with the 2012 – 2015 National League of Nursing (NLN) research priority of engaging in research related to educational pedagogy (NLN, 2012). These study findings suggest additional research is needed in exploring if the themes identified persist as the student progresses through the nursing program. Further research is also warranted on the use of feedback following an assessment of student perceptions and if the feedback influences or otherwise impacts student professional role development. Additional recommendations for future research and implications for nursing education are discussed in Chapter 5.
References


CHAPTER TWO – MANUSCRIPT ONE

Shadowing in the Context of Nursing Education: An Integrative Review

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Shadowing in the context of nursing education: An Integrative Review

Abstract

Using the methodological approaches proposed by Whittemore and Knafl (2005) and Havill et al., (2014), an integrative review was completed with the purpose of identifying what work has been published in the nursing literature on the phenomenon of shadowing in nursing, identify strategies for its utilization in nursing education, and identify gaps in the literature regarding its usage. The specific questions guiding this review were: for what purpose has shadowing been utilized in nursing education, how does a shadowing experience influence a nursing student’s perceptions about the role of the professional nurse, and what is the length of time associated with shadowing experiences? Search criteria included nursing articles published between 1990 and 2014 with a particular focus on education. The search yielded 16 articles that met inclusion criteria. Four themes emerged from the literature: use of shadowing to stimulate career interest, interprofessional communication and collaboration, role conceptualization, and variability of shadowing programs. Most shadowing experiences lasted an average of eight hours. Based on the integrated review, further research is needed on its utility in nursing education as a pedagogical approach to facilitate understanding the role of the professional nurse and potentially bridge the education to practice gap early.

Keywords: integrative review, shadowing, nursing education.
INTRODUCTION

Job shadowing provides an experience for an individual to observe what it is like to perform a certain type of work by having them accompany an experienced worker as they perform a targeted job (Businessdirectory.com, 2014). Shadowing is an opportunity for an individual to learn about a particular occupation or profession to determine if it is appropriate for them. While a number of studies have examined educational strategies, such as preceptorships near the end of formal nursing education, there has been minimal attention to the use of job shadowing and its use in nursing education. An integrative review was completed with the purpose of identifying what research has been conducted on the phenomenon of shadowing in nursing education, identify strategies for its utilization in nursing education, and identify gaps in the literature regarding its usage. Although shadowing is commonly utilized for high school students and in medical education, there is a need for a synthesis of the literature in regard to its utilization in nursing education.

BACKGROUND

Nursing students experience great discrepancy between their ideal views of nursing obtained while in school and the realities of practice (Chappy, Jambunathan, & Marnocha, 2010). A key issue is role discrepancy, which has been shown to result in difficult transitions into nursing and reality shock for the newly licensed nurse (Duchscher, 2009; Hickey, 2010; Young, Steunkel, & Bawel-Brinkley, 2008). Unrealistic perceptions of the nursing role has been associated with attrition in nursing programs (Wilson, Chur-Hansen, Marshall, & Air, 2011) and higher turnover rates for practicing nurses (O’Brien-Palles, Murphy, Shamian, Li, & Hayes, 2010).
Role conceptions have been defined as the privileges and obligations a person believes is associated with his or her profession (Young et al., 2008). Role conception was first described by Corwin (1961) and is thought to guide behavior and generate attitudes that are integrated into the nurse’s personality and then ultimately direct goals and motives (Young et al., 2008). The difference between an ideal role conception and what is encountered in practice is known as role discrepancy (Corwin, 1961; Takase, Maude, & Manias, 2006; Young et al., 2008). Role discrepancy can result in transition “shock” (Duchscher, 2009) for the graduate nurse leading to turnover (Casey, Fink, Krugman, & Propst, 2004; Duchscher, 2009; Hayes et al., 2012; Takase, et al., 2006) and impacting quality of patient care (Bae, Mark, & Fried, 2010; Jones, 2008). Role discrepancy is closely tied to one’s expectations of what professional nursing entails and plays a role in difficult transitions for newly licensed nurses as they move from the academic to professional setting (Bjerkes & Bjork, 2012; O’Donnell, 2011; Pennbrant, Nilsson, Ohlen, & Rudman, 2013; Tominaga & Miki, 2011).

Some nursing programs have addressed clinical education and transition to practice issues by offering preceptorship programs for senior nursing students in their last semester of nursing education. The preceptor model was initially established in the 1970s to assist in transitions to practice of newly graduated nurses and eventually expanded into undergraduate education to facilitate bridging the gap from theory to practice (Omansky, 2010). Preceptorships have been described as a complex, multifaceted, model for clinical learning and professional preparation (Billay & Myrick, 2008; Hecimovich & Volet, 2007; Hickey, 2010; Hickey, 2009; McClure & Black, 2013). The preceptor model provides senior students practical clinical experience and facilitates the transition from nursing student to staff nurse (Hecimovich & Volet, 2011). Preceptorships provide an opportunity to integrate theoretical knowledge with practical
skills, exposing students to multiple patient care experiences simultaneously (Hecimovich & Volet, 2007; Udlis, 2008) all the while offering students an opportunity to engage in a dialogue about differences between expectations and realities of the workplace (Casey et al., 2011). Ultimately, students have increased confidence, role socialization, the development of direct care and organizational knowledge, and critical thinking skills (Budgen & Gamroth, 2008).

Another model for easing the transitions to and within practice is through the use of shadowing. Job shadowing is an opportunity for an individual to learn about a particular occupation or profession to determine if it is appropriate for them. Job shadowing provides an experience for a student to observe what it is like to perform a certain type of work by having them accompany an experienced worker as they perform a targeted job (Businessdictionary.com, 2014). The experience of shadowing has been used by over 20% of all high school students (Stone & Aliaga, 2005) as a way to learn about a job and can help develop realistic perceptions of a career choice (Lozada, 2001). In post-secondary education, job shadowing has been utilized successfully for medical students (Turner, White, & Poth, 2012), health and social care students (Wright, Hawkes, Baker, & Lindqvist, 2012), physician assistant training (Meusch, Elliot, & Frasser, 2013), and business education (McCarthy & McCarthy, 2006) as a way of stimulating interest and developing an understanding of a career. For example, Stroh et al., (2013) reported a significant increase in student perceptions of and interest in trauma surgery following a voluntary shadowing experience. The length of shadowing time varied from three (Meusch, Elliot, Frasser, 2013) to eight hours (McCarthy & McCarthy, 2006; Stroh et al., 2013) though Turner et al., (2012) recommended longer periods, up to eight months, to increase the variety of clinical experiences encountered.
METHOD

An integrative review of the published literature on shadowing in nursing with a focus on nursing education was conducted. This review was based on the methodological approaches proposed by Whittemore and Knafl (2005) and Havill et al., (2014). This approach allowed for the inclusion of diverse data sources and research designs to more fully understand the concept of shadowing in nursing education. Whittemore and Knafl (2005), whose work was based on Cooper’s (1998) framework, proposed five stages in an integrative approach: problem identification, literature search, data evaluation, data analysis, and presentation. Literature on shadowing was analyzed and summarized based on this integrative approach to determine what is known about this phenomenon and its current utilization in nursing education.

Problem Identification

Whittmeore and Knafl (2005) describe the problem identification stage as important to “provide focus and boundaries for the integrative review process” (p. 548). In this stage, variables of interest are operationalized and the sampling frame is determined. To that end, “Shadowing” is operationalized to mean a process by which an individual learns about the nursing profession by accompanying and observing a nurse in his or her practice setting. To differentiate shadowing from a precepted or mentorship experience, shadowing is of shorter duration and does not involve actively participating in patient care. Rather, the focus is on the observational aspect for learning about the profession.

The focus of this review is to identify what has been published in the nursing literature on the phenomenon of shadowing in nursing and nursing education in particular. The following research questions guided this review:

1. How has shadowing been utilized in nursing and nursing education?
2. How does a shadowing experience influence a nursing student’s perceptions about the role of the professional nurse?

3. What does shadowing look like in nursing education in terms of length of time, placements, and program types?

**Literature Search**

A review of the literature published between 1992 through 2014 was conducted using the Cumulative Index to Nursing and Allied Health (CINAHL), EBSCOhost, ERIC, ProQuest, Journals@OVID, PsychInfo, Cochrane Library, and Google Scholar™ data bases. This time frame was chosen as the terms “shadow” and “nurse” was first noted in the literature in 1992. Individual or combined search terms included: “shadow”, “shadowing”, “observation”, “job shadowing”, and “nursing”, or “nursing education.” An ancestral search was also conducted by reviewing the reference lists on retrieved publications. Peer reviewed qualitative and quantitative methodological studies were considered, as were anecdotal articles describing the use of shadowing in nursing, and articles that were essentially program descriptions. Publications were included if they were in English, written between 1992 and 2014 in peer reviewed journals, focused on professional or registered nurses, and discussed the concept of shadowing and its use in nursing or nursing education. Unpublished manuscripts, such as dissertations, and conference abstracts were excluded.

Additional exclusion criteria included articles that described nurses shadowing patients, shadowing to learn a specific procedure, shadowing that actually described a preceptorship or mentorship program, and medical education studies. A total of 108 publications were identified as potentially relevant in the initial search using the aforementioned search terms. The abstracts, key words (if noted), and in many instances the entire article of each publication was read to
determine if it met the inclusion criteria. A total of 16 publications met the criteria and were included in the integrated review. Details of the data search process are shown in Figure 1 below.

![Figure 1. Data collection and search process](image)

**Data Evaluation**

Whittemore and Knafl (2005) describe the data evaluation stage as involving evaluation of the overall quality of the publications using a quality appraisal methodology. While both quantitative and qualitative publications addressing shadowing and nursing education were sought, ultimately only descriptive studies were found. Descriptive studies by definition
describe in detail some event, process, or outcome (Houser, 2015; Polit & Beck, 2012). Descriptive studies are often exploratory, as this method is utilized when very little is known about a phenomenon. These studies utilize questionnaires, surveys, interviews, or observations to collect data (Fain, 2009). The types of descriptive studies found for this integrated review included surveys, case studies, and observations. An evidence hierarchy was not utilized in rating these publications as evidence hierarchies are typically more appropriate when examining clinical interventions (Peterson et al., 2014; Polit & Beck 2012). Each publication was assessed for authenticity, relevance to the research questions, informational value, and representativeness (Whittemore & Knafl, 2005) of the shadowing phenomenon. Methodological rigor was not a consideration given both the paucity of articles available and the descriptive nature of the majority of articles. An additional consideration was author expertise, as it has been noted that educators should consider what evidence is available and “acknowledge the role of participant preferences and practitioner expertise” (Pilcher & Bedford, 2011, p. 372) when considering best educational practices.

Of the 16 articles reviewed, one was a pre and posttest survey (Eddy & Schermer, 1999), two were case studies (Fougner & Hortvedt, 2011; Meffe, Moravac, & Epsin, 2012), six were interviews, surveys, or reflections (Cronan, 2006; Kamau, 2014; Paskiewicz, 2002; Porter, Edwards, & Granger, 2009; Seldomridge, 2004; Wright, Hawkes, Baker, & Lindqvist, 2012) and eight were narratives or observations of shadowing programs (Baumgarner, Means, & Ford, 2003; Daumer & Britson, 2004; Eades, Hill, & Craig, 2005; Lehna, Sheaffer, Andrade-Pulido, Martinez, & Bishop, 2006; Lohri-Posey, 2005; Shermont & Murphy, 2006; Ying, 2009). A majority (10) of the articles described programs in the United States (Baumgarner, 2003; Cronan, 2006; Daumer & Briston, 2004; Eddy & Shermer, 1999; Lehna et al., 2006; Lohri-Posey, 2005;
Paskiewicz, 2002; Porter, et al., 2009; Seldomridge, 2004; Shermont & Murphy, 2006), while three publications described programs in the United Kingdom (Eades, et al., 2005; Kamau, 2014; & Wright, et al, 2012). One publication each was from Norway (Fougner & Horntvedt; 2011), Canada (Meffe, et al., 2012) and Singapore (Ying, 2009). No articles dating before 1997 met the inclusion criteria.

Data Analysis

Publications were ordered, categorized, and summarized (Whittemore & Knafl, 2005) using thematic analysis that was used as foundation to search for similarities and differences within the publications. A matrix was developed (see Figure 2) to organize the articles. Articles were placed in alphabetical order noting the author(s), year of publication, and country of origin; purpose of the article; population considered for the shadowing; shadowing length of time; and conclusions or implications drawn by the author(s). An iterative process was employed between the stated research questions and the publications selected.

Regarding the issue of author expertise, each publication’s author was appropriately credentialed and considered expert in the content discussed. This expert determination was made by a review of authority (e.g. status as Director of Patient Services in the hospital where a shadowing experience was undertaken), that the author had multiple publications related to the content discussed, or was in a unique position to discuss a program (e.g. Chairperson or Dean of a Nursing department or director of program where shadowing was utilized).

RESULTS

Of the 16 articles meeting the inclusion criteria four themes emerged from analysis: stimulation of career interest, interprofessional communication and relationships, role development, and the variability of the shadowing experiences.
Theme 1: Stimulation of career interest

Of the 16 publications reviewed, a total of six publications described the use of shadowing to stimulate career interest at a variety of levels for students and nurses (Baumgarner, et al., 2003; Daumer & Briston, 2004; Lehna et al., 2006; Paskeiweicz, 2002; Seldomridge, 2004; Shermont & Murphy, 2006). At the high school level specifically, three publications described the use of shadowing as a way to stimulate career interest in nursing for this population of students (Baumgarner, et al., 2003; Daumer & Briston, 2004; Lehna et al, 2006) while three publications discussed the value of shadowing as a method for stimulating career interest beyond the high school level (Paskeiweicz, 2002; Seldomridge, 2004; Shermont & Murphy, 2006).

In considering the high school population, both Baumgarner, et al., (2003) and Daumer and Briston (2004) describe summer programs to stimulate interest in a general healthcare profession (including nursing) (Baumdarner, et al., 2003) and in nursing specifically (Daumer & Briston, 2004). Both publications reported success in terms of the number of students who subsequently choose nursing, with 50% of participants in the Baumgarner, et al., (2003) study choosing nursing and 90% of the high school students in the Daumer and Briston (2004) study reportedly committed to enter nursing school. Lehna et al. (2006) described a favorably received 5-hour recruitment program for family members of employees in a pediatric hospital that included a brief shadowing component. It is implied that the recruitment program was for high school students, though this is not explicitly stated. Unfortunately, the authors offer no data on the success of the program in relationship to recruitment into a nursing program or interest in nursing beyond the results of the favorability survey.

The other three publications focused on stimulating career interest among higher level nursing students and nursing professionals. Paskiewicz (2002) described the use of a shadowing
experience for nurses enrolled in an accelerated second degree program as a stimulus for garnering interest in the role of the advanced practice nurse. In a descriptive narrative, Paskiewicz (2002) reported that the shadowing experience was valuable for both the faculty and the students, though this determination of value was based on verbal feedback and not formally measured. Seldomridge (2004) discussed the role of shadowing as a way to stimulate accelerated second degree nursing student interest in the role of clinical faculty. In a review of reflections on the experience, the author noted that, of the 54 students participating in the shadowing program between 2001 and 2004, 32% of the students indicated they would consider teaching as a career, while a majority (46%) expressed no interest, and 22% were undecided. Lastly, Shermont and Murphy (2006) described the use of shadowing as a way of introducing experienced nurses to the staff, surgical units, and culture of a children’s hospital in Boston. The authors described the shadowing program as a money saver in terms of orientation and turnover costs. Specifically, the authors reported that nurses who were hired after shadowing were already familiar with their assigned units and less likely to move on to other units.

**Theme 2: Interprofessional communication and relationships**

The second theme elucidated from the literature search was that of using shadowing as a method for developing an understanding and/or appreciation of interprofessional relationships and collaboration. Five of the publications that were reviewed utilized shadowing as a way for nurses (and in some cases other healthcare personnel simultaneously) to develop an understanding of the value of interprofessionalism in healthcare (Eades, et al., 2005; Eddy & Shermer, 1999; Fougner & Horntvedt, 2011; Meffe, et al., 2012; Wright et al., 2012). Eades, et al., (2005) described a shadowing experience undertaken by final semester nursing students as they shadowed various leaders and managers to learn about managing care delivery. The authors
reported positive feedback from students, leaders, and managers. Students reported the shadowing experience provided them with an opportunity to identify leadership traits and qualities as well as stressing the value of effective communication and networking across boundaries (Eades et al., 2005).

Eddy and Schermer (1999) conducted a pre and posttest study with senior baccalaureate nursing students enrolled in a leadership and management course whereby one group of students shadowed a nurse manager and another group shadowed a primary care nurse. Eddy and Schermer (1999) found that students who shadowed a nurse manager had a significant reduction in the “defeat” style of negotiation compared to students who shadowed a primary care nurse. The defeat style of negotiation is characterized by a “win at all costs” (Martin, 2009, p. 3) style of communicating that may result in adversarial relationships. Eddy and Schermer (1999) concluded that use of shadowing as an instructional strategy “enhanced the negotiating style profile” (p. 367).

Fougner and Horntvedt (2011) discussed student reflections following an interprofessional shadowing experience at hospitals or home based rehabilitation services. In a review of the reflections of the 30 participants, of which 10 were nursing students, the authors found students were able to actualize concepts related to interactions and work culture (Fougner & Horntvedt, 2011). Even so, the authors noted some students had concerns about their ability to work in interprofessional teams, particularly as it related to what they referred to as a “division of knowledge…related to implementation of tasks traditionally belonging…to others” (p. 37). Thus the shadowing provided the students with an opportunity to observe actual practice while recognizing the need for a higher level of thinking and cooperation (Fougner & Horntvedt, 2011).
Meffee, et al., (2012) shared their findings from an exploratory case study in which undergraduate students in nursing, midwifery, and medicine participated in an interprofessional education program that included six workshops and two shadowing experiences. After a review of interview transcripts, pre-licensure interprofessional education programs were found to be an effective method for cultivating collaborative behaviors during the program and subsequently in the practice setting.

Lastly, Wright et al., (2012) discussed their case study findings of having healthcare students (170 out of the 507 participating were nursing students) shadow a worker from a different profession and focus on communication styles with patients. In an analysis of 160 reflective statements, the authors discovered some students had stereotypical views of expected communication styles of various professions and some students appeared surprised when the professional defied previously held expectations (Wright, et al., 2012). Additionally, students observed power relations between and within healthcare professionals and well as between healthcare professionals and patients. This experience appeared to encourage students to consider both positive and negative interprofessional communication issues and varying styles of communication with and between practitioners and patients (Wright, et al., 2012). It is worth noting, communication styles learned may be related to which professional was shadowed by which student, Wright, et al., (2012) did not elaborate specifically which interprofessional was shadowed and by whom.

**Theme 3: Role development**

Of the 16 articles reviewed, five publications focused on the issue of role perception and development (Cronan, 2006; Kamau, 2014; Lohri-Posey, 2005; Porter, et al., 2009; Ying 2005). Cronan (2006) provided a personal narrative account of her interpretation of developing an
understanding of the art and science of nursing while observing a nurse bathing a patient. The author concluded “nursing is an art form than cannot be taught in a classroom” (Cronan, 2006, p. 144). It is worth noting that Cronan (2006) shared that her shadowing experience occurred while she was a senior in high school although she wrote the publication during her sophomore year in a baccalaureate nursing program as part of a writing class.

Kamau (2014) examined the impact of a shadowing experience on mental health nurses’ job performance and attitudes towards an organization. The author surveyed 5,337 mental health nurses on their perceptions of job related stress, attitudes about the organization, and job performance related to shadowing and/or supervised on the job training. Kamau (2014) concluded that shadowing and supervised on-the-job training was positively related to job performance, attitudes about the organization, and lower levels of stress. This conclusion cannot be fully supported based on data presented. Specifically, Kamau (2014) relied on a self-report and did not account for potentially confounding factors such as length of shadowing or types of on-the-job training received by the nurses.

Lohri-Posey (2005) discussed a shadowing program targeting pre-professional nursing students in an associate degree program. In an elective one-credit course, students completed a three-module curriculum that included a brief four-hour shadowing experience in a hospital setting. Students identified that the shadowing experience contributed to their understanding of the role of the professional nurse.

Porter, et al., (2009) explored high school students’ perceptions of the role of the nurse before and after a shadowing experience. The authors discovered there was a pervasive misperception about nursing, particularly related to role responsibility, teamwork, caring, relationships, tools and technology, and medication management (Porter, et al., 2009). Prior to
the shadowing experience, students viewed nursing as primarily a “handmaiden” role (p. 232) and after the shadowing experience, they had a more positive view of nursing in terms of the level of knowledge and skill required and the integration of the art and science of patient care.

Lastly, Ying (2005) briefly reported on a new shadowing program for senior nursing students to explore “potential nursing specialization for future career development” (p. 15) and to enhance their learning in the clinical practice. In the evaluation of an online survey following the shadowing experience, students reported that the shadowing experience gave them a unique insight into the role of both nurses and advanced practice nursing.

**Theme 4: The variability of shadowing programs**

The majority of the shadowing programs averaged eight hours (Daumber & Briston, 2004; Eddy & Shermer, 1999; Fougner & Horntvedt, 2011; Paskewicz, 2002; Shermont & Murphy, 2006) though some were as short as four hours (Lohri-Posey, 2005; Wright et al., 2012) and as long as 15 days (Eades et al., 2005). A number of studies were unclear or otherwise did not specify length of shadowing (Cronan, 2006; Kamau, 2014; Meffe et al., 2012). The number of shadowing hours in each article are shown in Table 1. While most articles reported on the use of shadowing as a way of stimulating career interest a few articles described shadowing as an instructional strategy. Shadowing was used by Eddy and Shermer (1999) as an instructional strategy to teach about negotiating styles and by Eades et al., (2005) to teach leadership traits and qualities. A significant majority of the articles described shadowing in the context of an acute care facility, three articles either explicitly stated or it was assumed to have taken place either completely or for a component of the shadowing time, in the community setting (Fougner, & Horntvedt, 2011; Kamau, 2014; Wright et al., 2012).
There was also no consistency in who did the shadowing. Five studies focused on high school students (Baumgarner, et al., 2003; Cronan, 2006; Daumer & Briston, 2004; Lehna, et al., 2006; Porter, et al., 2009), nine publications focused on nursing students at varying levels and types of programs shadowing a wide variety of healthcare professionals (Eades, et al., 2005; Eddy & Shermer, 1999; Fougner & Horntvedt, 2011; Lohri-Posey, 2005; Meffee, et al., 2012; Paskiewicz, 2002; Seldomridge, 2004; Wright, et al., 2012; Ying, 2009), and two studies focused on the use of shadowing for post-licensure RN’s (Kamau, 2014; Shermont & Murphy, 2006).

Furthermore, the publications were nearly equally divided in their reports on who was shadowed. Seven publications discussed shadowing “other” health care professionals. Of these, five discussed shadowing interprofessionals (Eades et al., 2005; Eddy & Shermer, 1999; Fougner & Horntvedt, 2011; Meffee, et al., 2012; Wright, et al., 2012), one discussed shadowing a faculty member (Seldomridge, 2004), and one discussed shadowing an advanced practice nurse (Paskiewicz, 2012). Nine authors described individuals or groups shadowing a registered nurse (Baumgartner, et al., 2003; Cronan, 2006, Daumer & Briston, 2004, Kamau, 2014; Lohri-Posey, 2005; Lehna et al., 2006; Porter et al., 2009; Shermont & Murphy 2006; Ying, 2009) and as previously noted, most of these reports focused on shadowing by high school students. Only Ying (2009) and Lohri-Posey (2005) discussed shadowing in the context of nursing students shadowing other registered nurses. Thus, there was no consensus on who would benefit the greatest from the shadowing, nor was there a consensus on which healthcare professionals should be shadowed.

**DISCUSSION**

Student career perceptions are highly individualized and are the product, in part, of images seen in the media, and input from family and friends (O’Brien, Mooney, & Glacken,
Nursing is viewed as rewarding, with many choosing nursing in part because of its perception as a caring and service oriented profession (Miers, Rickaby, & Pollard, 2007; Mooney, et al., 2008; O’Brien, et al., 2008). Of concern, however, is what Price and Hall (2013) describe as the “virtuous” (p. 1507) image of nursing which may deemphasize the necessary knowledge and skills required of this profession. Additionally, nursing may not be an individual’s first career choice (Mooney, et al., 2008), particularly for male students (O’Brien, et al., 2008; Pool, 2012). Hierarchically, the nursing profession was reported to be held in low regard in the context of healthcare (Pennbrant, Nilsson, Ohlen, & Rudman, 2013) with nurses having a lower social status compared to other healthcare professions such as physicians (Wang et al., 2011).

The use of shadowing to stimulate career interest appeared to predate recent reports by the Health Resources and Services Administration [HRSA] (2014) that stated that the supply of Registered Nurses (RN) will exceed demand. However, in the early years of the first decade of the 21st century HRSA (2002) reported a shortage of 110,000 RNs in 2000 and expected this shortage to increase to over 808,000 by 2020. It is worth noting this projected shortage preceded the passage of healthcare reform. As the economy continued to improve, the number of nurses planning to retire was expected to increase dramatically, with one report noting 55.3% of respondents intended to retire between 2011 – 2020 (Hader, Saver & Steltzer, 2006). Additionally, the Bureau of Labor Statistics (2014) projects employment of registered nurses will grow 19% from 2012-2022 in part because of increasing demand for healthcare in an aging population.

These issues alone and in combination with the professed shortage of nursing may contribute to the perceived need to stimulate nursing as a career option while students are in high
school. The current discrepancies in the projections of supply and demand of RN’s notwithstanding, it is worth noting the publications chosen for this integrated review were completed at a time when a preponderance of reports indicated a projected nursing shortage.

The use of shadowing to foster an understanding of interprofessional relationships is an important component of healthcare education and training. In particular, interprofessional collaboration has become accepted as an important component in today’s health care guided by concerns with patient safety, quality health care outcomes, and economics. In 2003, the Institute of Medicine (IOM) reported on steps to enhance patient care, quality, and safety, including integrating five competencies into health profession education. Among those competencies was interdisciplinary teams. The American Association of Colleges of Nursing (AACN) (2011) identified interprofessional competencies for future health care providers linking their efforts to the five IOM (2003) core competencies for health professionals. The AACN (2011) competencies included values and ethics for interprofessional practice, roles and responsibilities, interprofessional communication, and teams and teamwork (p. 16). Interprofessional collaboration has been associated with positive health outcomes and increased job satisfaction (Der, 2009; Manojlovich et al, 201; Peterman & Bisgaard, 2010; Raab, Will, Richards, & O’Mare, 2013; Schmid et al., 2011). Understanding the professional roles of other members of the health care team improves healthcare outcomes and has been identified by nurse educators as a key interprofessional competency (MacDonald et al., 2010).

As previously described, role conceptions is an important component of professional education. While role development was addressed by five publications, none of the publications examined shadowing as a method for supporting professional role development for novice nursing students in a baccalaureate program. Traditional baccalaureate nursing education is
often dichotomized between clinical and didactic content (Billings & Halsted, 2009). Even as nursing is considered a practice discipline, some students are not given an opportunity to interact with patients and other healthcare providers in a clinical setting until more than half way through their nursing program. Instead, students often spend the first two years of a nursing program attending to general education and or liberal arts studies in the classroom setting. Many baccalaureate nursing students may not have their first patient contact occurring until the latter part of their second or even as late as their third year.

In a summative report on clinical education, Ard, Rogers, and Vinton (2008) reported an early exposure to clinical practice, including exposure to the real world role of nursing, may help nursing students make decisions about their careers. Some nursing programs offer preceptorship programs where a nursing student has one on one relationship with a registered nurse for an intense clinical experience to facilitate student learning and facilitate transition to practice (Udlis, 2008). However, these programs are typically only offered during the last semester of the student’s nursing education. The time between classroom learning and experiential learning may further limit a student’s exposure to the role of professional nurse and contribute to the issue of role discrepancy upon graduation.

The integrative review demonstrates there is great variability in term of the use of shadowing in nursing and in particularly as a pedagogical strategy in nursing education. The variability of the time of shadowing experiences described in this integrative review limits developing an understanding whether the length of time shadowing had an impact on the first three themes discussed in this review. Additionally, there was no consistency in types of experiences, who did the shadowing, or which healthcare professional was followed. Despite this variability, shadowing was found to be a positive experience for participants in each of the
16 publication evaluated in this integrated review. Further empirical studies are warranted to elucidate the value of shadowing as a pedagogical strategy in nursing education to link education to practice and potentially enhance role understanding and development for nursing students.

**Limitations**

There are two significant limitations to this integrative review. First, with a focus on nursing education, the literature on the use of shadowing in medical education was not included which may have provided insight into its use in healthcare education. Generalizability is limited in part by the preponderance of descriptive studies and the lack of rigorous qualitative or quantitative studies. Additionally, generalizability is limited by the lack of empirical studies including studies that examined relationships between shadowing and perceptions on nursing.

**Conclusion**

Four themes emerged from this integrated review: use of shadowing to stimulate career interest, interprofessional communication and relationships, role development, and variability of shadowing programs. This integrated review also revealed that there has been little attention given to the use of shadowing as an educational pedagogy specifically for nursing students to bridge the theory to practice gap in terms of exposure to the professional nursing role. Nonetheless, the value of shadowing was viewed positively in terms of facilitating a positive role perception in each instance where it was utilized as described in the 16 publications.

Recognizing the high cost and time commitment required of post-secondary education it is worth exploring if introducing students to the role of the nurse earlier in their education through a shadowing experience may lead to a change in their perspectives about professional nursing. For some, it may be a deciding factor in determining if the nursing profession is something they would like to pursue. Shadowing is an opportunity for students to explore the
lived experiences of a professional nurse and may give meaning to a novice nursing student's perception of the role of professional nurse. This integrated review demonstrated that the use of shadowing in nursing education has not been well studied, thus leaving a gap in nursing education that should be addressed.
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http://bhpr.hrsa.gov/nursing/NACNEP/reports/fifth/nursecsf.htm,


<table>
<thead>
<tr>
<th>Author, Year, Country</th>
<th>Purpose</th>
<th>Population</th>
<th>Shadowing</th>
<th>Conclusion/Implications</th>
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<tbody>
<tr>
<td>Baumgartner, S.D., Means, B.H, &amp; Marian, J., (2003), United States</td>
<td>Describes a summer health careers program whose goal was to stimulate an interest in health careers by junior and senior high school students</td>
<td>Junior and Senior High School students</td>
<td>40 hours</td>
<td>Of 160 students participating in the program over 10 years 35% (56) pursued nursing practice</td>
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<td>Cronan, A., (2006), United States</td>
<td>Single student interpretation of the art of nursing after a shadowing experience.</td>
<td>One sophomore level nursing student in a baccalaureate nursing program.</td>
<td>Not specified</td>
<td>Student recounts her experience observing the &quot;art&quot; of nursing while observing a nurse give a patient a bath while the student was a senior in high school.</td>
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<td>Daumer, R.D., &amp; Briston, V., (2004), United States</td>
<td>Describes a nursing summer camp for high school students to stimulate excitement in nursing as a career choice.</td>
<td>High school students but not clear what level</td>
<td>1 day – students shadowed a nurse, visited with current nursing students, and learned of financial assistance for nursing education</td>
<td>Camp helped clarify perceptions of nursing. For most of the campers the experience confirmed and strengthened their commitment to enter into nursing.</td>
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<td>Eades, J., Hill, K., &amp; Craig, J. (2005), United Kingdom</td>
<td>Students shadowed service leaders and managers during final semester.</td>
<td>Final semester nursing students</td>
<td>15 days split between leaders and managers.</td>
<td>Students reported the shadowing experience provided them with an opportunity to identify leadership traits and qualities as well as stressing the value of effective communication and networking across boundaries</td>
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<td>Eddy, M.E., &amp; Schermer, J., (1999), United States</td>
<td>Examine the negotiating style profile of senior nursing students in two clinical leadership rotations using two different teaching, learning strategies. One group shadowed a case manager, the other a primary nurse.</td>
<td>Senior baccalaureate students enrolled in a leadership and management course.</td>
<td>8 hours.</td>
<td>Students who shadowed a case manager had a significant reduction the defeat style of negotiation. Shadowing can be used within clinical experiences to prepare nursing students to assume their professional roles.</td>
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<tr>
<td>Author(s)</td>
<td>Title</td>
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<td>Fougner, T., &amp; Horntvedt, T., (2011), Norway</td>
<td>Report on student reflections on interprofessional teamwork during a shadowing experiences in hospitals or home-based rehabilitation service.</td>
<td>30 second year students from physiotherapy, occupational therapy, and nursing students (10 nursing students).</td>
<td>1 day</td>
<td>4 themes: sharing knowledge, the team within the organization, patient centered focus in interprofessional care, and crossing professional borders. Authors conclude experience was a good starting point for reflection on practice. Using shadowing at &quot;an early stage&quot; provided students with examples of good role models, opportunities to observe the real worked of practice as they learned about their respective professions and their interprofessional relations.</td>
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<td>Kamau, C., (2014), United Kingdom</td>
<td>Examine the impact of shadowing experience on mental health nurses’ job performance and attitudes towards an organization.</td>
<td>Nationwide survey of 5337 nurses working in mental health in United Kingdom Does not specify</td>
<td>Presence of a supervised on the job induction corresponded to lower work-related stress, better job performance, and a more positive attitude about the organization. The presence of job shadowing corresponded with lower work related stress, better job performance and a more positive attitude about the organization.</td>
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<td>Lohri-Posey, B., (2005), United States</td>
<td>Describe an elective 3 module online course for ADN students that included a shadowing experience.</td>
<td>Associate pre-licensure</td>
<td>4 hours Well received by students. Described as valuable to student understanding of the role of professional nurse.</td>
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<td>Lehna, C., Scheaffer, J., Andrade-Pulido, M., Martinez, A., &amp; Bishop, B., (2006), United States</td>
<td>Describe a 5 hour-recruitment program in a private pediatric hospital that included didactic information, a hospital tour, and clinical experience through nurse shadowing.</td>
<td>Prospective students related to staff nurses or friends of staff nurses.</td>
<td>2 hours Potential recruits are debriefed following the experience. Written evaluation and verbal feedback given by participants. Shadowing was rated 5/5 (excellent).</td>
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<td>Meffe, F., Moravac, C.C., &amp; Epsin, S., (2012), Canada</td>
<td>Interprofessional education program for undergraduate students in nursing, midwifery, and medicine. Paper outlines findings from a case study that examined how participation in an IPE may enhance student knowledge, skills/attitudes, and promote collaborative behavior.</td>
<td>9 students (3 in nursing) in their third or final year of study (baccalaureate)</td>
<td>IPE programs can be effective in cultivating collaborating behaviors. Four themes emerged: relationship-building, confident communication, willingness to collaborate, and women/family-centered care. But no indication what role shadowing had on these themes.</td>
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<td>Paskiewicz, L.S., (2002), United States</td>
<td>Define the shadowing experience and discuss the mutual benefits that can be created between a student and faculty member during shadowing.</td>
<td>14 out of 15 students enrolled in an accelerated or second-degree baccalaureate nursing program.</td>
<td>1 day Formalizing the experience as part of a curriculum may be difficult without a structured scheduling plan. Author noted &quot;most exciting thing&quot; (p 240) was opportunity for faculty to interact with student in an informal, nonacademic environment. Informal dialogue. All students who shadowed expressed an interest in pursuing graduate education as a nurse midwife.</td>
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<td>Porter, G., Edwards, P.B., &amp; Granger, B.B., (2009), United States</td>
<td>Gain insight into high school students' perceptions of the role of nurse and to explore student perceptions following a nurse-shadowing intervention.</td>
<td>16 Junior and Senior High School students completed the 134 post-shadowing questionnaire.</td>
<td>90 hours of shadowing (interviews were done when students had completed 30 to 40 hours of shadowing) 33% (n = 6) considered nursing a &quot;top three&quot; career choice prior to intervention, after two were no longer interested. Of 10 not originally interested in nursing as a career choice, 4 listed nursing as a top choice after. Themes: misperception of nursing - pervasive theme underling all interviews --&gt; particularly professional role responsibility, teamwork, caring relationships, tools and technology; and medication management. Students conceptualized nursing very differently before and after participation in a nurse shadowing experience in an acute care setting.</td>
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<td>Seldomridge, L.A., (2004), United States</td>
<td>Innovative program for introducing undergraduate students to the faculty role with goal of sparking interest in the teaching role as a career choice.</td>
<td>Students in a leadership practicum in the final semester of an accelerated second degree baccalaureate program.</td>
<td>2 days.</td>
<td>Students participating between 2001 and 2004. 32% indicated they would consider teaching as a career, 46% said no, and 22% were undecided. Students wrote journal reflections. All students stated they learned something new about the realities of supervising a clinical experience and life as an academic.</td>
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<td>Shermont, H., &amp; Murphy, J.M., (2006), United States</td>
<td>Describes a &quot;unique&quot; shadowing program for potential nurse applications to meet staff in surgical units and learn of hospital philosophy, culture, and model of practice. Goal to attract diverse group of applicants.</td>
<td>Experienced nurses and new graduates.</td>
<td>1 day</td>
<td>Based on success of program (hospital hired approx. 50% who participated); nurse recruiter incorporated shadowing into recruitment and hiring practices. Valuable screening tool for both hospital and prospective recruit. Hospital claims it saves money as there is less time spent orienting nurses who move on after only a few months.</td>
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<td>Wright, Hawkes, Baker, &amp; Lindqvist (2012), United Kingdom</td>
<td>Investigation of what healthcare students discussed and observed during shadowing of a healthcare worker from a different profession and to explore student perceptions of how their future role fit within healthcare.</td>
<td>second level students of the 507 students in the study, 170 were nurses</td>
<td>4 hours</td>
<td>Six themes emerged. Three related to communication (styles &amp; techniques, between professionals, and comparison of student’s own and other healthcare professionals’ roles); additional themes = attitudes towards profession, power structures, and impact of communication on patient care. Data showed this type of intervention encourages students to consider issues related to interprofessional communication with both patients and other healthcare providers.</td>
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<td>Ying, L.S., (2009), Singapore</td>
<td>Overview of clinical shadowing program developed at the ALCNS in partnership with Singapore hospitals. Students shadowed APRN’s and nurse clinicians.</td>
<td>Senior nurses students</td>
<td>16 hours over 4.5 days or two full days.</td>
<td>Students observing APRN’s completing ward administrative duties had less opportunity to observe clinicians in their interactions with patients or asking decisions about care. Students suggested more shadowing time. Shadowing gave students unique insights into role of nurse clinicians and APRN’s and was a valuable learning experience.</td>
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CHAPTER THREE – MANUSCRIPT TWO

An Integrated Model for Learning, Knowing, and Role Development in the Clinical Setting

Monika S. Schuler
Northeastern University
An Integrated Model for Learning, Knowing, and Role Development in the Clinical Setting

Abstract:
While a number of theories provide a foundation for nursing practice and education, they do not fully explain the process that occurs when a nursing student encounters something new or unexpected resulting in learning or a change in knowledge, skills, and attitudes. The author presents an innovative model for understanding the process of learning and reality based role development in the clinical setting. The model, influenced by Mezirow’s (1978) transformative learning theory and Tanner’s (2006) clinical judgment model, draws on Benner, Sutphen, Leonard, and Day’s (2010) concept of formative learning. This model’s four step linear process describes learning as it occurs in a clinical situation where a student encounters an either a new or unexpected event beginning the process of perspective transformation and through reflection, feedback, and restructuring culminates in learning and professional role development. The model was used as a conceptual framework to guide the development of reflective questions utilized in one study to examining professional role conceptions following a shadowing experience.
Introduction

Role conceptions have been defined as “the privileges and obligations a person believes is associated with her or her profession” (Young, Stuenkel, & Bawel-Brinkley, 2008, p 105). Role conception, first described by Corwin (1961), is thought to guide behavior and generate attitudes that eventually become integrated into the nurse’s personality, ultimately directing goals and motives (Young et al., 2008). Role conceptions and role perceptions are generally viewed in the same light by nursing researchers and are often used interchangeably. The difference between an ideal role perception and what is encountered in practice is known as role discrepancy (Corwin, 1961; Young et al., 2008). Role discrepancy has been shown to result in difficult transitions for newly licensed nurses as they move from the academic to professional setting (Duchscher, 2008), contributing to job stress (Lu, Barriball, Zhang, & While, 2012) and intention to quit their jobs (Takase, Maude, & Manias, 2006).

Research has shown that clinical learning experiences are an essential element for developing the student for the role of the professional nurse (Casey et al., 2011; Chappy, Jambunathan, & Marnocha, 2010). Clinical education has been described as a highly interactive holistic experience attending to the intellectual, physical, and passionate components of learning through active participation of student, teacher, patient, and clinical staff (Ard et al., 2008; Hartigan-Rogers, Cobbett, Amirault, & Muise-Davis, 2007; Tanda & Denham, 2009). This type of nursing education is oft cited as essential to learning the art and science of nursing (Ard et al., 2008; Benner, Sutphen, Leonard, & Day, 2010; Berntsen & Bjork, 2010; Pollard, Ellis, Stringer, & Cockayne, 2007). Clinical experiences, in the practice setting, provide nursing students an opportunity to engage in authentic interactions with patients and other health care providers, develop essential nursing skills, and integrate theory learned in the classroom with
practice (Benner et al., 2010; Tanda & Denham, 2009). Clinical experiential learning is a developmental process providing the foundation for continued development of thinking skills (Ard et al., 2008) and prepares the student for the professional role in performance and socialization while decreasing role discrepancy (Kuiper, Murdock, & Grant, 2010).

Of interest is how do students learn, know, and eventually take on the role and responsibilities of the professional nurse. Epistemology questions what do we know, how we know what we know, and what are the criteria of our knowledge (McEwen, 2007). At its essence is an understanding of how we develop our knowledge so that we can ultimately generate new knowledge (Meleis, 2012). Knowing is described by Meleis (2012) as dynamic and changeable “based on observations, research findings, clinical manifestations, and scientific approaches” (p. 137). This knowing results from careful systematic research or repeated experiences. With a view towards understanding how students develop new knowledge and practices that facilitates role development in the clinical setting, the question guiding this inquiry was:

- What is the process by which students learn about the nursing role in the clinical setting?

The purpose of this paper is to examine the process of learning and knowing about role development in nursing from the perspective of Mezirow’s (1978) Transformative Learning Theory and Tanner’s (2006) Clinical Judgment Model with influences from Benner, Sutphen, Leonard, and Day’s (2010) landmark work on *Educating Nurses*. Utilizing key concepts from each, a new Reflection, Feedback, and Restructuring model was developed to describe the process of knowledge development of the nursing role in the clinical setting. The Reflection, Feedback and Restructuring model is an integrated model that was used as a framework for
developing guided reflective questions to assess if a transformation in perspectives had occurred in their knowledge of the nursing role following a shadow the nurse intervention by novice nursing students.

**Background**

**Nursing role perceptions**

Nursing students have varied perceptions of the nursing role that may be quite different than what is experienced in practice. First year nursing students typically have an “idyllic” (Grainger & Bolan, 2006, p. 42) view of nurses as kind and compassionate caregivers created through minimal academic and more vocational study focusing on tasks (O’Donnell, 2011; Emeghebo, 2012). This role conception may evolve with clinical experiences during which the student develops an understanding of the complexity of the nursing role and that it requires a high level of education and experience in nursing practice (Day, Field, Campbell, & Reutter, 2005; Sand-Jecklin & Schaffer, 2006; Emeghebo, 2012). New graduates have also reported a disconnect between what they were taught in nursing school and internalized about the nursing profession and what they experienced in practice (Pellico, Brewer, & Kovner, 2009).

**Clinical Education**

Clinical education is an essential element for developing the student for the role of professional nurse. Effective clinical teaching integrates observational and practice components (Stokes & Kost, 2009). These components include acute and transitional care environments where students practice cognitive, psychomotor, and communication skills (Stokes & Kost, 2009), structured reflection (Glynn, 2012), preceptorships (Hickey, 2010; Myrick, Young, Billay, & Luhangy, 2011), simulation (Shephard, McCunnis, Brown, & Hair, 2010), peer assisted learning (Zentz, Kurtz, & Alverson, 2014), and shadowing (Eades, Hill, & Craig, 2005).
There is an abundance of literature championing the value of clinical experiences in helping students develop critical thinking, enhance role development, and preparation for practice (Ard et al., 2008; Benner et al., 2010; Hartigan-Rogers et al., 2007; Hickey, 2010; Tanda & Denham, 2009). Students have been found to need clinical experiences that build on their knowledge and understanding so that independence can develop (Nielsen, Noone, Voss, & Mathews, 2013).

Furthermore, research has shown that students prefer to learn procedural and conceptual knowledge through observation and engagement (Newton, Billett, Jolly, & Ockerby, 2009).

**Theoretical Frameworks**

*Constructivism*

Constructivism is an educational pedagogy that assumes that learning is a developmental process involving assimilation, accommodation, and construction (Broussard, McEwen, & Wills 2007). Individuals respond to situations based on cognitive patterns in an effort to make sense of their experiences (Vandeveer, 2009). Constructivist pedagogy involves active learning where students challenge previous thoughts on content and try out different aspects of their future role with guidance (Handwerker, 2012). This active learning process helps a student develop metacognition and an ability to transfer knowledge and skills to new situations ultimately resulting in the student’s developing a sense of relevance and clinical reasoning (Handwerker, 2012). While students learn in multiple ways during the clinical experience, Grealish and Ranse (2009) found challenging situations in the clinical setting can act as triggers for learning. These challenges are particularly important as neither theoretical education nor simulation can prepare students for every potential scenario in patient care. Although students oftentimes come into clinical experiences with preconceived notions of what they will do and see, there are also numerous occasions when something unexpected (Palese, Petean, & Cerne, 2013) or emotionally
challenging occurs (Pfund, Dawson, Francis, & Rees, 2004). Understanding how students learn when they encounter something new or unexpected is worth exploring.

There are a number of learning theories to guide educational and clinical practice including but not limited to Benner’s Novice to Expert model (1982), Kolb’s experiential learning theory (1984), Mezirow’s Transformative Learning Theory (1978), and Tanner’s Clinical Judgment Model (2006). In the context of student learning and the transformation in the way one views the world (or the profession of nursing) from that learning, it appears that none of the current models fully explain the process that occurs during the transition from becoming aware of what it means to nurse and be a nurse to responding to that awareness with a new sense of normalcy. What follows is a review of Mezirow’s Transformative Learning Theory (1978) and Tanner’s (2006) clinical judgment model which formed the basis of the Reflection, Feedback, Restructuring model that includes concepts from both to explain the process of learning, knowing, and role development. Additionally, a brief discussion of Benner’s et al., (2010) work on formative learning is included.

**Mezirow’s Transformative Learning Theory**

Mezirow’s Transformative Learning Theory (TLT) is based on a constructivist model (Cranton & Taylor, 2012) and was influenced significantly by Freire’s concept of critical consciousness (conscientization) and perspective transformation (Baumgartner, 2012). Transformative learning theory is founded on the premise or assumption that individuals interpret their own experiences uniquely and that how individuals view the world is a result of these experiences (Cranton & Taylor, 2012). Transformative learning is a process of examining, questioning, and revising perceptions. Mezirow’s TLT indicates that multiple practical learning experiences in a variety of settings lead to learning (Mezirow, 2012). Transformative learning
occurs when there is a change of one’s attitudes, beliefs, or perspectives (Mezirow, 1994). For transformative learning to occur, an individual encounters or otherwise observes an experience – a disorienting dilemma, critically reflects upon the experience, then engages in a rational dialogue about the experience. The rational dialogue acts a catalyst for transformation as the individual is compelled to understand the depth of their currently held views in the context of the experience (Mezirow, 1978, 1981, 1994). Ultimately, the individual takes action to adjust to this newly discovered reality that is the basis for the perspective transformation (Brock, 2010; Mezirow, 1994, 1978). Mezirow’s work on transformational learning described 10 phases in the perspective transformation process (Mezirow 1978, 1981, 2012):

1. Experiencing an event that disorients one’s sense of self within a familiar role.
2. Engaging in reflection and self-examination.
3. Critically assessing assumptions and feelings.
4. Recognizing that one’s discontent and the process of transformation are shared.
5. Identifying new ways of acting within the role, exploring options for new roles, relationships, and actions.
6. Planning a course of action.
7. Acquiring knowledge and skills for implementing this action
8. Trying out the new roles
10. Reintegrating into society with the new role behaviors, assumptions, and perspectives.

A key component of transformative learning is critical reflection of assumptions underlying content, process, or assertions as it enables the individual to engage in self-discussion
to make new meaning of the experience (Mezirow, 1981, 1994, 2012). It is the critical reflection that allows an individual to work through previously held beliefs and assumptions – assessing their validity in the light of new experiences or knowledge. At the end, individuals see there are alternatives to their former “habits of mind” (Cranton, 2002) and the individual emerges with a change in perspective(s). Transformational learning is described by Mezirow (1994) as the most significant kind of learning as it transforms meaning for the individual.

Tanner’s Model of Clinical Judgment

Tanner’s (2006) Model of Clinical Judgment (MCJ) is based on a synthesis of 191 articles on clinical judgment and reflection. According to Tanner (2006), clinical judgment had traditionally been viewed as a problem solving activity which did not account for the process of developing judgment nor its complexity. Tanner defines clinical judgment as “an interpretation or conclusion about a patient’s needs, concerns, or health problems, and/or the decision to take action (or not), use or modify standard approaches, or improvise new ones as deemed appropriate by the patient’s response” (Tanner, 2006, p. 204). The mainstay of the MCJ is the development of clinical judgment through reflection.

The MCJ has four components: noticing, interpreting, responding, and reflecting and integrates reflection both on and in action. The premise of the model is that experienced nurses with a reserve of practical knowledge are able to recognize (notice) deviations from the norm and respond based on prior experiences and expectations. According to Tanner (2006) the noticing “triggers” a reasoning pattern that integrates analytic, intuitive, and narrative processes either alone or in combination to make clinical judgments to which he or she responds. The last component of the model is reflection-on-action and reflection-in-action. A nurse, having acted on their clinical judgment, observes the patient’s response (reflection-in-action). Reflection-on-
action refers to what the nurses’ gain from this experience and how it contributes to further knowledge (Tanner, 2006).

Tanner stated the model can be used by nurse educators to provide guidance for students in identifying problems, identify learning needs, and considering opportunities to address these needs (Tanner, 2006). New grads and nursing students, lacking the experience, instead reason analytically and utilize theoretical knowledge to develop practical knowledge and clinical judgment. Engaging in reflection helps students expand and develop their clinical knowledge. Furthermore, the use of the reflective process enables the student to approach problems critically and develop new forms of inquiry.

Formative learning

In a landmark work on Educating Nurses, Benner et al., (2010) describes formation as “the method by which a person is prepared for a particular task or is made capable of functioning in a particular role…moving beyond knowledge…to the moral content of the practice to the obligations entailed and the demands imposed” (p. 87). Learning requires actual experiences that integrate the doing and developing an understanding of the sometime subtle purposes of that doing to form the habit of what ultimately constitutes good practices (Benner et al., 2011). Formative learning experiences provide a way for students to develop a deeper, more contextualized meaningful understanding of what it means to nurse and to be a nurse (Benner, 2010).

A Gap

Mezirow’s TLT provides a structure for understanding how one’s expectations directly influence meaning from lived experiences which result in a perspective transformation but not until the end of the process. Furthermore, Mezirow’s TLT appears to be a solitary endeavor not
accounting for the influence of others who are external to the individual’s learning, such as educators and peers in the evolution of perspective transformations. Tanner’s MJC provides an excellent framework for developing clinical judgment based on prior experiences and knowledge but does not account for the multiple processes within reflection or how the reflection may lead to a restructuring and perhaps self-identification of new learning needs. Furthermore, like Mezirow’s TLT, Tanner’s MCJ appears to focus on learning as a solitary endeavor. It is expected that novice students, developing as learners, move from memorizing and dependence on an instructor to becoming more self-directed with the eventual goal of becoming active participants in their own education as independent, creative critical thinkers (Nielsen et al., 2013). However, there remains a reliance on nurse educators, Registered Nurses (RN), preceptors, mentors, and peers for learning (Ard et al., 2008; Hartingan-Rogers et al., 2007; Hickey, 2010; Tanda & Denham, 2009; Walker et al., 2014; Zentz et al., 2014). These ostensible gaps in the learning process led to the development of a new Reflection, Feedback, and Restructuring conceptual model to describe the process of learning, knowing, and role development in the clinical setting.

A New Integrated Model for Learning in the Clinical Setting

Influenced by Mezirow’s (1978) TLT, Tanner’s (2006) MCJ, and Benner’s et al., (2010) discussion on formative learning, a constructivist approach was adapted in the development of a new model for describing the process of learning role development in the clinical setting. This approach involved reviewing the literature, re-analyzing themes, development of multiple schematics, continual review, personal observations of students in the clinical setting, and feedback from peer educators. The following Reflection, Feedback, and Restructuring
conceptual model for the process of learning role development in the clinical setting is proposed (see Figure 1).

Figure 1. Reflection, Feedback, and Restructuring Model of Clinical Learning and Role Development

The first component of the model depicts a new experience or unexpected event encountered by the student. This is similar to what Mezirow (1978) described as a “disorienting dilemma.” For the nursing student, the experience does not have to be disorienting rather, it can also be something new and/or unexpected. It could be as simple as seeing the role of the nurse in an unexpected way or experiencing a patient gagging while suctioning a tracheostomy. The element of the newness or unexpectedness is key.

A second key point has to do with the concept of perspective transformation. In examining the process by which students learn in the clinical setting, Mezirow (1978) speaks to a perspective transformation that occurs as a summative point after an event. However, one might argue that as soon an unexpected or disorienting event occurs, the individual’s perspective changes immediately even if they are unable to contextualize the event. For example, Chick (2010) reported that she was still thinking about the “crack” she heard as she inadvertently broke
a patient’s ribs while administering cardiopulmonary resuscitation (CPR) weeks after the event. Knebel, et al., (2010) described the recollections of public health nurses deployed to the September 11th World Trade Center Bombings. In the recollections, nurses reported still remembering vivid details of when they first arrived on the scene and how the experience changed their perspectives on concepts such as self-sacrifice, resiliency, and collaboration.

While such dramatic experiential events are exceedingly rare, both students and new graduates reportedly encounter situations they did not expect in the practice setting (McKenna & Rolls, 2011; Odell, 2015). In view of the aforementioned exemplars, one might argue an individual has a perspective transformation as soon as an event occurs or is noticed; whether that event be a broken rib, a medication error, or a discrepancy in expected roles. This perspective transformation continues to evolve as the individual processes the event and determines next steps.

An additional consideration is the concept of reflection. Both Mezirow (1978) and Tanner (2006) affirm the value of reflection. While reflection on and in action are central components of Tanner’s model, it does not fully describe the components of the reflection in the context of making sense of the event and planning for the future. Reflection involves evaluating an experience, critically examining the experience, and changing one’s perspectives or growing from that experience (Ghayne, 2011). In nursing education, reflection has been shown to facilitate learning (Asselin, 2011; Chirema, 2007; Idczak, 2007; Lasater & Nielsen, 2009), enhance experience based learning (Silvia, Valerio, & Lorenza, 2013), and empowers students to challenge previously held beliefs (Maltby & Abrams, 2009; Webster, 2009). Reflective journaling is a considered an important factor in bridging the theory-practice gap (DeSwardt, 2012; Hanson & Stenvig 2008; Hatlevik, 2012; Honey, Waterworth, Baker, & Lenzie-Smith,
and helps students develop critical thinking and clinical reasoning skills including interpretation, analysis, inference, explanation, and evaluation (Kuiper, 2002).

Just as Tanner (2006) spoke to two types of reflection (reflection-on-action and reflection-in-action), the reflection element in the Reflection, Feedback, and Restructuring Model of Clinical Learning and Role Development consists of two components. In the new model, reflection is a two-step process that includes interpreting and responding. In the initial response, the individual reflects on the event or situation that was observed and tries to make sense of it in the context of what is familiar. There is an attempt at pattern recognition and grouping. That is, one may ask “where does this fit in with what I know or was taught, or have I encountered a similar situation before.” The individual may question the credibility of the event, for example, “is this something that could commonly occur or is it a one-time event.” It is anticipated that the reflection begins nearly immediately after the event begins or has stabilized.

The second component of the reflective process is a reflective response. In the reflective response, the individual attempts to identify gaps in knowledge, skills, or attitudes and formulates a plan to respond to the event. This component is based in part on Bloom, Englehart, Furst, Hill, and Krathwohl’s (1956) Taxonomy and the work of Preheim, Armstrong, and Barton (2009) who described a framework to promote the quality and safety of the healthcare environment. Reflection was found to facilitate the assessment of strengths and weaknesses as well as the development of knowledge, skills, and a positive change in attitudes (Khan, Ali, Vazir, Barolia, & Rehan, 2012). Based on self-identified deficits, the individual formulates a plan of action to address the knowledge, skills, and/or attitude discrepancy. This is essentially a form of goal setting.
The next step in the process draws on the literature related to the value of formative feedback. Specifically, after the individual develops a plan, the plan is shared with nurse educators, peers, and/or other knowledgeable healthcare providers. Feedback has been described as an essential component of student learning (Clynes & Rafery, 2008) and improves performance and skills (Plakht, Shiyovich, Nusbaum, & Raizer, 2013). Constructive feedback was found by Plakht et al., (2013) to help students maintain and increase motivation, increase confidence, promote personal development, and increase competence. Feedback does not always have to be positive to be effective. Giles, Gilbert, and McNeil (2014) found a mixture of both positive and negative feedback enhanced student learning. Seeking feedback facilitates collaboration. In a qualitative study by Baxter and Boblin (2008), the authors found that students had a high reliance on collaboration to make clinical decisions. Encounters with nurses, patients, and faculty provided students with feedback and support when making decisions. The elements of collaboration and feedback was shown by Austria, Baraki, and Doig (2013) to result in information sharing, enhanced decision making, and increased confidence.

The next step in the process of student learning involves restructuring. This phase is where the individual, based on the feedback, acquires necessary skills and changes the old “habits” of mind (i.e. changes former habits of thinking, ways of doing, and ways of knowing). As the individual tries on the new roles, he/she may receive additional feedback and may further restructure his/her plans. Finally, the individual has emerged with a new sense of what is normal. During this phase the individual tries the new role (or way of seeing a role) and builds confidence in the new knowledge gained. The individual is not able to go back to the original way of seeing things as a perspective transformation has already occurred. The new normal now serves as a foundation for future nursing action – that is, cumulative learning. Should another
unexpected event occur, the new normal will be contextualized as to how it fits in with what is occurring (that is, pattern recognition). One last key element worth mentioning is the linear structure of the model. It is hypothesized that once learning begins one cannot go back and not know what is now known. Inevitably, the individual is a “new person” with new ways of seeing, doing, and being.

Application

Key concepts of the Reflection, Feedback, and Restructuring model were used as a framework for the development of guided reflective questions about role development. The questions were developed as part of a larger study examining the impact of a shadow the nurse experience on novice nursing student’s perceptions of the role of the professional nurse. In an effort to understand the process of how a nursing student processes a new experience (e.g. shadowing), components of the model were used as a foundation for developing guided reflective questions. These questions sought to determine if a perspective transformation on the professional role occurred for novice nursing students following a nurse shadowing experience. A guided reflective questionnaire (GRQ) was developed to assess if a transformation in thinking about the role of professional nurse had occurred. The GRQ was based on components of the integrated model. The questions are listed below in Table 1.
Table 1. Guided Reflective Questions developed using the Reflection, Feedback, and Restructuring Model of Clinical Learning and Role Development.

<table>
<thead>
<tr>
<th>Question Number</th>
<th>Point of Experience</th>
<th>Question Aim</th>
<th>Question</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Pre Shadow the Nurse Experience</td>
<td>Assessing role perceptions</td>
<td>Describe your current understanding of the role (responsibilities and functions) of the nurse in a clinical setting</td>
</tr>
<tr>
<td>2</td>
<td>After shadowing</td>
<td>Invite discussion on disorienting dilemma → noticing</td>
<td>Through the course of your shadow experience, did you come to see the nurse’s role in patient care in a different way? If so, please provide a specific example that describes what was different for you.</td>
</tr>
<tr>
<td>3</td>
<td>After shadowing</td>
<td>Invite discussion on critical reflection → interpreting</td>
<td>Reflect on a particular nursing action you observed today, what did it mean for you?</td>
</tr>
<tr>
<td>4</td>
<td>After shadowing</td>
<td>Invite discussion on rational dialogue → responding</td>
<td>Compared to what you expected, how do you believe the nurse could have done things differently?</td>
</tr>
<tr>
<td>5</td>
<td>After shadowing</td>
<td>Invite discussion on goal setting</td>
<td>How did your experience impact or influence your studies going forward if at all?</td>
</tr>
<tr>
<td>6</td>
<td>After shadowing</td>
<td>Invite discussion on reassessing role perceptions</td>
<td>How did this experience influence your perceptions of the nursing role in the clinical setting?</td>
</tr>
</tbody>
</table>

The first question was developed with the purpose of assessing a student’s current perception of the role of professional nurse, i.e., what is their current state of normalcy before the presumed new experience of observing the role of the professional nurse. The second question was aimed at inviting discussion on what was experienced that was new, noticed, and perhaps unexpected? The third, fourth, and fifth questions focused on key reflective components of the model: interpreting and responding. Specifically, the third question sought to determine how the student interpreted the new experience, while the fourth sought reflection how the new experience fit in with what was expected; that is how the student interpreted the new experience in terms of credibility and pattern recognition. The element of formulating a plan for moving
forward (i.e. goal setting) was addressed in the fifth question. Finally, the last question focused on reassessing role perceptions compared to before the new experience of shadowing had occurred. At its essence, the last question asks if the student developed a new perspective following the experience, that is, what the learned outcome from the new experience was.

Because the nature of the intervention for the shadowing study was exploratory, feedback was not assessed or addressed in the guided reflective questions. The guided reflective questions based on the integrated model may facilitate the understanding of an event and provide students with an opportunity to explore alternative ways of seeing and eventually becoming.

**Implications for Nursing Education**

A key component of clinical education is the integration of knowledge and practice for the development of critical thinking skills that inform subsequent clinical judgment abilities when providing patient care. For many students, a component of the learning involves reformulating and re-conceptualizing what was learned in the classroom with what is seen and experienced in the clinical setting. Students become self-aware of the gap between what has been learned in the classroom with what is necessary to know in the clinical setting. The Reflection, Feedback, and Restructuring conceptual model and the use of the guided reflective questions may be a useful tool to guide students and nurse educators in making sense of experiential learning early in nursing education. Further research is warranted to test this model in traditional clinical experiential learning environments. It would be worth examining how this model compares to Tanner’s clinical judgment model in terms of student outcomes related to perceptions of clinical learning and professional role development.
Summary

Learning is a transformative experience. Transformation implies a metamorphosis so that what results is fundamentally different than what was there before. Clinical experiences are often thought of as transformative experiences where students develop the knowledge, skills, and habits of the nursing profession. Mezirow’s (1978) transformative learning theory and Tanner’s (2006) clinical judgment model have valuable components for understanding perspective transformations and the development of clinical judgment. The integration of the two models with a foundation in the concept of formative learning by Benner et al., (2010) and the resultant Reflection, Feedback, and Restructuring Model of Clinical Learning and Role Development provides a framework to more comprehensively expand our understanding of the learning process in the clinical setting. The new model facilitates understanding the process of learning about role development particularly after a new experience and inclusive of the role of noticing, reflection, feedback, and restructuring. The end result of a new normal will serve as a foundation for cumulative learning experiences that may guide the nurse educator in working with the students as they learn and ultimately develop into the role of the professional nurse.
References


CHAPTER FOUR – MANUSCRIPT THREE

Shadow the Nurse Intervention in Early Baccalaureate Nursing Education and its Influence on Professional Role Perspectives.

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Abstract:

Aims: The aim of this study was to examine whether a shadow the nurse experience (STN) for novice baccalaureate nursing students led to a transformation in professional nursing role perceptions and goal development.

Background: Nursing students experience role discrepancy between their ideal views of nursing obtained while in school and the realities of practice (Chappy, Jambunathan, & Marnocha, 2010). Clinical learning experiences provide opportunities for understanding the nursing role but may not begin until halfway through a nursing program.

Methods: An interpretative qualitative phenomenological design was used in which 12 sophomore level nursing students shadowed a professional nurse for 16 hours then responded to guided reflective questions.

Results: Overall, respondent’s perspectives changed from a focus of the nurse as a primary caregiver in a hierarchal structure to a broader perspective recognizing the complexity of nursing and what it means to care. Additionally, students linked practice to classroom learning and developed academic goals to address anticipated learning needs.

Conclusion: A STN experience early in nursing education led to a change in perspectives of the role of the professional nurse. It may be utilized as an innovated educational pedagogy for facilitating role development in novice nursing students.
INTRODUCTION

Scholars have posited that nursing students experience a discrepancy between their ideal views of nursing obtained while in school and the realities of practice (Chappy, Jambunathan, & Marnocha, 2010). This phenomenon, described as role discrepancy, has been shown to result in difficult transitions into nursing and reality shock for the newly licensed nurse (Duchscher, 2009; Hickey, 2010; Young, Steunkel, & Bawel-Brinkley, 2008). Many students come into nursing with an “idyllic” view of nursing, (Grangier & Bolan, 2006), which involves minimal academic study and is more vocational in design (O’Donnell, 2011). Unrealistic perceptions of the nursing role have been associated with attrition in nursing programs (Wilson, Chur-Hansen, Marshall, & Air, 2011) and higher turnover rates for practicing nurses (O’Brien-Palles, Murphy, Shamian, Li, & Hayes, 2010). Although a number of studies have examined educational strategies for professional role preparation such as preceptorships near the end of formal nursing education no published studies have examined professional role preparation through a Shadow the Nurse (STN) experience for the beginning nursing student. In this paper, the findings of a qualitative study that explored sophomore level nursing student’s perspectives about the role of the professional nurse following a 16 hour shadowing experience in an acute care setting are reported.

BACKGROUND

Role Conceptions/Perceptions

Role conception has been defined as “the privileges and obligations a person believes is associated with her or her profession” (Young, et al., 2008, p 105). Corwin (1961) first described role conceptions and Young et al., (2008) posited that it guides behavior and generates attitudes that become integrated into the nurse’s personality, ultimately directing goals and
motives. Nursing is viewed as rewarding with many choosing nursing in part because of its perception as a caring and service-oriented profession (Miers, Rickaby, & Pollard, 2007; Mooney, Timmins, Byrne, & Corron, 2008; O’Brien, Mooney, & Glacken, 2008). Of concern, however, is what Price and Hall (2013) describe as the “virtuous” (p. 1507) image of nursing which may de-emphasize the necessary knowledge and skills required in this profession. Porter, Edwards, and Granger (2009) found that a significant number of high school students had an inaccurate understanding of the nursing role. Student nurse perceptions of the nursing role is formed prior to clinical placements and are the product, in part, of images seen in the media, and input from family and friends (O’Brien et al., 2008). Role perceptions evolve with clinical experiences as students develop an understanding of the complexity of the nursing role (Sand-Jecklin & Schaffer, 2006). Moreover, new graduates may experience a disconnect between what they were taught in nursing school and internalized about the profession, and what was experienced in practice (Pellico, Brewer, & Kovner, 2009). The difference between an ideal role perception and what is encountered in practice is known as role discrepancy (Corwin, 1961). Role discrepancy has been shown to result in difficult transitions for newly licensed nurses as they move from the academic to the professional setting (Duchscher, 2009). This role discrepancy contributed to job stress (Lu, Barriball, Zhang, & While, 2012) and intention to quit their jobs (Takase, Maude, & Manias, 2006).

Nursing Education

Traditional baccalaureate nursing education is often dichotomized between clinical and didactic content (Benner et al., 2010; Billings & Halstead, 2009). Even as nursing is considered a practice discipline, students are often not given an opportunity to interact with patients in a clinical setting until more than half way through their nursing program. Instead, students
typically spend the first two years attending to general education and or liberal arts studies in the classroom setting. There is a plethora of literature attesting to the value of clinical education as a highly interactive holistic experience focusing on the intellectual, physical, and passionate components of learning through active participation of student, teacher, patient, and clinical staff (Ard, Rogers, & Vinten, 2008; Hartingan-Rogers, Cobbett, Amirault, & Muise-Davis, 2007; Tanda & Denham, 2009). This type of experiential nursing education is often cited as essential to learning the art and science of nursing while provide nursing students with an opportunity to engage in authentic interactions with patients and other health care providers. In addition, they develop essential nursing skills and integrate classroom theory with practice (Benner, Sutphen, Leonard, & Day, 2010; Pollard, Ellis, Stringer, & Cockayne, 2007; Tanda & Denham, 2009). Clinical rotations provide the foundation for continued development of thinking skills and prepares the student for the professional role in performance and socialization while decreasing role discrepancy (Ard et al., 2008; Kuiper, Murdock, & Grant, 2010).

Traditional clinical education involves students being assigned to a specific agency or unit and “doing what nurses in that agency are doing on a given clinical day” (Nielson, Noone, Voss, & Matthews, 2013 p. 302). However, during these clinical experiences students typically only focus on the care of one or two patients and have limited engagement with professional nurses (MacIntyre, Murray, Teel, & Karshmer, 2009). This leads them to “not feel part of the system” (Finkelman & Kenner, 2007 p 23) which may affect student outcomes (Hartingan-Rogers et al., 2007). With the current model, the clinical instructor is often the gatekeeper between the student and the nurse and interdisciplinary team members. This can lead to students missing how patient outcomes are interconnected with the nursing unit and larger health care system both in and out of the hospital setting (Raines, 2006).
Some nursing programs have addressed clinical education and transition to practice issues by offering preceptor or mentorship programs for senior nursing students in their last semester of nursing education. Preceptorships have been described as a complex, multifaceted, model for clinical learning and professional preparation (Billay & Myrick, 2008; Hickey, 2009). Preceptorships provide an opportunity to integrate theoretical knowledge with practical skills, exposing students to multiple patient care experiences simultaneously (Hecimovich & Volet, 2007; Udlis, 2008). They also offer students an opportunity to engage in a dialogue about the differences between expectations and realities of the workplace (Casey et al., 2011). Findings from these studies indicate that students have increased confidence, role socialization, development of direct care and organizational knowledge, and critical thinking skills (Budgen & Gamroth, 2008). Of concern is that these programs are primarily offered for senior level nursing students (Chung, Wong, & Cheung, 2008; Stokes & Kost, 2009) thus limiting exposure to the “real world” nursing until the end of nursing education.

Another model for easing the transitions to and within practice is through the use of shadowing. Job shadowing provides an experience for an individual to observe what it is like to perform a certain type of work by accompanying an experienced worker as they perform a targeted job (Businessdictionary.com, 2014). The shadowing method of preparing students for clinical practice has been utilized successfully for medical students (Turner, White, & Poth, 2012), health and social care students (Wright, Hawkes, Baker, & Lindqvist, 2012), physician assistant training (Meusch, Elliot, & Frasser, 2013), and for mental health nurses (Kamau, 2014). In nursing, Messmer, Jones, and Taylor (2004) described a pilot study of a Shadow-A-Nurse experience for newly licensed nurses in an intensive care unit (ICU). Lasting six weeks, the program integrated traditional clinical based knowledge based critical care classes with a
shadowing experience. The authors found the program was beneficial in building self-esteem and self-confidence, helped novice nurses socialize into the ICU nurse’s role, and effectively bridged the gap between education and professional practice. In nursing education Paskiewicz (2002) described the value of having a student shadow a nurse faculty member while in her advanced clinical practice setting to show the “value of her clinical practice” and support “teaching activities” (p. 240). Both nursing studies utilizing this approach are limited in that one was for newly licensed nurses and the other occurred in an advanced practice setting.

In nursing education, the use of shadowing to facilitate reality based role perceptions has received little attention (Schuler, Roberts, Asselin, & Kenner, 2015).

In summary, role discrepancy has been shown to result in difficult transitions for newly licensed nurses as they move from the academic to professional setting. Although a number of studies have examined educational strategies such as preceptorships near the end of formal nursing education, no studies have examined professional role preparation through a shadow the nurse experience for the beginning nursing student. This gap in the literature requires attention.

**STUDY**

*Study Aim*

The aim of this study was to explore if a shadow the nurse (STN) experience for sophomore level baccalaureate nursing students led to a transformation in professional nursing role perceptions and goal development. In particular the questions guiding this study were:

1. How does a beginning nursing student perceive the role of the professional nurse after participating in a 16 hour shadow the nurse experience?
2. What is the role of the shadow the nurse experience in developing personal and academic goals for the beginning nursing student?
The Reflection, Feedback, and Restructuring (RFR) conceptual model (shown in Figure 1) developed by Schuler, Kenner, Roberts, and Asselin (2015) was utilized as a framework for understanding the process of role perspective transformation for novice nursing students. The model, influenced primarily by Mezirow’s (1978) Transformative Learning Theory and Tanner’s (2006) Model of Clinical Judgment, describes how learning occurs in a clinical setting when a student encounters an unexpected event and culminates in the development of a new perspective facilitating role development. The first component of the model depicts a new experience encountered by the student. This is similar to what Mezirow (1978) described as a “disorienting dilemma.” The next component of the model addresses reflection. Reflection involves evaluating an experience, critically examining the experience, and changing one’s perspectives or growing from that experience (Ghayne, 2011). In the initial response, the individual reflects on the event or situation that was observed and tries to make sense of it in the context of what is familiar, i.e., an attempt at pattern recognition and grouping. The second component of the reflective process is a reflective response. In the reflective response, the individual attempts to identify gaps in knowledge, skills, or attitudes and formulates a plan to respond to the event. Based on self-identified deficits, the individual formulates a plan of action to address the knowledge, skills, and/or attitude discrepancy.
Figure 1.
Reflection, Feedback, and Restructuring Model of Clinical Learning and Role Development


After the individual develops a plan, the plan is shared with nurse educators for feedback. Based on the feedback given, students restructure by acquiring necessary skills and changing old “habits of mind.” As the student "tries on" the new roles, he/she may receive additional feedback and may further restructure his/her plans. Finally, the student has emerged with a new sense of what is normal. Regarding the concept of perspective transformation, the RFR model posits a student’s perspective changes almost immediately after an event is experienced even if they are unable to contextualize the event until the end of the learning process. It is posited that each new experience or unexpected event results in new learning.

The RFR model serves as a guide for both considering how a perspective transformation may occur in the novice nursing student about the role of the professional nurse and for the development of guided reflective questions to assess student perceptions. Guided reflective questions were developed based on the RFR model for professional role development and are illustrated in Table 1.
Table 1. Guided Reflection Questions Based on RFR Model

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<thead>
<tr>
<th>Question No.</th>
<th>Point of Experience</th>
<th>Question Aim Based on Conceptual Framework</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pre shadowing</td>
<td>Assessing role perceptions</td>
<td>Describe your current understanding of the role (responsibilities and functions) of the nurse in a clinical setting.</td>
</tr>
<tr>
<td>2</td>
<td>After shadowing</td>
<td>Invite discussion on disorienting dilemma = noticing</td>
<td>Through the course of your shadow experience, did you come to see the nurse’s role in patient care in a different way? If so, please provide a specific example that describes what was different for you.</td>
</tr>
<tr>
<td>3</td>
<td>After shadowing</td>
<td>Invite discussion on critical reflection = interpreting</td>
<td>Reflect on a particular nursing action you observed today, what did it mean for you?</td>
</tr>
<tr>
<td>4</td>
<td>After shadowing</td>
<td>Invite discussion on rational dialogue = responding</td>
<td>Compared to what you expected, how do you believe the nurse could have done things differently?</td>
</tr>
<tr>
<td>5</td>
<td>After shadowing</td>
<td>Invite discussion on goal setting</td>
<td>How did your experience impact or influence your studies going forward if at all?</td>
</tr>
<tr>
<td>6</td>
<td>After shadowing</td>
<td>Invite discussion on reassessing role perceptions</td>
<td>How did this experience influence your perceptions of the nursing role in the clinical setting?</td>
</tr>
</tbody>
</table>

METHOD

This study was conducted using an interpretive phenomenological qualitative design (Smith, Flowers, & Larkin, 2013) to explore and examine the essence of the STN experience for the novice nursing student and what it means in terms of transformative learning and changing perspectives. Following Institutional Review Board (IRB) approval, students were purposively recruited from a single university in the Northeastern part of the United States using the following criteria: sophomore level student enrolled in a baccalaureate nursing program who had met University and hospital requirements for clinical placement and had no previous clinical experiences either as a student or employee at a health care organization. Students were recruited through a class announcement in a required health assessment class and through an electronically forwarded email by the Dean’s office.

A total of 16 students volunteered for the study. Two were excluded as they either currently worked or had worked in a hospital setting. One was excluded for having shadowed before as a high school student, and one student did not complete the study, leaving a total of 12 students who completed the study. Each student volunteer provided written consent, completed
a demographic data form, and then provided written answer to the pre-shadowing question to assess their perceptions of the role of the professional nurse. In addition to basic demographic data, such as age, race, gender, and marital status, students were asked if they had any experience journaling or if they kept a diary. Students were also asked if they had anyone in the family who was a nurse, if they had experienced nursing in the past year (in terms of illness), and why they wanted to become a nurse. Responses to these question are presented in Tables 2 and 3.

Based on scheduling availability students were paired with a professional nurse who had been recruited through a practice-partner acute care hospital’s office of Professional Development. Students shadowed the professional nurse on a medical surgical unit for two eight-hour shifts (total 16 hours) within a four day time period. Within 48 hours of the completion of the shadowing experience, students were asked to provide a written description of their shadowing days. Student volunteers were first asked to describe their day(s), what happened, what they saw, what did they did. Next the students were asked to provide written responses to the post shadowing guided reflective questions (see Table 1). Additionally, students were asked to write any additional comments they had related to the experience. Responses were emailed to the researcher through a secure server at the University. Upon completion of both the 16 hour shadowing experience and written responses to the guided reflective questions, students were offered a $50 honorarium. Pre and post shadowing responses were matched, de-identified, and transcribed to a word document for review.

Data synthesis

Student reflections and subsequent data synthesis followed an inductive and iterative process including reading and rereading each student’s full response set from before and after the shadowing experience. Additionally, each student’s individual responses were read together
with other student responses to the same question. In keeping with the interpretative phenomenological approach, the researcher attempted to tune into the voice of the student reflections including emotions expressed by the student in relation to self and others, and what the student either explicitly described or implied about the shadowing experience. Each question was then noted with initial impressions, topically coded a priori for role perceptions before and after shadowing and goal setting. Data synthesis included the development of additional emergent codes, categories, and themes, as well as the search for connections across themes. Each response was analyzed and then all responses were re-examined for additional codes, categories, and themes (Creswell, 2009; Richards & Morse, 2007; Smith, et al., 2013).

Trustworthiness

Methodological rigor was maintained by keeping an audit trail, reflexivity, and the use of investigator triangulation (Polit & Beck, 2012). Reflexivity is a process of critical self-reflection to address and make note of any bias, values, or personal concerns that could influence data collection and interpretation during a study (Polit & Beck, 2012). Investigator triangulation was accomplished by having the specific questions related to role perceptions as well as two full student responses read by another experienced phenomenological qualitative researcher who was asked to read the responses for both the aforementioned codes as well as any new emergent codes and themes. The two researchers compared and discussed the interpretive themes until final themes were agreed upon.

RESULTS

A majority of students were female (91.7%, n = 11) with a mean age of 19.2 years. Thirty-three percent reported having a family member who was a nurse and 33% reported having
a personal or familial experience with a nurse in the last year (most were related to an illness in the family). All were single and identified themselves as White, non-Hispanic (see Table 2.).

<table>
<thead>
<tr>
<th>Table 2. Student Demographics</th>
<th>n = 12</th>
<th>frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>11</td>
<td>91.66</td>
</tr>
<tr>
<td>Male</td>
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<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White, not - Hispanic</td>
<td>12</td>
<td>100</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mean</td>
<td>19.2</td>
<td></td>
</tr>
<tr>
<td><strong>Marital status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>12</td>
<td>100</td>
</tr>
<tr>
<td><strong>Experience with a nurse</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>yes</td>
<td>4</td>
<td>33.33</td>
</tr>
<tr>
<td>no</td>
<td>8</td>
<td>66.67</td>
</tr>
<tr>
<td><strong>Nurses in family</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>yes</td>
<td>4</td>
<td>33.33</td>
</tr>
<tr>
<td>no</td>
<td>8</td>
<td>66.67</td>
</tr>
</tbody>
</table>

Three themes emerged of student perceptions before the shadowing: doing tasks to manage illness, the special role of the nurse in a hierarchy, and uncertainty. After the shadowing, three new themes were identified related to role perceptions: what it means to “care” for patients, teamwork, and the hard work of nursing. Two additional themes not related to role perception were identified following the shadowing experience: linking practice to classroom and adulation/role modeling. What follows is a review of the aforementioned themes followed by the results of the question related to goal development (research question #2). In the presentation of the data, pseudonyms were used to protect the anonymity of the respondents.

**Pre Shadowing Theme 1: Doing tasks to manage illness**

Before the shadowing experience, students described the role of the nurse primarily in terms of responsibility for particular tasks such as educating, assessing, giving medications, changing sheets, helping patients to the bathroom, monitoring, and following doctors’ orders. Students used words like “obligation”, “responsibility to monitor”, “follow orders”, “keep up
with patients status and vitals”, “it’s a nurse’s job to physically examine a patient”, “administer medications.” These tasks attributed to the nursing role were primarily for illness and disease management rather than wellness. Jackie wrote “the role of the nurse is primarily to care for the sick and injured.” Carol noted, “It’s the nurse’s obligation to treat those symptoms…”

**Pre Shadowing Theme 2: Special role of the nurse – in a hierarchy**

A number of students commented on the special role of the nurse and that role was often noted in terms of a chain of command. Students described the nurse’s role in terms of his or her “primary” role in patient care. Carol states it this way: “The nurse has the one on one relationship with the patient whereas the physician doesn’t.” Susan noted, “the nurse is always there...” Natasha reported, “...that the nurse and the patient are in this together.” While the nursing role was viewed in terms of its primacy, it was also perceived in terms of a hierarchy. For example, Edith noted, “As a nurse it is also important to work with other healthcare members above and below your position...” Kayla describes the nurse’s role in terms of a structure: “Nurses are similar to a pillar of support holding a building up, without them the building would crumble, and the top of the building (doctors) would not be able to function as they were supposed to.”

**Pre Shadowing Theme 3: Uncertainty**

A number of students reported not knowing or having some confusion about the role of the professional nurse with many reporting the confusion was related to what they had heard from others. Harriet put it this way:

“I guess you could say I’m pretty confused as to what the role and responsibilities of the nurse are. I always thought they checked on patients, administered medications, and did basic procedures. Then as I started college my professors started confusing me, telling
Before the shadowing, many students perceived the role of the professional nurse as a primary patient caregiver responsible for completing specific nursing tasks in a helical healthcare environment. Moreover, the nursing tasks were distinctly focused on illness rather than wellness management. Nevertheless, there were a number of students who, despite being in the nursing program for nearly two years still did not know what the role of the professional nurse entails.

**Post shadowing Theme 1: What it means to “care” for patients**

After the shadowing experience, not only did all the students convey that their perceptions of the role of the professional nurse changed but there was a discernable change in what they wrote about. The most notable change in perception was from a focus on tasks and being a primary presence to a focus on genuine caring interactions with patients while engaging in critical thinking, advocacy, and acting autonomously. The discernable change is exemplified in part by Kayla’s reflection:

“I know that nursing was about caring, but I don’t think I fully internalized it until I saw my RN's caring for their patients. I saw the nurse’s role in a different way because I saw it as more personal and devoted that it had ever occurred to me in school.”

Sandy reflected on the following in describing an encounter with an anxious patient:

“Even though the patient’s oxygen saturation, heart rate, blood pressure, was stable, the
patient relentlessly complained about not being able to breathe. The nurse recognized that the patient was not asking for medical treatment; she was just lonely and afraid and needed someone to sit and talk with her.”

Harriet described a nurse’s response to a patient who had just received some alarming news:

“when my nurse saw this she pushed everything aside and was just so calming to him (the patient). It was so nice to see her actually caring for him in other ways than his physical well-being.”

Natasha reflected on her nurse’s decision to disconnect a patient’s running intravenous line because the patient continuously disconnected it herself so that she could step outside to smoke. “He said he would rather take it out ...than have her rip it out. I never thought about this before, about meeting the patient halfway.” Corey reflected on how her nurse had to “fight for a patient to receive a Chest X-ray because her D dimer was positive, her heart rate was tachy (tachycardic), and had dyspnea/SOB.” Terry shared the story of shifting priorities secondary to a patients declining status: “(the patient) needed more attention and we spent most of the day keeping her alive. We ordered tests, called doctors, gave the prescribed medication, and so forth.” Susan observed that her nurse had discovered a wrong medication order:

“Mark addressed these problems to the doctor and actually got certain things changed to suit the needs of the patient. Everything that Mark talked to them (the doctors) about would be some sort of minor detail they may not have considered or other reasons, and it really struck out to me how much Mark cared for the patient’s needs and how much attention he paid to every little detail.”
While nearly all the students reflected on authentic caring interactions with and actions for the patients that either validated or enhanced their perceptions of the role of the professional nurse one student, however, was less certain. Terry reflected on her frustrations at watching her nurse attempt to help a patient and that her advocacy was not enough to help the patient in a timely manner:

“...the nurse I was shadowing knew a particular medication was not working and needed to be switched. It took about 5 (h)ours for a doctor to see the pt (patient) and order a change in medication. During this time, the pt (patient) was in extreme distress. This made me question if I wanted to be a nurse, or maybe something else, where I can prescribe medications and such to help my pt (patient) more immediately and still have a close therapeutic relationship with my pt (patient) and their family.”

Post shadowing Theme 2: Teamwork

An additional theme that emerged from the data was that students began to grasp the concept of nurses working together as part of a team. Many students commented on starting the day obtaining a shift report from the night nurse and also commented on the role of and interactions with physicians and certified nurse’s assistants (CNA). Carol wrote, “I saw that the nurses really depend on the CNA’s on the floor…”, Terry reflected, “I also noticed how the CNA’s changed the bedding, bathed the patient, and brought the patient to the bathroom…”; Emily observed, “a nurse interacts with doctors, case managers, resource nurses, other nurses, CNA’s and many other health specialists many times throughout the day...”; and Susan described her nurse’s interaction and teamwork with a physician: “Mark addressed these problems with the doctor and actually got certain things changed to suit the needs of the patient.”
Post shadowing Theme 3: The Hard Work of Nursing

In many of their reflections, students appeared surprised at the hard work of nursing in terms of being busy and the levels of responsibility professional nurses have. Susan wrote, “I know that nurses gave medications to patients, but I had NO idea how time consuming and documentation intensive this process was.” Emily reflected,

“…I was able to see that this job was a lot more demanding than it is made out to be. Caring for patients requires your full attention. I was able to see that being a nurse does require a lot of knowledge and critical thinking. It is easy to think of nursing as just caring for a patient and for it to be easy and smooth; however I was able to see that this job is a lot more demanding than it is made out to be.”

Carol wrote, “you have to be on you’re A game at all times.” While Kayla wondered, “My only thought was, how do people (nurses) actually learn how to do all of this?”

Post shadowing Theme 4: Linking practice to classroom

The majority of students stated that this practice experience helped link what was learned in the classroom both in terms of what was already learned and anticipatory knowledge. For example, Jackie pointed out, “All of the information I have learned in the past year and a half with respect to nursing came to the forefront of my mind. It helped draw connections between all the things I have been learning in class.” Susan shared, “Having an experience to relate to what you are studying to is very memorable and also shows nursing students what they are signing up for sooner rather than later”.

Emily reflected,

“Personally I loved listening to the reports because not only did I get to see the nurse communicating and exchanging knowledgeable information regarding procedures,
medications, and lab results, but I could connect some of the knowledge I had learned in class to what they were discussing.”

Carol wrote,

“This experience only furthered my interest in the study of nursing but it has really opened my eyes to what the “reality” of nursing really is. It is so much different than how we are learning in school. Nursing school and being an active nurse in the hospital are two completely different things.”

**Post shadowing Theme 5: Adulation and Role Modeling but…**

A majority of the nurses shadowed were a source of adulation by students. Students appeared in awe at the level and depth of care provided to patients, and the nurses’ skill sets and knowledge. Student’s responses included: “my nurse went above and beyond what I expected”, “she was exactly as I hope to be some day”, “the nurse I shadowed was excellent”, and “the nurse I shadowed had done her job wonderfully!” Some students reserved their critiques for other nurses. For example, Terry observed:

“However, I did observe other nurses on the floor. The(y) gossiped and maybe did not have their full attention on their pts. I noticed how the nurse I was shadowing would avoid most gossip and keep the talk to more relevant subjects appropriate for a hospital setting.”

The analysis of student reflections also revealed some potential dangers of shadowing experiences, namely the potential for misperceptions about nursing tasks and knowledge. One student reflected that she “learned it was okay not to know all the medications” a patient was taking because the Pyxis MedStation System dispersed the correct medications for each patient automatically. This also reflects the task orientation toward the nursing role versus the
knowledge and science behind the role. Another student reported learning that head to toe
patient assessments were not always necessary during hospital admissions, and another student
observed that the “entire nursing role is centered on pleasing the patients,” perhaps reflecting a
customer service rather than professional practice role.

Goal Setting

Students were asked if the STN experience impacted or otherwise influenced their studies
going forward. Of the 12 responses, four students responded with definitive plans. For example,
Kayla wrote,

“I will make (a) greater attempt at learning all the drugs we discuss in pharmacology, so
I know how to actually care for my patient. I need to work harder in order to live up to
the standards of being an amazing nurse.”

Susan also commented on the importance of pharmacology, noting: “I might try harder
to remember and focus on the drugs aspect of patho and pharm next year, because I did not
realize that nurses are constantly giving meds all throughout their shift.” Terry wrote, “After my
experience, I am going to focus more on symptoms, nursing considerations, and pathology of the
disease.” Three students reported the experience reinforced classroom learning while two stated
the experience had no real impact on their studies going forward. Six students did not directly
answer the question, instead commenting on the value of the experience in reinforcing their
decision to become a nurse.

DISCUSSION

Students had decidedly different perceptions of the professional nursing role before and
after shadowing. Before the shadowing, students believed nurses were the primary caretakers in
a hierarchal organization with a focus on tasks to manage illness. This finding is consistent with
the findings of Emeghebo (2012) who found student nurses believed the nursing role was associated with task oriented responsibilities, including bathing and medicating patients. An interesting finding was the focus on illness management rather than on wellness or health promotion both before and after the shadowing. This is noteworthy because all the students participating in this study were simultaneously enrolled in a required holistic health assessment class whose focus was on health promotion and development of individuals. Walthew and Scott (2012) found students had a limited knowledge base in health promotion and Mooney et al., (2011) reported that first year nursing students did not have the foundational knowledge necessary to recognize health promotion as relevant in their nursing role. An additional consideration is that as Currie et al., (2015) noted, first year nursing students are preoccupied with what nurses’ do, thus perhaps limiting their focus on what they can do. While students were taught concepts of holistic health and wellness, it does not appear they have yet embraced these concepts. This finding is contrary to what was reported by Safadi, Saleh, Nassar, Amre, and Froelicher, (2011) who reported second year students had begun to perceive that promoting and maintaining health were in the realm of nursing. That student reflections remained focused on illness rather than wellness management even after the shadowing may be in part because they shadowed nurses in an acute care setting.

Before the shadowing, students commented on the special role of the nurse with many students using descriptors such as “primary” or “main.” This may be related to the perception of nursing as a caring science and that the nurse’s role is being the main provider of that care. Students in this study had been asked in their demographic questionnaire, “Why do you want to become a nurse?” (See Table 3) Eight students explicitly used “to help” or “to care” in their reasoning. This is consistent with the findings by O’Brien et al., (2008) who found that nursing
students who had not yet engaged in clinical learning experiences believed caring was a significant component of nursing. Three students reported wanting to impact a person’s life, which is consistent with the findings of Safadi et al., (2011) who reported that beginning nursing students have an “altruistic” (p. 424) view of nursing.

Table 3.
Responses to “Why do you want to become a nurse?”

- My mom was the first person to correctly diagnose me with a fractured clavicle and understood I was in pain. She took me to the ER and made me feel comfortable in an uncomfortable situation. I want to do this with my children and others.
- I want to help as many people as I can to achieve a happy, healthy life.
- Direct impact on less fortunate
- To provide care to the sick and injured
- I’ve grown up with a lot of brothers and sisters and I have always loved to help my mom care for and help them. I feel reward by helping people.
- To care for other human beings
- I want to help others
- To help people in need/less fortunate
- I’ve wanted to be a nurse since I was little. Also my friend past away in a car accident when I was 16, made me believe that if I could change one person’s life, it’d be worth it.
- I have a family member who had a heart attack and spent time in a hospital. Since then, I decided I want to help others like the nurses who helped my family member. Also my sister was a nurse and I look up to her.
- My greatest desire is to positively impact the lives of any patients I may have. Just knowing I have made a difference fulfills my desire to become a nurse
- My mom’s nurses inspired me.

Another component of the special role of the nurse may be related to an effort by the students to distinguish nursing from other professions. Students used words like “above” and “below” implying a belief in a hierarchic structure. This finding is consistent with what was reported by Wang, et al., (2011) and Pennbrant et al., (2013) where nurses were thought to have a lower social status compared to other healthcare professionals, such as physicians. Although nursing was ranked as the fifth most prestigious job in America in 2014, with physicians at the top of the list (McCarthy, 2014), the notion that nurses are primary in patient care may be an attempt to secure their place in that hierarchy.
A majority of students enter nursing programs with some preconceived ideas about nursing and the nursing role. In this study, a majority also had preconceptions about the professional nursing role. However, three students (25%) admitted to being uncertain having received mixed messages from friends, family, the media, and even their professors. This is partially consistent with the findings of O’Brien et al., (2008) and Porter et al., (2009) who reported student perceptions of nursing are a product, in part, of images seen in the media and input from family and friends. What is interesting is the inconsistent portrayals of the nursing role by these groups. Two of the three students expressing confusion about the professional nursing role had direct family members (mother, sister, or brother) who were nurses. This may indicate that perceptions of the nursing profession and what is communicated about nursing are as varied as the different types of nursing (acute care, community nursing, hospice nursing). One might wonder if it is possible to have a unifying consistent image of nursing.

Post shadowing themes

Nursing has long been considered a caring profession. Nightingale (1859) is often cited for her work on promoting a clean environment, however, in her Notes on Nursing, Nightingale also spoke to specific caring practices, including the importance of facing a patient as one spoke so the patient did not have to crane his/her neck; how (in what tone) and what (types of material) to read to a patient, the value of fresh flowers, and even the types of food to feed and or leave by the patient’s bedside – all exemplars of caring activities. More recently, the American Nurses Association (ANA) (2015) described nursing practice as the “protection, promotion, and optimization of health…and advocacy in the care of individuals, families, communities and populations.” After the shadowing experience in this study, students reflected on developing what appeared to be a deeper understanding of what it means to care for patients. Specifically
that caring for a patient went beyond the “doing tasks” component of nursing and encompassed authentic presence (e.g. when a patient was anxious), patient advocacy, critical thinking, teamwork, and autonomy. These findings are somewhat similar to Safadi et al., (2011). These researchers reported that over the course of a four year nursing program student perceptions of nursing changed from a “traditional altruistic view” (p. 424) to one that reflects what is actually experienced in practice. Currie et al., (2015) also found that first year nursing students in England became aware of “person-centered care” (p. 243) through a combination of classroom and clinical experiences, though students were still fixated on nursing tasks (the doing) rather than on how patients experience care. What was not clear was how the clinical experiences in the Currie et al., (2015) study were structured, that is, if the student’s awareness of person centered care was in part a result of the type of exposure to nursing they experienced in the clinical environment (e.g. one on one or group setting).

After the shadowing student reflections revealed a deviation from a focus on the primacy of the nurse in patient to care to an awareness of the teamwork involved in patient care. Many students commented on the concept of working with other members of the health care team including physicians, nurses, CNAs, case managers, and resource nurses. While it is tempting to consider this a reflection of observed collaboration, it is important to draw a distinction between collaboration and working together or cooperation. What students described in their reflections described working with another member of the healthcare organization to facilitate a desired patient outcome (such as change in medication prescription, making a patient comfortable, or advocating for CAT scan for a patient with an elevated D-dimer). Collaboration is a deeper phenomenon involving a “shared power based on knowledge, authority of role, and lack of hierarchy” (Fewster-Thuente & Velsor-Friedrich, 2010, p. 41). What the students described was
viewed through the lens of a hierarchical structure where the nurse has a place typically subservient to that of the physician and above that of the CNA. Thus, it is not readily apparent that the students were describing anything more than simply working with other healthcare providers rather than truly contributing as an equal partner in the care of the patient.

A number of students appeared surprised at the depth of knowledge, complexity, and time consuming nature of nursing. This is consistent with the findings of Porters et al., (2009) who found that high school students had a similar change in perspective about the complexity of nursing after shadowing a nurse. O’Donnell (2011) and Andrew et al., (2008) both reported first year nursing students believed nursing was primarily vocational and involved minimal academic study. Once in the practice setting, new graduates are also surprised at the level of responsibilities of a nurse (Bjerknes & Bjork, 2012) and this surprise was found by Cho, Lee, Mark, and Yun (2012) to impact turnover. New nursing graduates do not feel ready for practice, reportedly being unaware of the level of responsibility they must assume, required complexity in thinking, and problem solving skills necessary for providing patient care (Chappy, et al., 2010). Students in this study also reflected surprise. Providing students an opportunity to experience the hard work of nursing early in their education may subsequently mitigate some of the surprise of nursing found later in both the academic and practice setting.

Clinical education has long been noted to help bridge theory to practice nursing. Students in this study made multiple references to how the shadowing experience enabled them to see the relevance of their classroom learning. While many studies cite the importance of linking classroom to practice, it is worth considering this perspective in reverse. A number of students commented on becoming aware of the relevance of their learning in the classroom and a few went on to discuss how they would now study differently based on this experience. For
some students who may not have initially grasped the complexity of nursing knowledge required, this experience reinforced the need to have a strong academic foundation of what nursing entails and reinforced the merits of the classroom learning. On the other hand it is noteworthy to discuss what was not reflected upon by the students. While student reflections echoed concepts from the health assessment and pathophysiology pharmacology class, none of the students mentioned the concept of evidence based practice either in their initial perceptions of the role nor in their subsequent reflections after the shadowing experience. First semester sophomore level nursing students at this university were concurrently taking a nursing research class along with the required health assessment and pathophysiology pharmacology class. One might wonder if the students view evidence based practice as an entirely separate and non-integrated concept.

As has been noted, students largely adulated the nurses they followed with many noting the nurse was an excellent exemplar of what nursing is about. This speaks to the concept of shadowing as a vehicle for role modeling. Bandura’s social learning theory holds that behavior is learned from the environment and students will model their personal practice on observed practice (Broussard, McEwen, & Wils, 2007). Good role models allow students to develop an understanding of what it means to be a nurse as well as facilitating learning (Walker, et al., 2014). Having noted the value of good role models, students may not always be aware of the difference between good and bad role models. In this study some students reflected on components of what they had learned without realizing these practices were not congruent with evidence based practices (e.g. the need to know why a patient is on a medication and the side effects of that medication rather than a reliance on the Pyxis machine to automatically dispense the correct medication). Thus, this study has shown what could be considered a danger of shadowing. While every attempt was made to pair the student with professional nurses,
individual practices vary and it is difficult to monitor every component of what the student experiences or sees. This speaks to the importance of feedback as noted in the Reflection, Feedback, and Restructuring Model of Clinical Learning and Role Development. Had students shadowed in the context of a structured clinical experience through which student reflections would be evaluated by faculty and through engagement with faculty, such a misperception could have been formally addressed. In the context of this study, no feedback was provided to the student following this experience as the focus was on examining developing perceptions only.

**Goal setting**

A second question considered in this study was if student experiences would lead to goal development. While four of the 12 students made specific statements related to what they were now going to do in terms of a specific goal, a majority did not. It was anticipated that as students reflected on their experiences, they would begin to recognize knowledge deficits and develop goals towards bridging the theory-practice gap (Hatlevik, 2012). This was based in part on the work of Bulman, Lathean, and Gobbi (2012) who found reflection provided a venue for nursing students to become self-aware and make sense of their practice with the goal of improvement. Of the students who shared their goals, the goals were related to coursework components rather than a larger conception of self-improvement. Nevertheless, the proposed academic goals reflected recognition of their anticipatory learning needs and the relevance of the learning in the clinical setting.

Lastly, it has been reported that one student reflected on whether she wished to continue pursuing nursing. She described a sense of helplessness that permeated the work of the nurse she was following and noted the nurse seemed quite dependent on a physician to provide what she perceived as a needed patient intervention. While the discussion has been on role perceptions
and the notion of providing students an opportunity to develop realistic professional nursing role perceptions, it is equally important to recognize what it means to be a nurse in terms of scope of practice. Takase et al., (2006) found nurses rated their ideal roles higher than their actual roles in the clinical setting. Developing an understanding of the actual nursing role, including limitations of the role earlier in nursing education may result in reductions in attrition in nursing school and in practice after. Thus a shadowing experience earlier in nursing education may help a student decide if nursing is actually the field they desire.

**Recommendations for Future Research**

On the basis of these study findings, the researchers suggest additional research is needed in exploring if the themes identified persist as the student progresses through the nursing program. Further research is also warranted on the use of feedback following an assessment of student perceptions and if the feedback influences or otherwise impacts student professional role development. Additionally, it would be worth examining if perceptions of the nursing role is different for community nursing or a long term care facility and if student perceptions change in a manner similar to what was reported in this study.

**LIMITATIONS**

This study’s generalizability is limited by the small number of conveniently sampled students (n = 12) from one university who shadowed at one acute care setting. By asking students to respond to guided reflective questions on paper, there was no opportunity for the researcher to member check by following up on responses for both validation and clarification. Length of shadowing time may have also been a limitation as a longer experience may have exposed the students to additional scenarios which may have led to enhanced awareness of
knowledge deficits and a goal setting. Lastly, there was a reliance on student’s recall of events they experienced which may or may not have been accurate depictions.

CONCLUSIONS

The aim of this study was to examine if a 16 hour shadowing experience influenced a beginning nursing student’s perceptions of the role of the professional nurse and if a shadowing experience led to the development of personal and academic goals. The findings of this study demonstrated students perceptions of the role of the professional nurse changed from a focus of the nurse as a primary caregiver in a hierarchy doing tasks to manage illness to a broader recognition of the complexity of the role of the professional nurse and what it means to provide care. Additionally, students were able to link practice to classroom learning and some students subsequently developed academic goals to address anticipated learning needs.

These findings support the use of shadowing as an innovative pedagogical strategy for facilitating role development in novice nursing students. Furthermore findings from this study support bridging the theory to practice gap in terms of offering the students an opportunity to experience the authentic role of the professional nurse including interactions with other healthcare members, advocacy, and authentic caring earlier in nursing education which may contribute to students decision to stay or leave nursing.
References:


Currie, K., Bannerman, S., Howatson, V., MacLeod, Mayne, W., Organ, C., Renton, S., & Scott, J. (2015). ‘Stepping in’ or ‘stepping back’: How first year nursing students begin to learn about person-centered care. *Nurse Education Today, 35*, 239-244.


CHAPTER FIVE – CONCLUSIONS AND IMPLICATIONS

Monika S. Schuler

Northeastern University
Shadowing in Early Baccalaureate Nursing Education: Conclusions and Implications for Research and Nursing Education

The nursing profession is viewed by nursing students as a respected and caring profession, offering job security, and an opportunity to help others (Emeghebo, 2012; Mooney, Glacken, & O’Brien, 2008; Miers, Rickaby, & Pollard, 2007; Safadi et al., 2011; Wilkes, Cowin, Johnson, Sci, & Sci; 2014). While career perceptions may be highly individualized, they are a product in part, of images seen in the media, influenced by personal or familial experiences, and input from family and friends (Dante et al., 2014; Mooney, Glacken, & O’Brien, 2008; O’Brien, Mooney, & Glacken, 2008). Nevertheless many students come into nursing with idealistic and unrealistic perceptions of nursing as one involving minimal academic study and being more vocational in design (Grangier & Bolan, 2008; O’Donnell, 2011). These unrealistic perceptions of the nursing role have been associated with attrition in nursing programs (Wilson, Chur-Hansen, Marshall, & Air, 2011) and higher turnover rates for practicing nurses (O’Brien-Palles, Murphy, Shamian, Li, & Hayes, 2010). While nursing is considered a practice discipline, many students are not given the opportunity to engage in authentic interactions with patients and other healthcare providers in the clinical setting until approximately halfway through their nursing programs (Benner, Sutphen, Leonard, & Day, 2010; Billings & Halstead, 2009). Clinical experiences is a recognized method for providing students an opportunity to develop essential nursing skills, link theory with practice, and prepares the student for the professional role of the nurse (Benner et al., 2010; Pollard, Ellis, Stringer, & Cockayne, 2007). This study examined the impact of a 16 hour shadow the nurse (STN) job-shadowing experience on the professional role perspectives of novice baccalaureate nursing students. The study also examined if participating in a STN experience lead to personal and academic goal development.
An Integrated Model

The first component of the study involved examining theoretical frameworks to understand the process of learning and role development by nursing students in the clinical setting. With a constructivist belief in learning as a developmental process involving assimilation, accommodation, and construction (Broussard, McEwen, & Wills, 2007), constructivist theoretical frameworks and learning theories were examined. While Mezirow’s (1978) Transformative Learning theory provided a foundation in understanding perspective transformation through a process of critical reflection, of concern was the concept that transformation is an end product rather than a process itself. Tanner’s (2006) Clinical Judgment model described how clinical judgment is obtained through reflection on and in action. However, her model did not account for the multiple processes within the reflective practice that led to learning. Furthermore, both Mezirow and Tanner’s model appeared to imply that learning is a solitary endeavor and did not account for the reported value of feedback in learning (Austria, Baraki, & Doig, 2013; Clynes & Rafery, 2008; Giles, Gilbert, & McNeil; Plakht, Shiyovich, Nusbaum, & Raizer, 2013). An additional influence on this author’s thinking was Benner’s et al., (2010) landmark work on Educating Nurses. Benner et al., (2010) reasoned that nursing is more than knowing how to do a task. It also encompasses formative learning where the individual becomes capable of functioning in role beyond simply knowing how to do something; learning requires understanding.

As no one theory or framework appeared to comprehensively explain the components of learning, perspective transformation, and role development in nursing, an integrated model was developed. The Reflection, Feedback, and Restructuring Model of Clinical Learning and Role Development integrated components of Mezirow’s (1978) transformative learning theory and
Tanner’s (2006) clinical judgment model to describe the process of learning and role development in the clinical setting. The four-step linear model begins with a new experience or unexpected event that triggers a nearly immediate perspective change. The individual then begins a two-step reflective process that includes an attempt at interpreting the event and responding to the event in the form of goal development based on perceived deficits in knowledge, skills, and/or attitudes. The individual receives feedback on the goals and begins the process of restructuring that includes skill acquisition and habit changing. Components of the Reflection, Feedback, and Restructuring Model of Clinical Learning and Role Development were then used as framework for the development of guided reflective questions to assess changing role perceptions following a new experience in the clinical setting.

**Integrative Review**

The next component of the study involved completing an integrative literature review on shadowing and its use in nursing and nursing education. The integrative review, based on the methodological approaches proposed by Whittemore and Knaffl (2005) and Havill et al., (2014) focused on examining what work has been published on the phenomenon of shadowing in nursing. The questions guiding this review were as follows: 1. for what purpose has shadowing been utilized, 2. how does shadowing influence a nursing student’s perceptions of professional nursing, and 3. what is the length of time associated with shadowing?

A total of 16 articles met the inclusion criteria and were analyzed for authenticity, relevance to the research questions, informational value, and representatives (Whittemore & Knaffl, 2005) of the shadowing phenomenon in nursing. Four themes emerged from the literature: use of shadowing to stimulate career interest, interprofessional communication and relationships, role development, and variability in shadowing. Time of shadowing ranged from a
low of four hours to a high of 15 days with an average length of time of eight hours. There was great variability in the use of shadowing in terms of who was shadowed (nurse, nurse educator, or other health care provider), type of facility the shadowing took place, and who did the showing (high school students, nursing students, or nursing professionals). The results of the integrative review validated the need for additional research in the phenomenon of shadowing in nursing education.

**Research Project**

The aim of the study reported in this dissertation was to examine if a shadow the nurse experience (STN) for novice baccalaureate nursing students led to a transformation in professional nursing role perceptions and goal development. Previous research had shown that nursing students experienced role discrepancy between their ideal views of nursing obtained while in school and the realities of practice (Chappy, Jambunathan, & Marnocha, 2010). Additionally, clinical experiences were found to be an integral educational strategy for learning the art and science of nursing (Ard, Rogers, Vinten, 2008; Benner, et al., 2010; Berntsen & Bjork, 2010; Pollard, Ellis, Stringer, & Cockayne 2007) while preparing the student for the professional role in performance and decreasing role discrepancy (Kuiper, Murdock, & Grant 2010). Nevertheless, the use of shadowing as an educational strategy to foster role development had not been examined in the nursing literature.

Using an qualitative interpretative phenomenological design, 12 sophomore level nursing students shadowed a professional nurse for 16 hours then responded to guided reflective questions based on the aforementioned Reflection, Feedback, and Restructuring Model of Clinical Learning and Role Development. An analysis and synthesis of written responses revealed a perspective change from a focus of the nurse as a primary caregiver in a hierarchal
healthcare organizational structure to that of a broader perspective recognizing the complexity of nursing and what it means to care. Additionally, students linked practice to classroom learning and developed academic goals to address anticipated learning needs.

**Limitations**

This study had several limitations. Generalizability is limited by the small number of conveniently sampled students (n = 12) from one university who shadowed at one acute care setting. By asking students to respond to guided reflective questions on paper, there was no opportunity for the researcher to member check by following up on responses for both validation and clarification. Length of shadowing time may have also been a limitation as a longer experience may have exposed the students to additional scenarios which may have led to enhanced awareness of knowledge deficits and a goal setting. Lastly, there was a reliance on student’s recall of events they experienced which may or may not have been accurate depictions.

**Implications**

Results of this research support the idea of introducing students to the role of professional nurse early in their nursing education via a STN experience and may be considered as an innovative educational pedagogy for facilitating accurate role perceptions and development in novice nursing students. With inaccurate role perceptions impacting attrition rates in nursing programs (Kaufman, 2006; O’Donnell, 2011), providing students an opportunity to observe the role of the professional nurse in a clinical setting may mitigate some of this discrepancy. Moreover, with the increasing costs of post-secondary school education (United States Department of Education [UDE], 2013), and recent reports by the Health Resources and Services Administration [HRSA] (2014) which stated that the supply of Registered Nurses (RN) will exceed demand, students choosing nursing as a course of study should be availed of an
opportunity to experience for themselves what the profession demands. In the current study, it was reported that one student questioned if she wanted to be a nurse after observing the role of the professional nurse.

**Recommendations for Future Research**

The results and limitations identified in this research study provide the foundation for additional work on shadowing as an educational strategy for facilitating role development in novice nursing students. To begin with, the study was completed in an acute health care setting. However, while hospitals remain the most common employment setting for registered nurses in the United States with 62.2% employment, the U.S. Department of Health and Human Services (2010) reported 30% of nurses now work outside the hospital setting in the community. Bovbjerg, Ormond, and Pindus, (2009) reported the proportion of nurses working in a hospital setting fell from 68.2% to 57.4% in just 20 years (between 1984 – 2004). It would be worth examining if perceptions of the nursing role is different for community nursing or a long term care facility and if student perceptions change in a manner similar to what was reported in this study.

The results of this study also brings to light a number of questions related to what we teach and how we teach. It was noted that students participating in this study were simultaneously enrolled in a holistic and wellness class whose focus was on health promotion. Even so, students did not appear to absorb these concepts which was dissimilar to what was reported by Safadi et al., (2011). Safedi et al., (2011) found second year students had begun to perceive that promoting and maintaining health were in the realm of nursing. It was also noted that students were simultaneously enrolled in a nursing research class that exposed them to the importance of evidence based research to guide nursing practice. However none of the students
in this study mentioned evidence based nursing in their written responses either before or after the shadowing. What is not known is if sophomore level nursing students are not yet at a point where they can embrace and understand this important nursing topic. Thus there is a need for research on pedagogical strategies to best assist students to embrace these topics and a determination of at what level these concepts should be taught (e.g., at the sophomore, junior, or senior level).

Lastly, the integrative literature review found the average length of time for shadowing was eight hours with a range of four hours (Lohri-Posey, 2005) to 15 days (Eades et al., 2005). In this study, students completed a total of 16 hours of shadowing over two days. In the medical literature, shadowing experiences were reported between one and four “Friday nights” (Stroh et al., 2013, p. 968) or as little as a half day for health and social care students (Wright et al., 2012). In this study, the value of two full days of shadowing was evident in student reflections. Notably students commented that two days of shadowing allowed for the opportunity to see a variety of patient care scenarios, become familiar with the unit, and develop a level of comfort with the staff that allowed for more poignant interactions. Students had commented that the first day was a “lot to take in.” The results of this study, in terms of number of hours of shadowing, has demonstrated 16 hours provides sufficient time to support a changed perspective however, it is not yet known if a change in perspectives would have occurred with a shorter experience. Accordingly, further research is warranted on the length of shadowing to facilitate role perceptions.
References


APPENDICIES

Monika S. Schuler

Northeastern University
APPENDIX A
Student Demographic Data Form

1. Age: _____
2. Gender: _____
3. Race/Ethnicity: _____
4. Marital status: _____
5. Previous college degree? _______ If yes, in what? ___________________
6. Do you have any experience in reflective journaling?
   _____ Yes
   If yes, can you please describe? ____________________________
   _____ No
7. Do you currently keep a personal diary?
   _____ Yes
   _____ No
8. Have you or any member of your close family recently (within the last year) had an experience with a nurse?
   _____ Yes
   If yes, can you please describe? ______________________________
   _____ No
9. Are there any nurses in your family?
   _____ Yes
   If yes, what is their relationship to you? ______________________
   _____ No
10. Why do you want to become a nurse? ___________________________
APPENDIX B
Guided Reflective Questionnaire

Directions: Please answer the following questions with a minimum of five sentences in each paragraph.

Pre Shadow the Nurse Experience Question
1. Describe your current understanding of the role (responsibilities and functions) of the nurse in a clinical setting?

After the Shadowing the Nurse Experience
1. Describe your day; what happened, what did you see, what did you do?
2. Through the course of your shadow experience, did you come to see the nurse’s role in patient care in a different way? If so, please provide a specific example that describes what was different for you.
3. Reflect on a particular nursing action you observed today, what did it mean for you?
4. Compared to what you expected, how do you believe the nurse could have done things differently?
5. How did your experience impact or influence your studies going forward if at all?
6. How did this experience influence your perceptions of the nursing role in the clinical setting?
7. Is there anything else you would like to discuss or add about this experience?
APPENDIX C
University of Massachusetts IRB Approval

OFFICE OF INSTITUTIONAL COMPLIANCE

NOTICE OF REVIEW DECISION

TO: Professor Marilyn Asselin, PhD., & Monika Schuler (Student)
FROM: Andrew Karberg, Director of Institutional Compliance
RE: New Study Approval – Exempt category 2—“Use of a Shadow the Nurse Intervention in Early Baccalaureate Nursing Education and its Influence on Professional Role Perspectives”

IRB # 14.047
DATE: September 19, 2014
FWA: 00000180

In accordance with Federal Regulations for review of research protocols, the Office of Institutional Compliance has reviewed the exempt status assessment of the above referenced protocol and found that it meets exempt approval under the category designated below for the following period: September 19, 2014 – September 18, 2015.

Unless otherwise required by Department or Agency heads, exempt research must fall within one of the following categories:

1. Research conducted in established or commonly accepted educational settings, involving normal educational practices, such as:
   (i) research on regular and special education instructional strategies, or
   (ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.
   (iii). The research is not FDA-regulated

2. Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless:
   (i.) Information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and
   (ii.) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subject's financial standing, employability, or reputation; or
   (iii.) The research involves surveys, interviews, or observation of children (where the investigator does not participate in the activities being observed);
(iv.) The research is not FDA-regulated

3. Research involving the use of educational tests, survey or interview procedures, or observing public behavior that is not exempt under number 2 above, if the subjects are public officials or candidates for public office or a federal statute requires that the confidentiality of personally identifiable information will be maintained throughout the research and thereafter. The research is not FDA-regulated

4. Research involving the collection or study of existing data, documents, records, pathological or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, either directly or through identifiers linked to the subjects. To qualify for exemption, the data, documents, records or specimens must be in existence before the project begins. The research is not FDA-regulated

5. Research and demonstration projects which are conducted by or subject to the approval of department or agency heads, and which are designed to study, evaluate; or otherwise examine:
   i. Public benefit or service programs;
   ii. Procedures for obtaining benefits or services under those programs;
   iii. Possible changes in or alternatives to those programs or procedures; or
   iv. Possible changes in methods or levels of payment for benefits or services under those programs.
   v. The program under study must deliver a public benefit (e.g., financial or medical benefits as provided under the Social Security Act or service (e.g., social, supportive, or nutrition services as provided under the Older Americans Act).
   vi. The research or demonstration project must be conducted pursuant to specific federal statutory authority;
   vii. There must be no statutory requirement that an IRB review the project;
   viii. The project must not involve significant physical invasions or intrusions upon the privacy of participants;
   ix. The funding agency must authorize or concur with this exemption.
   x. The research is not FDA-regulated

6. Taste and food quality evaluation and consumer acceptance studies, (i) if wholesome foods without additives are consumed or (ii) if a food is consumed that contains a food ingredient at or below the level and for a use found to be safe, or agricultural chemical or environmental contaminant at or below the level found to be safe, by the Food and Drug Administration or approved by the Environmental Protection Agency or the Food Safety and Inspection Service of the U.S. Department of Agriculture.
Please use the attached approved consent forms.

Waiver of Documentation of Consent

Waiver of Informed Consent

RESPONSIBILITIES OF PRINCIPAL INVESTIGATOR FOR ONGOING PROTOCOLS:

1. Report immediately to the OIC any unanticipated problems.

2. Proposed changes in approved research during the period for which OIC approval cannot be initiated without OIC review and approval, except when necessary to eliminate apparent immediate hazards to participant. Changes in approved research initiated without OIC review and approval to eliminate apparent immediate hazards to the participant must be promptly reported to the OIC, and reviewed under the unanticipated problems policy to determine whether the change was consistent with ensuring the participants continued welfare.

3. Report any significant findings that become known in the course of the research that might affect the willingness of subjects to continue to take part.

4. If relevant to your study, please use only a currently approved consent form (remember approval periods are for 12 months or less).

5. Protect the privacy and confidentiality of all persons and personally identifiable data, and train your staff and collaborators on policies and procedures for ensuring the privacy and confidentiality of participants and information.

6. Submit for review and approval by the OIC all modifications to the protocol or consent form(s) prior to the implementation of the change.

7. Please note that this office will NOT send out a reminder prior to the end of your approval period (typically at the end of the 12 months). At that time we will ask you to give us an update on whether the study is still in progress and/or has had any changes that need to be reviewed for approval.

8. Notify the OIC when the study has been completed and complete the Final Report Form.

9. Please help us help you by including the above protocol number on all future correspondence relating to this protocol.
Thank you for your help in this matter.

Sincerely,

Andrew Karberg, MA, JD
Director, Office of Institutional Compliance
Signed Informed Consent Document

Northeastern University, Bouve College of Health Science

Name of Investigator(s): Dr. Susan Jo Roberts and Monika S. Schuler

Title of Project: Use of a Shadow the Nurse Intervention in Early Baccalaureate Nursing Education and Its Influence on Professional Role Perspectives.

Informed Consent to Participate in a Research Study

We are inviting you to take part in a research study. This form will tell you about the study, but the researcher will explain it to you first. You may ask this person any questions that you have. When you are ready to make a decision, you may tell the researcher if you want to participate or not. You do not have to participate if you do not want to. If you decide to participate, the researcher will ask you to sign this statement and will give you a copy to keep.

Why am I being asked to take part in this research study?

We are asking you to be in this study because you are a sophomore level nursing student who has no previous clinical experience in a hospital setting.

Why is this research study being done?

The purpose of this study is to examine what influence a shadow the nurse experience has on sophomore level nursing student’s perceptions about nursing. Additionally the study will explore if a shadowing experience leads to goal development.

What will I be asked to do?

If you decide to take part in this study, you will be asked to shadow a nurse in a local hospital for 16 hours over the course of two eight hour shifts. You will be asked to respond in paragraph form to a one question before the experience about your perception of the role of the professional nurse and up to seven additional questions after the experience. The questions will ask about your experience and your thoughts related to the experience.

Where will this take place and how much of my time will it take?

The shadowing experience will take place at St. Luke’s hospital on a medical surgical unit. The writing will take place in an area that is comfortable for you (your dorm, library, or home). It will take about 1 hour to complete this process including getting basic information about you (age, race, marital status), then no more than one hour to answer the first question, followed by 16 hours of the shadowing experience, and finally up to 5 hours to respond to the reflective questions. Total time commitment may be up to 23 hours.
Will there be any risk or discomfort to me? There are no known physical risks associated with participating in this study. There is the risk that you may decide not to pursue nursing after this experience. If that is the case, you will be directed to speak with your academic advisor.

Will I benefit by being in this research?
There will be no direct benefit to you for taking part in the study. However, potential benefits of the study are that you will develop a new perspective of the role of the professional nurse. Additionally, you may find this experience helps bridging the theory to practice gap by connecting what is learned in the classroom with what is relevant in clinical practice.

Who will see the information about me?
You will not be specifically identified. Your part in this study will be handled in a confidential manner. Only the researchers will know that you participated in this study. Any reports or publications based on this research will use only group data and will not identify you, your school, or any individual as being of this project.

Can I stop my participation in this study?
Your participation in this research is completely voluntary. You do not have to participate if you do not want to and you can refuse to answer any question. Even if you begin the study, you may quit at any time.

Who can I contact if I have questions or problems?
If you have any questions about this study, please feel free to contact Monika Schuler at schuler.mo@husky.neu.edu or at 774-263-0918. You can also contact Dr. Sue Roberts at s.roberts@neu.edu or at 617-373-3130, the Principal Investigator.

Who can I contact about my rights as a participant?
If you have any questions about your rights in this research, you may contact Nan C. Regina, Director, Human Subject Research Protection, 960 Renaissance Park, Northeastern University, Boston, MA 02115. Tel: 617.373.4588, Email: n.regina@neu.edu or Mr. Andrew Karberg, Director of Institutional Ethics & Compliance, 151 Martine St. Suite 217F, Fall River, MA 02723, University of Massachusetts Dartmouth. Tel: 508.910.9880, Email: akarberg@umassd.edu. You may call anonymously if you wish.

Will I be paid for my participation?
You will not be paid to participate however you will receive a $50 VISA gift card upon completion of the study as an honorarium.
Will it cost me anything to participate? There is no cost to you for participating.

☐ I agree to take part in this research.

☐ I do not wish to take part in this research.

_________________________________________ Date

Signature of person agreeing to take part

_________________________________________ Date

Printed name of person above

_________________________________________

Signature of person who explained the study to the participant above and obtained consent

_________________________________________

Printed name of person above
APPENDIX E

Email Announcement Seeing Volunteers

A PhD student is seeking approximately eight volunteers to participate in a study about student perceptions of the role of the professional nurse.

If you decide to participate you will be asked to shadow a nurse at a local hospital for total of 16 hours and respond to seven guided reflective questions during the course of this semester.

If you decide to participate you will complete this study on your own time, outside of regularly scheduled classes and participation will not count towards your grades or your standing at ______ University.

The researcher is looking for sophomore level nursing students who have no previous clinical experience and have met the university’s criteria for clinical eligibility (CPR card and immunizations up to date).

Total time commitment including the shadowing and writing will be about 23 hours.

You will be compensated with a $50 VISA gift card upon completion.

If you are interested please email Monika Schuler at mschuler@umassd.edu or Schuler.mo@husky.neu.edu or text her at 774-263-0198.
APPENDIX F

Email to Nursing Staff Seeking Volunteers

October 2014

Hello,

My name is Monika Schuler, I am a PhD candidate at Northeastern University and a full time lecturer at the University of Massachusetts Dartmouth. I am working on project to examine sophomore level nursing students’ perspectives on the role of the professional nurse. Specifically the literature has shown that nursing students experience great discrepancy between their ideal views of nursing obtained while in school and the realities of practice. While a number of studies have examined clinical education strategies such as preceptorships near the end of formal nursing education, no studies have examined professional role preparation for the beginning nursing student. Additionally, students in the clinical setting are typically responsible for one or perhaps two patients and do not see the full spectrum of the wonderful and complicated work that you do.

What I would like to do as part of my dissertation project is have a sophomore level nursing student with no previous clinical experience shadow you for two eight hour shifts (day or evening). I am asking for two shifts because I anticipate the first day will be just getting used to what’s where and who’s who. The second day will give the student an opportunity to really think about and absorb all that you do. The student would observe you as take care of your patients including interactions with their families and other health care providers. They will not be allowed to complete med passes or perform any procedures including patient assessments.

Before they shadow you, I will be asking the student volunteers their written perspectives on professional nursing and then again afterwards to see if they have a different view of nursing. Each student will have completed the Southcoast observation packet, be up to date on immunizations and flu shots, and have signed the confidentiality agreement. Their subsequent write up will include their reflection on nursing and you will not be specifically identified in anyway. I thank you in advance for your help in this research project. If you have any questions, comments, or concerns I can be reached at 774-263-0918 or mschuler@umassd.edu.

Respectfully,

Monika S. Schuler, PhD(c), MSN, RN, CNE
APPENDIX G
Acute Care Facility Observation Agreement and Waiver

OBSERVATION AGREEMENT AND WAIVER

This Observation Agreement and Waiver (hereinafter “Agreement”) is between ______________________ (hereinafter “Student”) and Southcoast Hospitals Group, Inc. (hereinafter “Hospital”) in the course of actually performing health care procedures and providing health care services. As a condition of participation, Student and Hospital agree to the following terms and conditions.

The purpose of this Agreement is to set forth the parties’ understanding concerning an educational experience that will involve Hospital granting Student access to the Hospital’s facilities and permission to observe health care personnel performing various clinical and other professional duties. This Agreement does not contemplate the payment of a fee or remuneration by either party to the other, but rather, is intended to jointly benefit both parties by improving educational training and understanding of the Student.

1. Student will be allowed to observe patient care only under the supervision of Hospital staff. Student understands that Hospital’s patients reserve the right to refuse participation in the observation experience by the Student.

2. Student understands that he/she must be accompanied by the supervising Hospital staff at all times during the observation experience. Student shall not have independent access to patients or to patient records (electronic or hard-copy). Student agrees to respond promptly to all directions given to Student by supervising Hospital staff, including any requests to leave any area, including the procedure room, immediately.

3. Student understands that he or she shall not provide medical or nursing care to patients which includes but not limited to performing the following functions: Take a medical history, perform physical examination, diagnose and treat a patient’s condition, prescribe and administer drugs, write notes or orders in patient’s chart, perform and assist in a procedure, bill for services rendered.

4. Student does not have a medical condition that Student has not disclosed to Hospital employees which may cause injury or illness to Student, to Hospital employees, or to the patients that the Student will be observing, Student agrees to inform Hospital employees if he/she develops any such condition or disease during the course of Student’s participation in the observation program, including, but not limited to: runny nose, fever, rash, etc. Student also agrees to refrain from patient care observation at any time the Student has developed any such condition or disease.

5. Student agrees to abide by all Hospital policies and procedures at all times while at the Hospital observing procedures or observing the rendering of health care services and undergo any required training regarding universal precautions and infection control; body mechanics; fire/disaster safety; HIPAA and any other training required by the Hospital. Student shall not disclose or discuss patient identifiable information with any persons except in accordance with applicable law, Hospital policies and with the approval of the other healthcare provider involved in the patient’s care as needed to facilitate the observation experience.

6. Student agrees to sign a confidentiality agreement and to maintain the confidentiality of any patient information Student may have access to or learns while the Student is present in the Hospital.

7. Student agrees he or she is not an employee of the Hospital and that he or she will not be entitled to any of the benefits of employment at the Hospital.

8. Student assumes all costs incurred, including meals, parking, etc., during the observation experience.
9. Student is expected to dress business casual and not permitted to wear open-toed shoes, tank/tube tops, t-shirts, jeans, cutoffs, shorts, sweats, heavy perfume, dangling or inappropriate jewelry. Students with such attire should be sent home.

10. Student will not be permitted to carry any personal electronic device capable of video, photography, or communication. All such devices should be left at home or inside the Student’s vehicle.

11. Student certifies that he or she is not and at no time has been excluded from participation in any federally funded health care program, including Medicare and Medicaid and further agrees to immediately notify the Hospital of any threatened, proposed, or actual exclusion.

12. Student understands that there is a risk of transmission of disease from a patient to the Student and that such transmission can occur without any fault or negligence on the part of the Hospital or its employees. Student has health insurance that will provide benefits in the event that the Student contracts or develops a medical condition or disease during these observations.

13. Student agrees, while participating in the observation experience, to follow the Hospital’s influenza vaccination policy, including providing documentation, including name and provider signature, that the student has been immunized against the flu during the current influenza season or mandate the student to wear a surgical mask while on the Hospital’s premises while within six (6) feet of another individual.

14. Student agrees to indemnify and hold harmless the Hospital, its affiliates, trustees, officers, employees and agents from any responsibility or liability for personal injury, including death, and damage to or loss of property that the Student may incur as a result of Student’s presence in the Hospital.

15. If Student is a minor, Student shall have obtained parental/guardian consent required for participation in the observation experience, as well as for any medical examinations, immunizations, and screenings conducted pursuant to this Agreement. Student shall provide copies of such consents to the Hospital prior to the beginning of the observation experience.

16. Student acknowledges that he or she, while participating in the observation experience, may witness procedures that to some would be considered grotesque. These procedures may include but are not limited to naked bodies, bodily dismemberment, bodily fluids, obscenities spoken by patients, pain and suffering of a patient and/or death of a patient. Student may withdraw from the observation experience at any time if he or she believes they may not be able to handle observing procedures of this nature.

17. Student or the Hospital may terminate this Agreement at any time and for any reason prior to the scheduled conclusion of the observation experience by providing written or oral notice to the other party. Student acknowledges that there are no grievance, appeal or other due process procedures available to challenge the termination of an observation experience or Observation Agreement and Waiver.

18. Student understands that failure to comply with the terms and conditions of this Agreement will cause the immediate termination of any right or expectation that the Student may have to observe procedures or the rendering of health care services pursuant to this Agreement.

By signing below, the parties acknowledge that they have read this Observation Agreement and Waiver, that they understand its terms, and that they agree to abide by it.
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<th><strong>SOUTHCOST HOSPITALS GROUP, INC.</strong></th>
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**PARENT OR GUARDIAN IF STUDENT IS A MINOR**

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SOUTHCOAST HEALTH SYSTEM
CONFIDENTIALITY AGREEMENT

In order to carry out my duties and responsibilities at the Southcoast Health System, as an employee or business partner, I may, during the normal course of business, have access to Patient Health Information pertaining to patients seen and treated within this system, confidential information concerning other employees and other hospital/system information that may be confidential in nature. This information may be contained in places such as the patient’s medical record, the hospital/system-wide computerized information system, employee personnel files, or other system information. No confidential information will be released without the written, informed consent of the appropriate party, nor will it be accessed without following approved policies and procedures. (Administrative Policies: SHG-AC 105 Confidentiality; SHG-AP 115 Patient Information Access Policy)

I hereby agree that I will hold this information confidential and will not, either directly or indirectly, disclose this confidential information to a third party or use it for my own purposes. I understand that failure to uphold confidentiality or violation of the Patient Information Access policy (SHG-AP 115) concerning Access to Patient Health information may result in disciplinary action up to and including the immediate termination of my employment or the revocation of practice/affiliation privileges. In addition, I understand that violation of the associated Federal Privacy Regulations (HIPAA) may result in monetary and/or other sanctions against me by the Federal Government.

Southcoast Health System requires that all Southcoast personnel, physicians, physician office staff and all others receiving access to electronic Patient Health Information must sign the following agreement:

1) I will not discuss patient, employee, or system information outside the appropriate setting.
2) I will not release unauthorized information to any source.
3) I will not make copies of confidential records or data except as specifically authorized.
4) I will not access or attempt to access information other than that information to which I have authorized access and a need to know in order to complete my job on any given day. I understand that if my job requires me to gain access from several different physical locations, I will attempt only to gain access to that information which will allow me to carry out my job responsibilities at that particular location.
5) I will not attempt to access my own medical record without following the procedure for doing so.
6) I understand my user identification, security code and my password to the hospital information system is the legal equivalent of my signature. I will not disclose them to anyone.
7) I will not use another person’s identification, security code or password.
8) I will not write down passwords, identification or security codes in a manner that would make them accessible to other individuals.
9) If I have reason to believe my identification, security code or password has become known to someone else or has been lost or stolen, I will notify MIS immediately.
10) I will report breaches of this Confidentiality Agreement by others to the Director of Human Resources/appropriate department administrator. I understand that failure to report breaches is an ethical violation and subjects me to disciplinary action.

I have read the conditions of this Confidentiality Agreement. I agree to protect patient health information and other system information. I also acknowledge that any violation of the above conditions will result in disciplinary action, up to and including termination, as set forth in Human Resources Administration Policies and Procedures – Disciplinary Action, the collective bargaining agreement, in the Medical Staff Bylaws and Rules and Regulations, or as addressed in the Federal Privacy Regulations (HIPAA).

_________________________________________   _______ ____________________________________
Signature  Print Name

_________________________________________ _________ __________________________________
Department /Physician Office/or Employer                      Date
APPENDIX I

Psychometric testing of Guided Reflective Questionnaire

While the value of guided reflective questions in student learning has been reported there are currently no standardized guided reflective questions to assess student perceptions of the role of the professional nurse or transformative learning. A guided reflective questionnaire (GRQ) was developed to assess if a transformation in thinking about the role of professional nurse has occurred following a STN experience. The GRQ is based on the components of the integrated conceptual framework to first assess student perceptions of the role of professional nurse and then the key stages in the conceptual framework: experiencing, noticing, critical analysis, and then responding ultimately to determine if a transformation in perspectives has occurred following a STN experience. The GRQ is meant to serve as a tool for inviting reflection on particular components of a student’s experience.

*GRQ Development and Psychometric Testing*

Validity is the extent to which an instrument or tool measures the attributes of the construct under study (Polit and Beck, 2012b). Content validity is an early step in the instrument validation process (Polit, Beck, and Owen, 2007). According to Polit and Beck (2006) content validity “concerns the degree to which a sample of items, taken together, constitute an adequate operational definition of a construct” (p. 490). A widely used measure of content validity is the content validity index (CVI) (Polit and Beck 2006; Polit and Beck, 2012b; Waltz et al., 2010b). The value of the CVI is that it measures quantitatively the extent to which there is a “consensus about the relevance of the items to the target construct” (Polit, et al., 2007, p. 464).

There are two types of CVI’s, one for individual items in a tool (I-CVI) and the other for the overall tool (S-CVI) often referred to as scale CVI (Polit and Beck, 2102). The item CVI is
determined by the proportion of expert judges who rate the individual item in the overall tool as being relevant. It is calculated by adding the number of experts who gave an item a rating of either relevant or very relevant (3 or 4) and dividing that number by the total number of experts (Lynn, 1986; Polit, et al., 2007). Lynn (1986) developed benchmarks for acceptable I-CVI’s depending upon the number of expert judges utilized with a 95% confidence interval. For example, the benchmark with a panel of six experts for determining if an item is content valid is 0.83 while the benchmark is increases to 0.86 if utilizing a panel of seven experts (Lynn, 1986). Polit, et al., (2007) recommend a lower benchmark of 0.78 for the I-CVI so long as at least three experts are used but do not recommend a change in the benchmark if more are used. This recommendation is based on the author’s research translating I-CVI into values of a modified kappa statistic. While Waltz, et al., (2010) recommended the use of an alpha coefficient, Polit, et al., (2007) argue against its use in part because of the limited information the alpha coefficient provides for evaluating individual items and because a high alpha value can be obtained even in situations when agreement about content validity is low. Instead the authors propose use of a modified kappa statistic, an index of agreement among the judges that an item is relevant.

To determine if a tool as a whole is content valid, Polit, et al., (2007) recommend averaging the I-CVI’s to obtain the scale CVI (S-CVI) as this method places the “focus on the average item quality rather than on the average performance of the experts” (Polit and Beck, 2006 p. 493). The authors propose a goal of 0.90 agreement as a standard (Polit and Beck, 2006; Polit, et al., 2007). This figure is consistent with what is suggested by Waltz, et al., (2010)

Lynn (1986) noted the number of experts needed for a content validity determination may vary but recommended a minimum of five experts to control for chance agreement. Polit and Beck (2007) recommend a larger panel of 8 to 10 experts for the initial content validation effort
and as few as three to five for the second round. For this process, a panel of 10 nurse experts were chosen to review the first iteration of the GRQ. Experts were selected based on at least two of the following criteria: having experience teaching at the baccalaureate level, experience in tool development, and/or experience as a qualitative research. Each expert was given a three page information packet that included research questions, background, conceptual framework, and goals of the project. The experts were given a specific set of instructions to address appropriateness and clarity of the questions in terms of construct and if the questions individually and together measured the dimensions of the integrated conceptual model. Each expert was asked to rate the individual GRQ’s on a four point ordinal scale ranging from 1 indicating not relevant up to 4 indicating very relevant. Each expert was also afforded an opportunity to provide additional commentary on each of the items on the GRQ.

Of the seven experts (70% response rate) who returned the first set of GRQ, some did not fully complete the survey stating in the commentary section that they thought some of the individual questions on the GRQ were “too confusing” or that a question was “not understandable as written”. Items not rated or left blank were considered a 1 indicating not relevant. With seven experts, the proportion of experts whose approval is required to establish content validity beyond the 0.5 level of significance is 0.86 or six out of the seven (Lynn, 1986). Following analysis of the CVI and feedback in the commentary section of the survey, the GRQ was modified and one question was omitted entirely as a majority of the nurse experts reported the question was “redundant”. The modified GRQ was then sent to a new panel of nine nurse experts of which six returned the GRQ survey (67% response rate). In this round there were no blanks and all of the items in the GRQ were rated. With six experts, the proportion of experts whose approval is required to establish content validity beyond the 0.05 level of significance is
0.83 or five out of the six (Lynn, 1986). Data from both surveys were entered into an Excel spread sheet and the four ordinal responses were then collapsed into two dichotomous categories of either relevant or not relevant. The item CVI was then calculated by the proportion of experts who rated the GRQ as relevant (a 3 or 4) or not relevant (a 1 or 2). The scale CVI was calculated by averaging all the individual I-CVI’s.

Modification of some of the questions in the GRQ after the initial analysis improved the I-CVI in all but one of the questions. The question item inviting discussion on goal setting was the only question whose I-CVI went from acceptable to unacceptable (average I-CVI before 0.86; after modification the I-CVI decreased to 0.67). One might wonder why the question was modified if it began with an acceptable I-CVI rating. All the questions underwent some modification based not only on the I-CVI rating but on the written feedback in the comment section from the nurse experts judging the questions. Polit, et al., (2007) recommended modifying questions with I-CVI’s below 0.78 and eliminating questions with very low I-CVI’s.

The use of the Lynn (1986) benchmarks compared to those recommended by Polit, et al., (2007) made a difference in the interpretation of the I-CVI results. Specifically, using Lynn’s (1986) benchmark of 0.83 agreement three out of the six items in the modified GRQ would need some revision. Using Polit, et al’s., (2007) benchmark of 0.78 agreement, only one item in the revised GRQ would need some revision. The only question not meeting Polit, et al., benchmark is the item inviting discussion on goal setting. It is worth noting this particular item had an acceptable I-CVI of 0.86 before revision so perhaps the best strategy is to utilize the original item in the revised GRQ.

With an overall S-CVI of 0.78 for the revised version (compared to 0.76 for the first version) the GRQ was in need of additional modifications as the scores were below the
recommended benchmark of 0.90. While Lynn (1986) and Polit, et al., (2007) did not agree on
the number of content experts that should be utilized, it is worth noting the potential impact of
one judge’s low or non-relevancy rating. In the second iteration of the GRQ five out of six
expert judges consistently rated the questions as relevant. In a review of the second set of data;
one judge consistently (six out of six questions) rated the questions as a 1 or 2 (low to no
relevancy). Had this one judge rated the items in the GRQ as relevant the overall S-CVI would
jump from 0.78 to an exceptional 0.94 and would have established the overall GRQ as valid.
This calls into question the inter-rater reliability. Beckstead (2009) addresses this issue to some
extent and calls out the method of collapsing the 1 to 4 rating scale into a dichotomous schema
arguing considerable data is lost and agreement can be inflated. That is not the case in the
aforementioned review of the results. A review of the individual, non-dichotomized data from
the revised GRQ revealed 60.2% of the experts rated the items a 4, 17.6% rated the items a 3;
17.6% as a 2; and 4.6% as a 1. These results are consistent with the overall S-CVI. Of greater
concern is the number of experts. Having a smaller sample size of experts inflates the influence
individual panel experts have on the validity of the tool. Nevertheless, total consensus becomes
increasingly difficult as the number of experts increases. Polit, et al., (2007) determined if there
are six experts (as was the case in the second rendition of the tool) the probability that there will
be at least one disagreement is 0.968. With seven experts that probability increases to 0.984.

Based on the results of the psychometric testing of the GRQ the following questions were
proposed:

Pre Shadow the Nurse Experience

Question Aim: Assessing role perceptions

- Describe your current understanding of the role (responsibilities and functions) of the
  nurse in a clinical setting?
After the Shadowing the Nurse Experience

*Question Aim: Invite discussion on disorienting dilemma → noticing*

- Through the course of your shadow experience, did you come to see the nurse’s role in patient care in a different way? If so, please provide a specific example that describes what was different for you.

*Question Aim: Invite discussion on critical reflection → interpreting*

- Reflect on a particular nursing action you observed today, what did it mean for you?

*Question Aim: Invite discussion on rational dialogue → responding*

- Compared to what you expected, how do you believe the nurse could have done things differently?

*Question Aim: Invite discussion on goal setting*

- How did your experience impact or influence your studies going forward if at all?

*Question Aim: Invite discussion on reassessing role perceptions*

- How did this experience influence your perceptions of the nursing role in the clinical setting?

To encourage students to engage in a critical reflection of their experience rather than simply recounting activities in a diary-like form; students will be asked to first describe their day, detailing what they saw. They will also be asked if there is anything they would like to discuss or add about the experience. A copy of the complete questionnaire is attached at the end of this proposal.

Regarding the GRQ, it is worth noting the GRQ has not yet been assessed by the intended target (i.e. Baccalaureate nursing students) during questionnaire development as this method is not supported in the literature. The value of completing a validity assessment of this tool is to
determine if it is measuring the construct intended. In this case a transformative process. Polit, et al., (2007) point to the value of a rigorous process involving a proficient, strong panel of experts to validate the content of the tool. Baccalaureate nursing students are not yet at this stage. Even so, a small focus group of sophomore level nursing students was asked to review the GRQ in terms of their perceptions of what the questionnaire was asking, how clear the questions were, and to describe how they might hypothetically answer these questions. Student feedback was that the questions were clear and that they (the students) would thoughtfully consider their experience(s) and write about them. The students did not recommend any changes. A limitation of this focus group was that it was small (ca 8 students) and they were asked after a previously scheduled class thus perhaps limiting their willingness to fully engage in a longer discussion about these questions.
References


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