IMPACT OF PRECEPTOR TRAINING ON EFFECTIVENESS OF PRECEPTORS IN DELIVERY OF KNOWLEDGE AND SKILLS TO NURSE ORIENTEES

BY

MARIE ORTALIZ

Bachelor of Science in Nursing, Colegio San Agustin De Bacolod, 1975

Master of Science in Healthcare Administration and Management, New England College, 2010

DISSERTATION

Submitted to New England College in Partial Fulfillment of
Requirements for the Degree of

Doctorate of Education

December 2014

New England College

School of Graduate and Professional Studies

Dissertation Approval Form

To: Director, Doctorate in Education Program

Please be informed that **Marie Ortaliz** has successfully completed the dissertation which has been approved by all committee members and no further revisions are needed.

Committee Chair Name: Gavin Henning

Committee Chair Signature: Gavin Henning

NEC Reader Name: Nelly Lejter

NEC Reader Signature: Nelly L

Outside Reader Name: Joyce Fitzpatrick

Outside Reader Signature: Joyce S

Date: October 10, 2014

DEDICATION

I dedicate my dissertation work to my loving and devoted husband, Romeo Ortaliz, who has been my constant source of inspiration all throughout the process, and to my children, Maria Rika, Michelle, Andrea, and Pia Marie who always believed in me and my accomplishments. I also dedicate this work and give special thanks to my mother, Isabelita Caram Lizarraga, who nurtured my quest for knowledge through the years and whose love and care helped me succeed in my intellectual endeavors.

ACKNOWLEDGEMENTS

I wish to thank my committee Chair, Dr. Gavin Henning, who was very generous with his time in mentoring me all throughout the process. Dr. Henning's patience and guidance inspired me to meet the challenge of exploring and interpreting quantitative analyses. I wish to thank my committee members, Dr. Nelly Lejter, and Dr. Joyce Fitzpatrick for agreeing to serve on my committee and providing me with feedback on my work.

I also wish to thank my mentor in the beginning of the process of writing the dissertation proposal, Dr. Sylvia Spears, for her enthusiasm and feedback, creating a more meaningful and enjoyable experience.

I am grateful for the supportive environment provided by New England College in scheduling classes and residencies that strengthened the methods of teaching and learning facilitating completion of the dissertation.

I wish to thank my cohort in Higher Education for the collaborative engagement that transpired during residencies serving as an inspiration and a driving force to complete this work.

PREFACE

The nursing profession requires nurses to acquire the theoretical knowledge and clinical skills to deliver safe and quality patient care. Nursing practice is governed by the Nursing Code of Ethics which provides that nurses need the proper education and guidance supported by teachers, preceptors, and administrators. As a nurse educator and clinician, I have mentored nurses in the classroom and at the clinical setting for many years. I have found that learning takes place through kindness and caring of preceptors to transfer knowledge to nurse orientees who are eager to learn and gain confidence in themselves in delivery of patient care. I have also found that orientees fail to complete the orientation period due to lack of proper mentoring. Additionally, I found that there were frustrations on both sides, the preceptors and the orientees. It is for this reason that I decided to explore how preceptors can be more effective in orienting nurses through preceptor training.

The process of collecting data for this research was a difficult one due to inclusion of more than one site, requiring approvals of the Institutional Review Board for each site, covering a period of one year and six months for the four sites. Additionally, the shortage of nurse preceptors and orientees contributed to the difficulty of the entire process.

The research has given me an insight of how preceptor training and other variables such as the nurse's years of experience as preceptor, years of experience in critical care, and the preceptors' academic preparation contributed to effectiveness of preceptors in five teaching behaviors: *teaching ability*, *nursing competence*, *evaluation*, *interpersonal relationship*, and *personality*.

TABLE OF CONTENTS

LIST OF TABLES

Abstract

Impact of Preceptor Training on Effectiveness of Preceptors in Delivery of Knowledge and Skills to Nurse Orientees

By

Marie Ortaliz

New England College, September, 2014

Nursing shortage in the United States has led to difficulties in the orientation of new nurses in critical care units. Preceptors are experienced nurses who possess the necessary skills in the care of patients with complex problems but do not necessarily posses the required teaching skills. New graduate nurses are hired to bridge the gap in staffing shortage and look upon preceptors as role models and mentors. When preceptors assume the role of teacher and mentor they need to demonstrate the necessary characteristics for effectively imparting knowledge and skills to new nurses. A preceptor training program is designed by some hospitals as a strategy to provide preceptors with the necessary guidance in the supervision of nurse orientees. Other hospitals do not provide preceptor training and depend solely on the clinical expertise of preceptors utilizing them as teachers and mentors. This study investigated the impact of preceptor training on the effectiveness of preceptors based on the core characteristics of effective teachers: *teaching ability*; *nursing competence; evaluation*; *teacher personality*; and *interpersonal relationship.* Survey questionnaire developed by Knox and Mogan (1985) describing the core characteristics of effective teachers was used in the study. Sample participants were preceptors and orientees in critical care areas in four hospitals in New York. A quasi-experimental design was used in the study and data analyzed through correlation and multiple regression.

Keywords: preceptors. orientees, preceptor program, critical care

CHAPTER 1

INTRODUCTION

Critical care is experiencing a severe nursing shortage predicted to become a serious problem in the future. According to a study by Buerhaus (Sigma Theta Tau International, 2010), the present nursing shortage will result in a 20 percent decrease in the supply of nurses below requirement by the year 2020. Critical care nurses with extensive work experience belong to an aging workforce. Survey responses revealed that these nurses expressed their intention to retire between the years 2011 and 2020 (American Association of Colleges of Nursing, 2010). A recent study from the Health Resources and Services Administrations found that as the older population of nurses continue to grow, younger nurses are entering the field, resulting in an estimated 444, 666 nurses receiving their diplomas over the period of 2004 – 2008 (HRSA, 2010). These nurses will require teaching and mentoring in the areas of nursing they choose to specialize. New nursing graduates are expected to take over and provide efficient and safe care to patients. New hires in critical care are a mix of new graduate nurses and nurses with experience in other nursing specialties. The growth in the number of new nurses will increase the demand for competent clinical preceptors to effectively teach how nursing care is delivered in critical care areas.

Competence with critical care skills requires a thorough understanding of the disease process affecting patients and clinical assessment skills necessary for critical thinking and decision-making (Sorensen & Yankech, 2008). The technical aspects of critical care include the performance of delicate procedures such as hemodynamic monitoring, and medication administration, with the supervision of a preceptor (Proulx & Bourcier, 2008). Acquisition of

these special skills requires that the nurse orientee is supervised and mentored by a nurse with these clinical areas of expertise, providing the real structure and environment for teaching.

The existing shortage of nurses results in a shortage of qualified nurse preceptors and clinical educators creating difficulty in new nurses' orientation. Critical care preceptors who are at the entry level are not prepared to act as primary preceptors (Proulx & Boutcier, 2008) creating problems in imparting the basic critical care concepts to new graduate nurses. The support preceptors provide during orientation is a strong component of the orientation process. The lack of effective preceptors will result in stress for new graduates, making preceptor preparation essential in the orientation process (Brasler & Everett, 1993).

Significance of the Study

According to the article "Meeting the Needs of Graduate Nurses in Critical Care Orientation," (Chesnutt & Everhart, 2007), member hospitals of the Greater New York Hospital Association have hired about 40 percent of new nursing graduates. The influx of new nurse graduates into critical care, while providing a solution to nursing shortage and staffing crisis, presents a demand for the proper orientation of nurses. This orientation normally takes a period of three months to successfully complete the theoretical and clinical aspects of teaching and learning. During this orientation period, nurses are taught to develop critical thinking and decision-making abilities required in patient care. The shortage of nurse educators and qualified preceptors has led hospitals to utilize web-based learning modules called, the *Essentials of Critical Care Orientation* (ECCO), developed by the American Association of Critical Care Nurses (AACN, 2003). The use of web-based modules will not guarantee effective orientation without a nurse preceptor diligently following the accomplishment of required routines and complex tasks of new nurses on critical care procedures important for safe and quality patient

care.

Clinical preceptors need to implement a learning process that integrates Kolb's theory on experiential learning (Smith, 2001) through nurse's experience with patient assignments. Learning takes place through reflection of the treatments and interventions employed, and observation of the patient responses to outcomes of care. According to Kolb (1984) understanding the effect of the action will help the learner anticipate the outcome of the action that is carried out in the same circumstance. This theory is applicable to preceptors and orientees in the performance of nursing care and in anticipating the outcomes of care employed for patients in a particular situation. This theory is also applicable in the evaluation process when preceptors decide to provide the orientee with a new assignment of a similar type of patient condition to see if the nurse is able to relate the principle learned from the previous assignment. This action will assist the preceptor in evaluating the preparedness of the orientee with patient assignments.

The task of evaluating new nurses can only be accomplished by a qualified preceptor in order to ensure a "competent level of nursing practice and standards of professional performance" (AACN, 2003, p. 1). Experienced nurses often express the need for resources that could assist them in their role as preceptors (Sorensen & Yankech, 2008). One study identified the value of preceptor education where the preceptors were taught how to develop the orientees' critical thinking skills (Sorensen & Yankech, 2008) and this had a positive impact on the learning experience of the orientees. Hospitals often expect nurses to assume a preceptor role for new hires without prior notice or the proper training required to teach effectively. Alspach (2008) explains that facilities do not have a program to prepare nurse preceptors and some facilities may have a two hour program but do not require nurses to complete the program before

functioning in a preceptor role. When preceptors do not know how to transfer knowledge and skills to new nurses, the new nurses are more apt to leave the orientation period prior to completion as a result of negative preceptor experiences (Schaubhut, & Gentry, 2010). Nurses who benefit from effective mentoring programs successfully achieve core competencies (Kanaskie, 2006). Nurses often express frustrations resulting from not being able to relate theory to clinical practice, as well as fear and anxiety of committing medication errors, and the lack of social support from peers and leaders (Beecroft, Dorey, & Wenten, 2008). New nurses are aware that they are taking care of patients with complex disease processes and comorbidities requiring the best preparation and training that they can achieve during the orientation period. Data suggests (Sigma Theta Tau International, 2010) the new technology and managed care have placed only the sickest patients in hospitals and this requires that the care be provided by highly trained and specialized nurses.

When new graduate nurses realize that lack of knowledge and expertise create a gap in the practice of critical care nursing, Kramer's "reality shock" occurs, (Winfield, Melo, & Myrick, 2007; Pratt, 2009). According to Kramer, the stages of "reality shock" involve a feeling of excitement about the career, progressing to shock due to feelings of inadequacy, depression, and anger, followed by recovery as professional goal is developed.

As a result of Kramer's work on "reality shock" (Kramer, 1974; Pratt, 2009), nurse preceptor programs have been developed by hospitals to assist nurses towards improvement in their role as preceptors and the achievement of learning outcomes by orientees (Burns & Northcutt, 2009). Nurse preceptors need to assist new nurses through a structured orientation process to help eliminate the negative feelings that arise from the feeling of incompetence due to lack of experience. A preceptor program will assist preceptors in learning the qualities that will

make preceptors effective through clinical competence, ethics, communication, and leadership (Biggs, 2010). Positive precepting can reduce stress during orientation and is achieved when a preceptor demonstrates a positive attitude in teaching (Murphy, 2008). This positive attitude is defined as enthusiasm, being approachable, self-respect, respect of peers, and the use of humor (Murphy, 2008).

Statement of the Problem

The shortage of qualified nurse preceptors in critical care negatively affects the clinical orientation of new nurse graduates and the quality of nurse training resulting in orientation failure and increased turnover of nurses. Nurses who are assigned to act in the preceptor role do not demonstrate the qualities that are required to effectively impart knowledge and skills to nurse orientees. Preceptors need to demonstrate competency of nursing skills and effective clinical teaching behaviors in order to influence a positive learning environment for new nurses. Providing preceptor training to nurses assigned to act as preceptors will contribute to a healthy learning environment for orientees resulting in the acquisition of skills necessary to deliver safe patient care.

Conceptual Framework of the Study

Behavior and characteristics of preceptors play a pivotal role in effectiveness of their teaching and influence outcome. Preceptors need to be ready to teach through clinical competence and the use of adult learning theories in their method and style of teaching. Preceptors will need to demonstrate their willingness to teach by developing good interpersonal relationships with orientees through caring practices. A preceptor training program will guide preceptors in developing core teaching behaviors and characteristics.

Purpose of the Study

The study will demonstrate the value of preceptor training and will serve as a guide for nurse administrators to support the role of nurse preceptors in the development of core characteristics and behaviors that will make them effective teachers. Effective preceptors will facilitate clinical teaching and learning at a level that will ensure quality education for new nurses, a safe and healthy work environment, and quality patient care. There is limited research on education to prepare preceptors as clinical instructors and its impact on effective behaviors of preceptors. This study will expand knowledge related to the effects of clinical teaching delivered by preceptors who are prepared to teach new nurses.

The Research Question

"Does preceptor training positively impact teaching behaviors of preceptors to effectively deliver knowledge and skills to nurse orientees?" This research question will illuminate the need for preceptor training as a means of support for nurse preceptors, providing them with the necessary resources to improve and enhance their clinical teaching abilities. Preceptors will need the necessary support from nurse administrators to stand by them as preceptors attend to difficult tasks of teaching, coaching, and mentoring new graduate nurses and newly hired experienced nurses who need to acquire clinical skills in critical care.

Hypothesis

The hypothesis for this research is "Preceptor training will positively impact effective teaching behaviors of preceptors to deliver knowledge and skills to nurse orientees." It is hypothesized that through preceptor training, preceptors will understand the value of effective teaching behaviors that bear an impact on clinical learning and experience of nurse orientees. The hypothesis states the assumption that in a preceptor training teaching characteristics will

be the core of preceptors' effectiveness benefiting the acquisition of knowledge and skills of new nurses.

Variables

The dependent variable is the effectiveness of preceptors in delivery of skills and knowledge to orientees who have attended the preceptor training. A summary of characteristics that relate to effective teaching of preceptors are: teaching ability, nursing competence, characteristic related to evaluation, characteristics related to interpersonal relationships, and characteristics related to teacher personality. These characteristics are derived from a similar study conducted by a school of nursing at an Australian University (Cholowski & Williams, 2002) that explored perceptions of nursing students and educators on the effectiveness of clinical educators. The independent variable of the study is a preceptor training program provided by the hospital designed to equip nurse preceptors with the ability to teach effectively through the acquisition of teaching characteristics that positively impact on the learning experience of orientees during the orientation period. Intervening variables include: the number of years as preceptors; academic preparation in nursing; and number of years in critical care nursing.

Operational Definitions

Preceptors are nurses with expert bedside nursing care skills gained through years of meaningful clinical experience that have resulted in the accumulation of knowledge and skills necessary for safe and effective nursing care. Preceptors are key (Sandau, K. & Halm, M. 2010) to the learning experience of new graduate nurses (NGNs) and experienced nurses who are on orientation. Preceptors serve as role models and work under the guidance of nursing faculty to organize, design, and implement patient care (American Association of Colleges of Nursing, 2008). A nurse preceptor is a listener, a negotiator, establishes expectations, and evaluates

performance of nurses (Murphy, 2008). The characteristics of effective delivery of skills and knowledge by preceptors that were examined in this study were teaching ability, nursing competence, characteristics related to evaluation, characteristics related to interpersonal relationships, and characteristics related to teacher personality.

Teaching ability is defined as a characteristic demonstrated by the preceptor through the application of adult learning principles such as experiential learning and andragogy in the identification of the nurse's learning needs (Cercone, 2008). Preceptors teach by allowing the nurse to move from novice to expert, utilizing Benner's model of developing the nurse's learning process (Proulx & Bourcier, 2008). The ability of the preceptor to assign the orientee hands-on technology and skills to improve their thought processes and reach a level where they could use critical-thinking is a vital preceptor skill (Proulx & Bourcier, 2008). Teaching in the clinical setting requires that preceptors bring theory into practice (Biggs & Schriner, 2010). The clinical preceptor as a teacher applies Kolb's experiential learning model (Smith, 2001) through patient assignment that enables nurses to have a direct encounter with the learning that will take place, plan the course of action, and learn from the experience.

Nursing competence, as another effective teaching behavior, requires that preceptors are well-versed with the routines of the unit, are comfortable with the procedures performed, and are able to demonstrate critical thinking skills in a complex nursing scope (Sorensen et al., 2008). Critical thinking skills are required in order to practice in a safe, skillful, and competent manner (Sorensen, et al., 2008). According to Benner (1984) a competent nurse is one who is able to project the future and develop plans based on an analytical view of the problem as a result of having worked with the same patient population for at least 2 – 3 years.

Characteristics related to evaluation as an effective teaching behavior requires that

preceptors identify the learning needs of the nurses based on their performance of procedures and critical thinking skills. The preceptor as a mentor will provide constructive feedback to orientees and share knowledge that will be useful in difficult situations (Persaud, 2008). The preceptor identifies deficiencies of orientees in order to point out the necessary corrections creating a positive learning experience (Murphy, 2008).

Characteristics related to personal relationships relate to how preceptors interact with orientees showing humor, promoting growth, accepting diversity, demonstrating positive attitude in correcting mistakes, and patience (Murphy, 2008). Personal relationships involve increasing students' confidence and skills, and mutual respect between preceptors and students (Smedley, Penney, & Dawn 2009).

Characteristics related to teacher personality relates to how a preceptor demonstrates a caring attitude towards new nurses, in all aspects of the nursing profession (Biggs & Schriner, 2010). Based on the theoretical framework of Watson's theory of caring (Biggs & Schriner, 2010), preceptors understand that providing a caring and supportive environment for new nurses is at the core of the nursing profession.

Orientees are new hires of nurses consisting of new graduate nurses (NGNs) and nurses with experience in various specialty, who are new to the unit and are assigned to work with a preceptor in order to acquire knowledge and skills necessary for safe patient care.

A *preceptor program* is a hospital-wide educational program designed to provide guidance to preceptors in teaching new nurses develop critical-thinking and decision-making skills. It is an organized approach (Sandau, Cheng, Pan, Gaillard, & Hammer, 2011) for the professional development of experienced nurses who are willing to serve as clinical preceptors. The preceptor program varies from 1- day to 2- days educational preparation for preceptors

depending on the hospital's design. Preceptor programs are presented in various formats: on-site classes, web-based material, self-paced programs, or a combination of teaching modes (Flyn & Stock, 2006; Myrick & Yonge, 2005). For some hospitals the program may be mandatory such as in hospitals that strive to acquire the Magnet status (American Nurses Credentialing Council, 2004). The Magnet Program was developed by the American Nurses Credentialing Council to benchmark quality and safety in patient care (ANCC, 2014). The Magnet Program designs strategies for innovation and education of professional nurses, promoting continuing education to advance nurses in their profession. Magnet designated hospitals provide highly committed staffing of nurses to ensure quality and safe patient care. "Magnet requires organizations to develop, disseminate and enculturate evidence-based criteria that result in positive work environment to nurses" (ANCC, 2014). Preceptor programs provide clinical preceptors with the necessary strategies for guiding nurse orientees in order to assist nurse orientees develop safe nursing practices. The type and duration of preceptor program was not investigated in this study. Preceptor programs often include development of critical thinking and decision-making skills; supervision of nurses in performance of procedures and delivery of patient care; effective communication; leadership; evaluation of skills and coaching; positive approach in correcting mistakes; documentation, and making referrals to the healthcare team. The curriculum further includes training of preceptors on the development of interpersonal relationships; demonstrating empathy through caring practices, and embracing diversity in nursing.

Delimitations

The study included critical care areas inclusive of post-anesthesia care units (PACU), intensive care units (ICU), step-down units (SDU), telemetry units, and the emergency departments. In these areas, patient care is complex and specific to certain types of conditions

and treatments requiring the care of adequately trained nurses. Participation in research was voluntary, and inclusive of preceptors who oriented nurses in the years 2012 to 2014, and nurses who were new hires, i.e., new graduate nurses and nurses with experience in other areas prior to their employment in a critical care specialty, in the years 2012 to 2014. The study included four hospitals that matched the selection criteria and are within one geographic area.

CHAPTER II

LITERATURE REVIEW

The literature selected for review in this chapter is intended to inform the reader of the current approach in orienting new nurses and the current trends in meeting the staffing shortage in critical care by hiring new graduate nurses. It is also intended to present to the reader that there are strategies designed to improve the quality of teaching imparted by nurse preceptors, thus, focusing on the goals of nursing organizations to develop the nursing workforce. The literature also covers the elements of healthy work environment illuminating the need for a smooth professional interaction between the preceptors and the orientees. The literature review encompasses adult learning theories applicable in the nursing profession that is practical in a clinical setting, enhancing learning, and bridging the gap in theory and practice. The review included intervening variables that might affect the results of this study, inclusive of the academic preparation of preceptors, their years of experience in critical care as nurses and as preceptors, adding to the experiential knowledge that they may contribute in their teaching. Finally, the literature covers studies that present as evidence, the characteristics of effective preceptor behaviors encompassing the five categories included in this research as dependent variables: teaching ability, nursing competence, characteristics related to evaluation, characteristics related to teacher personality, and characteristics related to relationships. Since most of these studies were based on students' and faculty's perceptions of an ideal or effective teacher, it is difficult to define the true characteristics of ideal preceptors making it necessary to establish defining characteristics of effective preceptors based on existing literature. There is limited literature on the outcomes of preceptor training on effectiveness of preceptors.

Nursing Shortage in Critical Care

The aging nursing workforce and the steep population growth (Sigma Theta Tau International, 2000), revealed that by the year 2020, nursing shortage will be more pronounced (Journal of American Medical Association, 2000). According to the Health Resources and Services Administration (2002) the shortage of nurses for all states in the United States will increase by 29 percent, reaching a shortfall of 804,416 by the year 2020. These numbers are due to a 40 percent increase in demand and only a 6 percent increase in supply (Health Resources and Services Administration, 2002, p. 2) creating a major imbalance in the supply and demand curve in healthcare. Findings from the *2008 National Sample Survey of Registered Nurses* (HRSA, 2010) found that the national nursing workforce is growing. The number of newly licensed registered nurses has increased to 3.1 million between 2004 and 2008 (HRSA, 2010, p. 1), increasing the number of younger nurses who will replace the large numbers of nurses who will be retiring in the coming years. These new nurses will be hired in critical care areas requiring the need for adequately prepared nursing preceptors.

Data suggests that the new technology and managed care have placed only the sickest patients in hospitals (Sigma Theta Tau International, 2010) and this requires the care of highly trained and specialized nurses. In addition, the current report of the Bureau of Labor Statistics (*United States Department of Labor*, 2010) provides a summary of various specialties where nurses devote their work efforts and these areas include: doctor's offices, hospitals, the community, government offices, critical care, clinical nurse specialists, pediatric, ambulatory care, neonatology, and mental health. There is no information on the number of nurse educators needed to train nurses in critical care during an orientation period.

A demographic member report of critical care nurses from the American Association of

Critical Care Nurses in 2007 reveals that 16 percent of nurses work in combined intensive care units, 16 percent work in an ICU, 11 percent work in some type of care unit, 10 percent work in a cardiovascular-surgical intensive care unit, and 7 percent work in a coronary care unit (Siela, Twibell, & Keller, 2011, p. 18). These statistics reveal that there are different types of critical care units where nurses can move around and apply their skills once they are properly trained. This sheds light onto the need to properly orient nurses in order for them to fill the shortage in any type of critical care unit. Nurses who successfully complete orientation will want to stay in the unit alleviating the shortage of nurses in critical care.

Concept of Preceptorship

The concept of preceptorship originated in the form of tutoring in the 15th century but the term preceptor came in 1975 (Ryan-Nicholls & Kimberly, 2004) when hospitals created intensive care units. Nurses hired for these units needed to be supervised by preceptors (Ryan-Nichols & Kimberly, 2004). Orientation requires that preceptors handle a smaller load of patient assignment in order to focus on orientation efforts. This is often not possible when there are not enough nurses working in critical care. Clinical nurses working in critical care units can be encouraged to assume a dual role as clinician and faculty with encouragement coming from nurse leaders (Siela, et al., 2011). The shortage of nurses eliminates the role of clinical preceptors creating a serious assumption that any nurse working in a critical care unit will likely be assigned the role of preceptor on any given day. The effectiveness of teaching by preceptors will result in a smoother orientation process for the nurse orientees allowing them to meet their learning objectives and transition more efficiently in this new area.

The lack of preparedness of preceptors results in new nurses leaving the critical care units without completing the orientation period. New nurses often feel that they are left alone under

difficult situations with patient care in addition to an unfriendly workplace leaving them emotionally and physically drained (Mackusick & Minick, 2010). In one study, new nurses failed to complete the three months orientation or decided to leave without completing one year in the same unit (Mackusick & Minick, 2010). Nurse preceptors have the responsibility of helping new nurses develop a sense of belonging (Baltimore, 2004, Morris et al, 2007). New nurses often feel the high demand of providing care to very sick patients in addition to the staffing shortage. They describe their frustration as a burnout syndrome, and fear of losing their license due to incompetence. This stresses lead to a high attrition rate of new nurses leaving major vacancies in critical care (Baltimore, 2004). In one study, emotional support provided by preceptors was an important predictor of new graduates' clinical performance scores (Brasler, 1993). Research shows that when new nurses are effectively guided by preceptors they are able to develop critical thinking and decision-making skills necessary for a competent practice in nursing.

Preceptor Training

Educators and administrators recognize the need for change in the orientation process (Sandau & Halm, 2010) as they decide to craft a better way to prepare preceptors by providing them with a preceptor training program. Organizations often cut costs by cutting education efforts, overlooking the benefits that they could gain with a good preceptor-based orientation program. There is evidence in support of preceptor-based orientation programs (Sandau & Halm, 2010) as a means to increase preceptor and orientee satisfaction, promoting retention of orientees. The study was conducted primarily to investigate the impact of a preceptor program on the competency of skills, clinical knowledge of orientees and retention (Sandau & Halm, 2010). While there are very limited studies on the preceptor program in the United States, there

are studies that reveal positive outcomes in the perspective of the orientees and the preceptors, retention, and financial returns for the organization (Sandau & Halm, 2010).

A study was conducted to evaluate a new model of orientation in critical care where preceptors were provided with the necessary support, resources, and training revealed that nurse orientees demonstrated increased level of confidence, efficiency, and time management skills (Morris et al., 2007). In this study, nurse managers found that through the preceptor workshops, preceptors learned the necessary skills to evaluate orientees' accomplishments (Morris et al., 2007). Another study revealed that new nurse graduates felt a sense of belonging at 6 months versus a baseline of 12 months through an innovative orientation program that improved socialization. The economic value of nursing is difficult to quantify involving a closer look at turnover costs and retention benefits. Investing in retention of nurses through proper training and orientation will avoid turnover costs leading to quality patient care. According to Jones (1990) and The Advisory Board Company (2000), the financial cost of nursing turnover have been estimated in previous research to be from $10,000 to $60,000 per nurse (as cited in Hayes, et al, 2006, p. 244). Direct and indirect costs involved in calculating nurse turnover costs have been determined to include the cost of hiring, orientation, training, termination, and decreased productivity of nurses (Jones & Gates, 2007). Nursing leaders today are well aware of these costs and are investing in retention programs (Jones & Gates, 2007). One study examined the effect of a residency program on assisting new graduate nurses and experienced nurses transition into a specialty care unit (Poynton, Madden, Bowers, Keefe & Krella, 2007). This study revealed improved satisfaction enhancing retention (Poynton et al., 2007). Satisfaction rates and organizational commitment by orientees were the results of the study with variable length preceptorship, achieving high satisfaction rate with praise and professional opportunity

(Altier & Krsek, 2006).

It is worth noting that these studies evaluated outcomes of orientees inclusive of new graduate nurses and experienced nurses in specialty areas. A preceptor program developed in an obstetric unit in a hospital in Central Texas led to professional growth of preceptors, autonomy, and increased job satisfaction (Cooney, 1992). The program was monitored by evaluating the orientees' clinical performance of 6 weeks and 6 months (Cooney, 1992).

Schein (1995, p. 60) describes Lewin's Theory on "survival anxiety," a situation that needs to be experienced as a motivation to create changes in an organization. The current situation in healthcare where there is a rapid turnover of nurses in critical care creates anxiety for hospital administrators. Lewin further describes the concept of "survival guilt" as a reason to create the necessary change (Schein, 1995) such as in creation of strategies in support of preceptor training and nurse retention. This theory can be conceptualized as creating change for the learning environment which includes the orientees, the preceptors, management, administration, and patients. A preceptor training program will be the most important element of this change as it lays down the structural foundation of the teaching and learning environment.

Organizations and agencies have invested in initiatives to recruit and retain newly licensed nurses and experienced nurses through continued research on the factors that impact retention of nurses in hospitals. Robert Wood Johnson Foundation (Hassmiller et al., 2006) and a number of federal agencies have allocated funds for staffing and education of nurses. In addressing the nursing shortage, short-term and long-term strategies have been identified by May, Bazzoli & Gerland (2006) in their interviews with hospital executives and leaders during the Round Five of the Community Tracking Study (CTS) in 12 US markets. One hospital reported the importance of investing in education and training of nurses by opening new schools

of nursing operated by hospitals (May, Bazzoli, & Gerland, 2006). Most of the efforts described by hospitals in improving the nurses' work environment was through short-term efforts such as increasing staffing levels (May et al, 2006). Efforts to improve nursing workforce development will come from nurse leaders such as the National League for Nursing (NLN), an organization dedicated to excellence in nursing, public policy, and nursing research grants (National League for Nursing, 2011). Sustained excellence in faculty development promotes advancement in educating nursing students in academic centers and healthcare facilities, and is recognized by the National League of Nursing as a major impetus in providing quality and safe patient care (2011).

Position Statements of Nursing Organizations and Hospital Accreditors

In the context of a safe, effective, equitable, and affordable healthcare for all Americans, American Heart Association supports training of all medical and clinical personnel (Gibbons, Jones, Gardner, Goldstein, Moller, & Yancy, (2008). Clinical training must incorporate teaching nurses and other healthcare providers to understand cultural diversity and behavioral traditions (Gibbons, et al., 2008). The framework of nursing standards in performance and education is guided by the *Nursing Code of Ethics,* emphasizing that educators have the responsibility of assessing the needs of learners and the effectiveness of their teaching (American Nurses Association, 2012). The *American Nurses Credentialing Council,* through its *Magnet Recognition Program* has established guidelines for institutions to serve as a source of knowledge in order to develop expert nurses who can deliver safe and quality patient care (American Nurses Credentialing Council, 2012)

Critical care nurses are required to attend courses in advanced cardiac life support for the adult patient and pediatric advanced life support for the pediatric population. New nurses in the

critical care units who have attended these classes have to continuously be supervised in the development of these skills in the actual setting. Implementation and evaluation of critical thinking and decision-making skills is enhanced through clinical education in a healthy work environment where teacher and learner relationships provide comfort and satisfaction of staff. Development of effective teaching behaviors will produce mentors who will bridge the gap in the learning process of orientees by eliminating the "learning anxiety, and providing psychological safety" described by Lewin (Schein, 1995, p. 60).

Healthy Work Environment standards (American Association of Critical Care Nursing, 2004) include: authentic leadership, skilled communication, true collaboration, effective decision-making, appropriate staffing, and meaningful recognition. These standards are embedded in the working relationships of preceptors and orientees in order to make meaning of the orientation process. Nurses have to hold each other accountable in the implementation of the standards of a healthy work environment as a functional yardstick (AACN, 2005) in clinical practice. The learning environment for new orientees must be conducive to learning, even in the most stressful of circumstances where complex procedures are performed in patient care. An environment that is conducive to learning is one where stress and anxiety can be decreased through strategies such as the use of humor, making learning fun, (Moscaritolo, 2009), and providing the new nurse with a sense of belonging (Baltimore, 2004; Morris et al., 2007) through introduction with other staff, socialization, and respecting diversity (Gibbons et al., 2008; Lowe, & Archibald, 2009; Reising, 2002; Boyle, 1996; Bandura, 1975).

Graduate Nurses in the Intensive Care Unit

Several articles have been investigated on the strategies staged by hospitals to fill the vacancies in nursing. One of the strategies is the hiring of new graduates in the intensive care

units who, with the necessary training are capable of providing care to patients with complex health problems (Chesnutt & Everhart, 2007). According to Buerhaus (as cited in Erickson, 2001, p. 2) "Assistance will be needed from hospitals, physicians, and policymakers, if the problems confronting nurses are to ascend onto the national social policy agenda where, hopefully, additional resources can be obtained to ensure a strong and well-prepared professional RN workforce". Critical care educators and preceptors need to evaluate the learning needs of new graduate nurses in order to smoothly transition these nurses to working as clinicians immediately after completion of a nursing degree. One of the frustrations of orientees is when they are assigned different preceptors every 8 hour or 12 hour shift during the orientation period making it difficult for preceptors to evaluate the nurses' progress (Proulx & Bourcier, 2008). Orientation strategies designed to improve the performance of basic critical care skills of new graduate nurses, and adjustments in nurse to patient ratio, were implemented by preceptors in Catholic Medical Center, Manchester, New Hampshire (Proulx & Bourcier, 2008). The new model allowed nurse preceptors to track the progress of orientees and helped orientees develop decision-making skills with the guidance and supervision of preceptors (Proulx & Bourcier, 2008).

The goal in the hiring process of new graduate nurses is to retain these nurses by facilitating their transition to professional practice (Persaud, 2008). This could be accomplished by making the preceptors understand that a mentoring relationship is essential in this transition (Persaud, 2008). Chesnutt and Everhart (2007) posits that new graduate nurses often receive assignments that do not match their skill level, making learning difficult, and contributing to unsafe delivery of care. There must be creative strategies to train preceptors for the clinical teaching role preparing them for the challenges in orienting new graduate nurses.

The Orientation Procedure

Hospital requirements and orientation period vary from 8 weeks to 12 weeks depending on a particular unit's policy. The most common orientation procedure covers a period of 12 weeks. The orientation period in critical care includes the theory and clinical aspects of nursing care. All new nurses are required to attend a critical care course that covers cardiopulmonary disorders, basic dysrhythmias, renal disorders, and hemodynamic monitoring (Morris et al., 2007) before they can proceed to clinical orientation. In some hospitals, the critical care classes are provided by web-based learning modules, *Essentials of Critical Care Orientation* (ECCO) designed by AACN (AACN, 2003), where nurses are given a certain period to complete all the modules with a passing grade of 85% on all tests. The clinical orientation of new nurses requires supervision by a clinical preceptor in the performance of procedures during nursing care of patients, and in the development of critical thinking skills. New nurses can easily become overwhelmed (Proulx et al., 2008) with the complexity of care and their new role as clinicians. Task competency (Morris et al., 2007) is validated by the preceptors through skills demonstration by the nurse orientee.

There are three phases in acute care orientation (Sandau, Cheng, Pan, Gillard, & Hammer, 2011): general hospital orientation, nursing orientation, and unit specific orientation, where orientees are paired with preceptors. It is at the third phase of orientation where most of the interaction between the preceptor and the preceptee (orientee) takes place and clinical learning is focused on the development of critical thinking and decision-making skills.

One study evaluated the effect of an 8 hour preceptor program demonstrating an increase in the confidence and comfort level of preceptors, their ability to precept, coach, and provide constructive feedback (Sandau et al., 2011). In the same study, orientees demonstrated

confidence in critical thinking on their first patient assignment (Sandau et al., 2011). Another study that evaluated the effect of a four hour preceptor program demonstrated that preceptors were prepared to help new graduate nurses gain the ability to rescue patients and provide safe nursing care (Chesnutt & Everhart, 2007). There is evidence from previous studies that when new nurses work with competent nurses, it contributed to job satisfaction, recruitment and retention (Beecroft, Dorey, & Wenten, 2008). Beecroft et al., (2008) explain that when nurses work with a supportive group, they become attached to them reducing the turnover of nurses.

In a study conducted at Northwestern Memorial Hospital (Morris et al., 2007), the clinical nurse specialists noted that there was not enough opportunity to help nurses develop critical thinking skills with the traditional method of orientation and that preceptors were not prepared to properly orient nurses. The new model required (Morris et al., 2007) preceptors to attend classes on: effective communication; assessment and feedback; planning; and clinical instructions. Problems with orientees (Morris et al., 2007) were identified to be: the lack of initiative in reviewing materials, misconception about the work in the ICU, incompetence of skills, and the lack of mastery of tasks.

A positive outcome of orientation redesign is retention of new nurses (Morris et al., 2007), new graduates' attention to details, improvement in time management, critical-thinking skills (Proulx & Bourcier, 2008), and transitioning new nurses from novice to expert (Benner, 1984). Redesigning orientation may be accomplished through preceptor preparation.

The elements of effective precepting lies in the skills of preceptors in promoting a harmonious relationship among nurses during the orientation period. These studies shed light on the importance of a preceptor program in order to enhance preceptor skills for a more effective orientation leading to clinical competence of the orientee. These studies also support the

research question on effectiveness of preceptors in guiding orientees in their clinical performance when they are given preceptor preparation classes. As stated in the *Nursing Code of Ethics, Responsibility for Nursing Judgment and Action* (American Nurses Association, 2001, Provision 4.3, para 2, p. 9), "Educational Resources should be sought by nurses to maintain and advance the competence of nurses."

Challenges in the Role of Nurse Preceptors

Precepting is often an added role for the staff nurse and a role that is assigned to the staff nurse without prior preparation (*Critical Care Nurse*, 2008), which can lead to ineffective teaching and orientee frustrations. There are preceptor training programs prepared by AACN as a resource for nurse preceptors, educators, and clinical nurse specialists (*Critical Care Nurse,* 2008) that are designed to prepare preceptors in meeting the challenge and frustrations that address the anxiety and the tension of teaching. Preceptors are expected to guide the newly hired nurses in time management, communication, organization, and critical thinking skills (Biggs, & Schreiner, 2010). In an open forum held in Hartford, Connecticut, Alspach (2008) solicited information from nurse respondents on the issue of educational preparation and support of nurses who were willing to serve as preceptors. Alspach (2008) explained that while some hospitals do not have a preceptor program, others may have a two hour program on preceptor development but nurses are not required to take the program before embarking into the preceptor role. Preceptors may be given some form of recognition for the work they do in the form of money, respect, support of others and career advancement (Alspach, 2003), or by honoring them in a preceptor recognition program (Yonge, Hagler, Cox & Dreyfurs, 2008). Biggs & Schriner (2010) explores Watson's "Theory of Human Caring" as significant in the recognition of the preceptor. Providing a preceptor program for the development of effectiveness of preceptors as

clinical teachers is one way for management to demonstrate professional caring practices. Likewise, the theory of caring as explained by Watson (1979) conceptualized in transpersonal caring involving a caring moment where the preceptor and the orientee share a connectedness that helps the nurse develop into the advanced level of practice. The development of a "helping-trust relationship" as one of the carative factors inspired by Watson (Nursing Theories, 2012) is essential to this study in the examination of effective teaching behaviors.

Clinical preceptors, in order to guide nurses effectively, will need to incorporate the principles of adult learning (Smith, 2002) in their teaching style such as experiential learning and transformative learning. The eight step preceptor model (Ottolini, Ozuah, Mirza, & Greenberg, 2010) described the behaviors demonstrated by faculty in precepting medical students by incorporating the principles of adult learning theory. The ESP model (Ottolini et al., 2010) significantly correlated teaching effectiveness (r =.62, $p < .003$) with students' perception of faculty as effective educators when they demonstrated behaviors in clinical outlined in the model.

It is unrealistic to assume that all preceptors are experienced nurses who have gained clinical expertise and are able to teach nurses effectively. A narrative research study on nurses' perspective of their role as preceptors revealed that participants were enthusiastic about the teaching role (Cangelosi, Crocker, & Sorrell, 2009) but expressed frustration about the lack of preparation through preceptor or mentor programs. The findings of the study revealed that experienced nurses felt that they were once again novices as they embarked in the role of teaching and this created tension and anxiety for them (Congelosi et al., 2009). The study illuminates the value of a preceptor program for preceptors in order for them to have the necessary guidelines on the transfer of knowledge to new nurses through self-confidence in this

teaching role.

Preceptor Training Program

A preceptor training program will prepare the preceptor in clinical teaching to effectively assist in the transition of new nurses from the graduate role to the professional role. Morris (2008) describes the role of the preceptor in the context of a positive approach in teaching to include: approachableness, enthusiasm, self-respect, respect of peers, and the use of humor. Murphy (2008) explains the importance of collaboration with members of the healthcare team and outlines strategies that may be employed in the development of professional relationships. The principles of caring from Watson's first book (as cited in, Morris, 2006) *The Philosophy and Science of Caring,* (1979), defines the important principles that may be applied to the teaching and learning experience of preceptors and new nurses. A preceptor training program should incorporate important learning principles. Watson's principle "The practice of caring is central to nursing" (Morris, 2006), is a fundamental guideline in teaching preceptors how to teach new nurses. With a caring behavior, preceptors will empathize with nurses who are anxious about their first job, their first patient assignment, and their lack of clinical knowledge on the application of nursing care. Preceptor programs include the contextual framework for effective preceptors: clinical competence; ethics; communications; and leadership (Biggs & Schriner, 2010).

A preceptor training program is designed to guide preceptors in forming positive relationships with orientees through leadership qualities, empathy, and compassion. The relationships between preceptors and orientees shape the students' experience of the clinical environment and the real clinical nursing work (Zelembo & Monterosso, 2008). According to Zelembo & Monterosso (2008), a conceptual framework designed to guide socialization and

build relationships may alleviate difficulties at the work place.

A mentoring program developed for orientation of nurses in the operating room (Persaud, (2008) demonstrated a positive outcome in mentoring relationships favoring the retention of nurses. Prior to the development of mentoring program, the unit retained 44 percent of the nurses trained by the mentors (Persaud, 2008, p.1174). Those who decided to leave were satisfied with the didactics but were discouraged due to the lack of guidance and support from their mentors (Persaud, 2008).

A survey of clinical nurses in magnet hospitals on the structures and practices that best support clinical performance that influence the ability of nurses to practice with more autonomy revealed that group decision-making and productivity was necessary to empower nurses. (Kramer, Schmalenberg, Maguire, Brewer, Burke, Chmielewski et al., 2008). The purpose of this research was to inform nurse leaders and educators on effective strategies for nurse satisfaction and quality patient care (Kramer et al., 2008). The study showed that "shared governance-control of nursing practice journey provides the opportunity to nurture and develop excellent professional practice from within the organization" (Kramer et al., 2008, p. 557).
A clinically competent nurse delivers quality patient care for the best patient outcome. Preceptors are expert professional nurses within the organization acting as mentors in support of the learning taking place for new nurses in their journey towards autonomy in professional nursing practice.

To help bridge the gap in theory and clinical practice for new graduate nurses preceptors were required to attend a preceptor class designed by researchers in Nebraska (Sorensen & Yanckech, 2008). The study investigated critical thinking of new graduates and learning relationships between preceptors and preceptee. The findings of the study suggest that

critical thinking can be developed and learning relationships can be improved when preceptors are prepared to teach through preceptor education (Sorensen et al., 2008).

A preceptor workshop (Schaubhut & Gentry, 2010), organized in collaboration with hospitals and Louisiana State University Health Science Center School of Nursing included clinical teaching strategies, strategies for evaluating students in the clinical setting, and adult learning theories in order to meet the need for a formalized preceptor training. Other topics such as horizontal violence and conflict resolution (Schaubhut et al., 2010) were added by hospital administrators. The preceptor program was later customized by each hospital based on their specific needs. The preceptor program was evaluated clinically using the case study method and the findings revealed that preceptors' thinking skills were enhanced, the preceptors enjoyed teaching, and the number of nurses who were willing to work as preceptors increased by 10 in the course of the year (Schaubhut et al., 2010).

In one study, preceptors rated their own needs in a pre and post exposure to training (Westra,1992). The overall data of this study revealed that preceptors found the one-day preceptor training necessary to prepare preceptors as clinical teachers (Westra, 1992). A study on the effect of two full days conference on preceptor preparation focused on the development of critical thinking, evaluation of orientees, and ethics of teaching utilizing Benner's model of teaching through interactive sessions (Myrick, Luhango, Billay, Foley, & Yonge, 2012). This study revealed that preceptors felt that they were ready to interact with students, demonstrated effective communication skills, and were more engaged in their work (Myrick et al., 2012). Critical thinking was developed through direct questioning of students and through role modeling of skills: guiding, facilitating, and prioritizing (Myrick et al., 2012).

The quest for knowledge regarding preceptorship through preceptor training is important

for the promotion and advancement of effective teaching and learning strategy and for "legitimizing preceptorship" (Billay & Myrick, 2007).

The review of literature supports the need for further investigation of the impact of preceptor programs on effectiveness of preceptors in the delivery of knowledge and skills and to new nurses during orientation. The review of literature presents evidence that effectiveness of preceptors depend on behaviors and characteristics that influence their teaching and mentoring roles. There is a need for further investigation on the development of the core behaviors and characteristics that will enhance preceptors' abilities to deliver knowledge and skills to orientees.

Preceptor Experience

The review of literature was expanded to inform the researcher on the impact of previous preceptor experience as an intervening variable for the study on the effectiveness of preceptors. Experienced preceptors use guided reflection to influence the learning of new nurses. A study on the influence of guided reflection theory (Duffy, 2008) demonstrated that orientees learned when preceptors were able to reflect on their past precepting experiences. Kramer (1974) describes the role of the preceptor as one who integrates education and practice in setting realistic goals for the learner. An experienced preceptor has the ability to stimulate and motivate students by asking challenging questions (Duffy, 2008). Experienced preceptors are able to to teach students think critically, synthesize and evaluate students' performance (Duffy, 2008).

Research has shown that students (orientees) rated competence of their preceptors as a highly desirable leadership quality and that the learning they received from an experienced preceptor directly enhanced their own confidence (Zelembo & Monterosso, 2008).

Academic Preparation of Preceptors

The academic preparation of preceptors was investigated as an intervening variable in

order to identify its impact on the effectiveness of preceptors in delivering knowledge and skills to orientees. The review of literature reveals that one of the terminal learning goals of nursing curriculum is to develop critical thinking and clinical judgment of nursing students as required by the American Colleges of Nursing and the National League of Nursing (Shin, Jung, Shin, Kim, 2006). One study revealed a statistical significance in nursing students enrolled in different programs: the Associate Degree, Baccalaureate Degree, and Registered Nurse to Bachelor of Science in Nursing (RN-BSN) using the California Critical Thinking Disposition Inventory (CCTDI) (Shin et. al., 2006). Another comparative study found no statistical difference in critical thinking scores of nurses in two classes of the BSN program when test scores were obtained at the entry level and one month before graduation (Saucier, 1995). This same study found a statistical significance in one class of nurses enrolled in the BSN program (Saucier, 1995).

A Master's in Education curriculum equips nurses with valuable knowledge and skills required to lead change, promote health, and transform healthcare encompassing health, educational, and organizational systems (American Association of Colleges of Nursing, 2011). A preceptor who has a master's degree in education will possess these skills which are vital to the effectiveness of delivering knowledge and skills during the orientation period of nurses.

The role that preceptors have in evaluating and educating students requires an advanced level of clinical expertise and knowledge (Paton, 2010). Through the nursing curriculum, students are able to acquire theoretical, laboratory, and practical knowledge that are applied in learning complex patient situations (Paton, 2010). As preceptors, nurses possess practical, professional, and experiential knowledge integrated into the practice of professional precepting (Paton, 2010). In the perspective of nurse managers and staff nurses, the role of preceptor

should only be designated to nurses who have advanced to higher level of performance (Piemme, Tack, & Evans 1986).

Years of Nursing Experience in Critical Care

The number of years of nursing experience that may impact the nurse's role as preceptor was investigated as an intervening variable in the study. A literature review was conducted to investigate the influence of education preparation and years of experience in critical care to the development of preceptors. Hands–on experience is a major factor in the development of the preceptor because the role of the preceptor is reality-based (Billay & Myrick, 2008, p. 219). Kaviani & Stillwell (2000) propose that preceptorship is "an effective and innovative means of facilitating student learning providing advantages to both clinical and educational setting" (Abstract). Preceptors are competent role models supporting a one-to-one learning relationship with the preceptee (Kaviani & Stilwell, 2000). Paton (2010) describes this domain of nursing practice, revealed from two research projects as: the "art of connecting, creating a culture of respect, acknowledging contextual realities, and preserving the ideals of ethical, competent practice and respectful care" (Interpretations section, para 1).

Adult Learning Theories

Preceptorship is a complex endeavor that requires the implementation of adult learning theories in addition to the theories described by Benner (1984) on developing the learning process, Watson (1979) on caring practices, Kolb (Smith, 2001) on experiential learning, Knowles (1981) on andragogy, Kramer (1974) on reality shock, and Lewin (as cited in Schein, 1995) on psychological safety. Benner (1984) uses a phenomenological approach in describing the learning that takes place when a novice nurse is transformed to a higher level of skill development from novice to expert with the proper guidance of preceptors. The framework of

adult learning theory (ANCC, 2012) is based on the principles that adults are self-directed; they need to know the rationale for their actions and decisions; they are ready to learn when they think they are able to cope with real-life situations; they effectively learn new knowledge, skills, values; and attitudes when the learning is presented in the context of real-life situation. Adult learning theory is applicable in real-life situation for both the preceptors and the orientees. Preceptors learn the art of delivering knowledge and skills when presented to them through the preceptor training activity, making them ready for the application of teaching new learners in real life situations. Internal pressures such as job satisfaction and self-esteem act as motivators in the learning process. Adult learning theory can also be applied to orientees as they are internally motivated to acquire the knowledge and skills to provide safe and effective patient care.

An active technique in nursing education is conceptual teaching that is learner-centered teaching, a move from teacher-centered techniques utilizing concepts necessary for knowledge transfer from teacher to learner (Hardin & Richardson, 2012). This technique is effective for preceptors in guiding orientees in forming concepts about the underlying physiology of their patients' disease conditions, planning interventions, implementing the plan of care and evaluation of interventions. This is a method of assisting nurses in the development of critical thinking and decision-making necessary in patient management. The components of the conceptual approach to learning include: addressing misconceptions, developing enduring understandings, and acquiring metacognitive skills (Hardin & Richardson, 2012). One way to use the knowledge base of nursing is to utilize conceptual models. The domain of nursing, distinct from other disciplines encompasses the individual, the environment, nursing and health (Fawcett, 2005). In order to provide the structure and rationale of nursing activities, conceptual

models of nursing are used which include Neuman Systems Based Curriculum, to guide the educational process in the promotion of critical thinking and Roy Adaptation Model, to assist students in determining factors in students' self-evaluation and preceptors' evaluation of clinical performance (Neuman, 2008).

Andragogy as an adult learning theory (Knowles, 1980; Nielsen, 1989; Merizow, 1981) is practiced in nursing education and has demonstrated to impact the learning of preceptors and orientees. Andragogy is self-directed learning, which may be used by educators in goal setting, assessment, determination of learning needs of orientees, done collaboratively by educators and learners (Nielsen, 1989). The experiences accumulated by adults serves as a rich resource for learning providing the adult learner with self-readiness and a change in perspective (Knowles, 1980). In this study, the researcher investigated the relationship of intervening variables: years of critical care nursing experience, academic preparation in nursing, and years of experience as preceptors, to the effectiveness of the preceptor in the delivery of knowledge and skills to orientees. Using andragogical practices in nursing education will facilitate the transfer of knowledge to orientees when preceptors have developed a better perspective of their role based on their accumulated experiences. The components of preceptor training incorporates the theory of andragogy to guide preceptors view the orientees as self-directed learners. Another andragogical practice is done through the use of questioning and analyzing as the students learn to understand the rationale for their nursing interventions, and in the process, develop critical thinking. Preceptors use dialogue with the learner, as an effective learning process through self-reflective learning (Merizow, 1981). Merizow (1981, p. 21) states that "Andragogy is an organized and sustained effort to assist adults to learn in a way that enhances their capacity to function as self-directed learners".

Studies on Image of an Ideal Teacher

Several studies have investigated the image of an ideal teacher in the perspective of the student. One such study investigated the qualities of the "ideal," "best" and the "poorest" teachers through the lens of students from three different schools (Benor & Leviyof 1997). The study also attempted to look at the teacher's qualities among different schools and classes. The profile of the best clinical teacher in this study emerged as one who is highly competent in skills and not so much on personality and interpersonal relationship, although further investigation is needed in these characteristics. The students also rated evaluation of procedures as second best quality of a good teacher. The results of the study showed that the best teachers and ideal received high ratings in all five categories although there were some important qualities in the poorest teachers. This study shows that the central characteristic of an effective teacher in nursing education is competence in knowledge and skills. This study used the instrument which was a modification of the Nursing Clinical Teacher Effectiveness Inventory, designed by Knox and Mogan (1985) and a five point Likert Scale to indicate the qualities of the "ideal," "best" and "poorest" teachers.

Another study using the Nursing Clinical Teacher Effectiveness Inventory designed by Knox & Mogan (1985) rated "evaluation of students" as the most effective characteristic with a mean 4.85 with a standard deviation of .41 as rated by students (Sieh & Bell, 1994, Discussion section, para 1), while faculty rated "encourages a climate of mutual respect" as the highest preceptors' characteristics with a mean of 4.77 and standard deviation of .43 out of the 48 items in the NCTEI (Sieh & Bell, 1994, Discussion section, para4). In this study, analysis of variance (ANOVA) was used to determine which of the five subset had the highest rating, which showed that teaching ability and nursing competence had the highest rating (Sieh & Bell, 1994).

Knox & Mogan (1985) compared the responses of three groups of respondents: nursing faculty, students, and practicing baccalaureate graduates in one study, investigating the important clinical teacher behaviors and found that there were differences in results between the three groups. Participants rated the qualities of clinical teachers on a seven point Likert scale, responding to 47 items in the survey questionnaire. The study was not related to the preceptors' attendance in a preceptor program and was based mainly on perceptions of responders to the clinical teachers' behaviors.

An area of study investigated by researchers that influences the effectiveness of clinical instructors is the art of caring and effective teaching behaviors. Caring for the student (orientee) helps in development of interpersonal relationships between the instructor and the student, enhancing the teaching and learning environment (Ali, 2012; Beck, 2001). There is a need for improvement in the nursing- instructor relationship in nursing education (The National Council of State Board of Nursing, 2005). Theories of caring and caring practices demonstrated by instructors to students (Watson, 1979; Wade & Kasper, 2006; Echevarria, 2013) will enhance the mentoring process. Caring is demonstrated in the preceptors' behaviors, verbal or non-verbal, making them effective teachers (Ali, 2012). A study on the perception of nursing students from four different grade levels at King Khalid University, Saudi Arabia, was conducted to investigate caring and effective teaching behaviors. Two sets of questionnaires were used: one was developed by the researcher and one was the Nursing Student Perceptions of Instructor Caring (NSPIC) using a descriptive quantitative research design. The instruments consisted of questionnaires used to identify effective teaching characteristics in five categories. The nursing students identified knowledge and experience of their instructors as the most important characteristic of a clinical teacher, followed by interpersonal relationship, as the second most

important characteristic, and evaluation procedure as the third (Ali, 2012). Personality traits was perceived as the lowest category in the five subscales (Ali, 2012).

When nurses are overwhelmed with the complexity of care in nursing practice (Proulx et al., 2008), strategies such as instilling humor, making learning fun (Moscaritolo, 2009), and giving the nurses a sense of belonging (Baltimore, 2004; Morris, 2007; Murphy, 2008) will contribute to decreased anxiety levels and positive outcomes in precepting. One study investigated how teaching behaviors affected anxiety levels of nursing students in two groups: the junior and senior baccalaureate nursing students (Cooke, 2005). In this study, students were given questionnaires designed to measure their level of anxiety. The results by multiple regression analysis indicated a moderate negative correlation in students' perception of personally and professionally inviting teaching behaviors and students' anxiety levels.

Summary

The review of literature had six main purposes: first to present the current problem in nursing, which is the shortage in critical care, an area that requires intensive training of nurses by nurse preceptors; second, to explain the position statement of nursing organizations on education of nurses in the clinical setting for the purpose of safe, quality patient care; third, was to make the reader understand the concept of preceptorship in order to perceive the significance of the independent variable in this study, which is preceptor training; fifth, to define the characteristics of an effective preceptor as clinical teacher, as perceived by students (orientees) in several studies, and in the existing literature; and sixth, was to determine the value of the intervening variables i e., academic preparation of preceptors, years of experience in nursing, and years of experience as a preceptor; and finally the use of adult learning theories by preceptors that will make them effective teachers.

The review suggested further that preceptor training is an area that needs to be investigated and its impact on effectiveness of clinical preceptors as there are limited studies on the subject. There are studies on the orientation procedure for new nurses with results focusing on process, and outcomes on orientee satisfaction and retention, the qualities and characteristics of preceptors appreciated most by orientees and nursing faculty.

Consequently, this study will contribute to existing literature on the relationship of preceptor training and effectiveness of preceptors as clinical teachers and mentors through development of teaching behaviors.

CHAPTER III

METHODOLOGY

Overview

The chapter focuses on the purpose of the study, hypothesis, study design, instrumentation used, sources of data collection, and analyses. The purpose of the study is to demonstrate the value of a preceptor training program to prepare preceptors as clinical teachers and evaluate their effectiveness through five teaching behaviors: teaching ability, nursing competence, characteristics related to evaluation, characteristic related to personal relations, and characteristics related to personality. The study will expand knowledge on the need for preceptor training serving as a guide to nurse administrators to support the role of nurse preceptors in development of core characteristics and behaviors for clinical teaching. The research question "Does preceptor training positively impact teaching behaviors of preceptors to effectively deliver knowledge and skills to nurse orientees," was investigated to validate the hypothesis "preceptor training will positively impact effective teaching behaviors of preceptors to deliver knowledge and skills to nurse orientees." Sample participants included 130 nurses who were orientees in 2012 and 2014 and were new graduate nurses, nurses who have experience in other nursing specialties but are new hires in critical care; and 85 nurse preceptors who were involved in precepting nurses in 2012 – 2014. Sample participants are from four hospitals in New York state. A detailed description of the research sites and sample participants is contained in this chapter.

Settings and Participants

The setting of the study were the critical care units in four hospitals in New York City. Critical care units consisted of: medical intensive care unit (MICU), surgical intensive care unit

(SICU), cardiac care unit (CCU), post-anesthesia care unit (PACU), step-down unit (SDU), emergency department – adult and pediatric (ED). Sample participants consisted of 30 preceptors and 50 orientees from each of the four cohorts. Inclusion criteria for research participants included preceptors who precepted in the years 2012 -2014, and for orientees who were on orientation in the years 2012 – 2014. Cohort A were sample participants from an acute hospital in New York City located in the Bronx. This medical center is one of New York's premiere acute hospital designated as a level I trauma center with various centers of excellence such as the diabetes center and the stroke center. This hospital is composed of 500 beds and provides a full range of medical and surgical specialties. Cohort B were sample participants from a 400 bed community hospital located in Utica, New York. This hospital has medical - surgical specialty areas and critical care units. These two hospitals do not offer preceptor training. Cohort C sample participants are from an 800-bed non-profit hospital in New York City with full range of medical and surgical specialties. This hospital has an academic affiliation with a university school of medicine. This hospital provides a 6-hour preceptor program to nurse preceptors to prepare them for their role in orienting nurses. Cohort D sample participants are from a 400-bed community hospital with medical and surgical specialties and critical care units. This hospital provides preceptor training to nurse preceptors.

Participant characteristics. Preceptors and nurse orientees are diverse in age, gender, cultural background, ethnicity and religion. Preceptors differ in academic preparation. Some preceptors have a bachelor of science in nursing degree and others have completed a master's degree in nursing. Although the four hospitals vary in services, critical care unit orientation is similar in all types of intensive care. Preceptors teach nurses to perform assessment of patients by systems, how to think critically in order to make decisions in patient care, and to arrive at a

nursing diagnoses based on the nurses' assessment. Nurses are taught organization, patient management, and basic critical care procedures. Critical care nurses who complete orientation can apply their skills in any type of critical care unit because of the similarity in basic orientation.

Instrumentation

The instrument used in the study is the *Nursing Clinical Teaching Effectiveness Inventory* (NCTEI), originally designed to explore the respondents' ratings for effective characteristics of clinical teachers (Knox & Mogan, 1985; Mogan & Knox, 1987). The instrument is composed of 48 sections, each intended to address effective qualities and behaviors of clinical teachers related to the clinical learning experiences of students (Knox & Mogan, 1985). The 48 sections in the NCTEI are used to describe five categories of effective teaching behaviors of nursing teachers: teaching ability, nursing competence, characteristics related to evaluation, characteristics related to personal relationships, and characteristics related to teacher personality. In the NCTEI, questions 1 – 16 contained items that describe teaching ability; questions 17 – 26 described characteristics of nursing competence; questions 27 – 35 described characteristics related to student evaluation; questions 36 – 41 described characteristics related to interpersonal relationships; and, questions 42 – 48 described teacher personality (Knox & Mogan, 1985). Reliability of an instrument refers to consistency, whereby the instrument used in research demonstrates the same results on repeated trials (Nunnaly & Bernstein, 1994). Reliability coefficients were established for each of the five categories of teaching behaviors by a test and retest method, through survey questionnaires administered to 69 third year baccalaureate nursing students. The results of both tests did not show any significant difference and were found to be within the range of accepted reliability (Knox & Mogan, 1985). The instrument

tested for reliability with a Cronbach's Alpha of .79 to .92 (Chook, Cholowski, & Williams, 2002). Since it is difficult to define and evaluate effective clinical teaching, validity of the NCTEI depended on face and content validity (Knox & Mogan, 1985). Content validity of the instrument evolved from students' description of effective and ineffective teaching behaviors, while face validity was interpreted from positive comments of students on effective teachers (Knox & Mogan, 1985).

The NCTEI was originally developed by Knox & Mogan (1985) intended to evaluate clinical teaching behaviors as perceived by university faculty, nursing students, and practicing baccalaureate graduates, rating each item on a seven point Likert Scale. The NCTEI (Knox & Mogan, 1985) has also been used in a study to evaluate students' perception of the ideal, best, and poorest clinical teachers in nursing in three schools with different nursing curricula (Benor & Levitof, 1997); in a study to evaluate effective clinical teaching behaviors through perceptions of full-time and part-time BSN students (Beitz & Weilou, 2005); and in a study evaluating faculty and students' perceptions of effective clinical teachers (Bergman & Gaitskill, 1990).

The NCTEI (Knox & Mogan, 1985) does not explain how students learn, and does not reference making meaning of learning or the actual measurement of learning. The categories used in the instrument explains how behaviors of clinical teachers can make them facilitators of learning. Subsequent studies after the development of the NCTEI (Knox & Mogan, 1985) did not measure learning but focused on perceptions of students on effective teaching behaviors which could have influenced their clinical learning. Whereas, the studies show that clinical instructors are perceived as effective through their students' perceptions, it becomes necessary to investigate how a preceptor training can help develop these teaching behaviors using the

NCTEI as the research instrument. The NCTEI was used as the questionnaire in the survey of orientees and preceptors (see appendix A, and Appendix B).

Table 1 presents the curriculum of a preceptor training that correlated to the teaching characteristics outlined in the NCTEI. This study did not evaluate the preceptor program attended by preceptors but looked at the effective teaching characteristics demonstrated by clinical preceptors who have attended a preceptor training program. Since the NCTEI has been used in previous studies to evaluate clinical teachers through perception of students and teachers in three schools with different nursing curricula (Benor & Levitof, 1997; Beits & Weilou, 2005; Bergman & Gaitskill, 1990), it was used in this study mainly to evaluate preceptors' teaching characteristics impacted by preceptor training.

Table 1

Alignment of Preceptor Curriculum to Effective Teaching Behaviors and Items in the Questionnaire – Nursing Clinical Teacher Effectiveness Inventory

Preceptor Curriculum	Effective Teaching Behaviors	NCTEI Questionnaire Items
Research Question: "Does preceptor training positively impact teaching behaviors of preceptors to effectively deliver knowledge and skills to nurse orientees?"		
Teach students to develop critical thinking and decision making	Teaching ability	1-17
Student supervision	Nursing competence	18-26
Clinical assessment Establish expectations Provide feedback Documentation Referral to healthcare team	Characteristics related to evaluation	27-34

Development of interpersonal relationship and communication Development of caring practices Provide support Embracing diversity	Characteristics related to interpersonal relationships	35-40
Demonstrate enthusiasm Demonstrate open-mindedness	Personality	41-48

Data Collection

Consent and Access. Permission to conduct the research was granted by the Institutional Review Board of New England College**.** Permission to access orientees in the clinical units to collect data was initiated by sending a letter to the director of staff development of each prospective participating hospital (See Appendices D, Letter to Grant Permission to Conduct Research Study). The primary point of contact for all hospitals participating in the study were the directors of staff development. A thorough explanation of the purpose of the research was presented by a meeting with the staff development nursing directors in person. The staff development directors communicated with the chief nursing officers of the respective hospitals in order to obtain approval from them before the process could be initiated with the institutional review board of each hospital. Once approval has been obtained verbally from the chief nursing officers of the participating hospitals, the staff development directors communicated with the directors of research in two of the participating hospitals, and to the research specialists in the other two participating hospitals. Two of the participating hospitals required that the researcher meet with the director of the research committee to present the proposal for the research in person; the other two hospitals required that the researcher communicate with the research specialists of each hospital to present the proposal through email. Application forms and

institutional review board (IRB) documentation requirements for the research were completed with the assistance of the research specialists and the staff development directors. For each hospital, the staff development directors acted as principal investigators (PI) and the researcher acted as the co-investigator. Requirement of each IRB included certification in the Collaborative Institutional Training Initiative (CITI) and Health Insurance Portability and Privacy Act (HIPAA). Staff development directors assigned as PI and the researcher complied with the CITI and the HIPAA requirements. The entire process of gaining access, securing IRB approvals from four hospitals and completing data collection covered a period of 12 months, from February 2013 to February 2014.

When permission was granted to gain access in hospitals through approvals of the IRBs, (see Appendix E, Appendix F, Appendix G, and Appendix H) the researcher had to meet with the staff development directors to discuss the process of participant recruitment and selection. Recruitment of participants involved the posting of a flyer (see Appendix I) in critical care units explaining the purpose of the research, the inclusion criteria for participants, and the dates of the information sessions. Information sessions were scheduled by the director of staff development. Information sessions were available to participants who needed information on the research who were potential respondents. For participants who missed the scheduled dates of the information sessions, the principal investigator and the co-investigator provided them with the necessary information in the staff development office and in respective critical care areas. Attendance in the information sessions was not a requirement to participate in the research. Names of participants and patient care units remained anonymous to the researcher. In addition to information sessions, the staff development director who acted as the principal investigator (PI) and the researcher, made rounds in the critical care units on all shifts: the morning shift, the

evening shift, and the night shift, to meet with the nurse managers and ask their permission that the PI and the researcher meet with the nursing staff who are included in the selection criteria for this research.

Participants in each unit and those who attended the information session were provided a verbal informed consent (see Appendix J). Verbal informed consent covered: the purpose of the research, the procedure in filling out the survey questionnaire; information explaining that there are no known or possible risks in participating in the study, participation in the study will not affect their employability or benefits, the study will maintain confidentiality and privacy, and will not include any identifiers. The verbal consent informed the participants that data gathered in the survey will be kept in a safe place, may be inspected by an inspector legally obligated to monitor the research process, and any code used by the researcher will be kept confidential, and will not be identifiable by anyone. Participants were informed that their completion of the questionnaire would determine that they understood the purpose of the research, the benefits, and the absence of risks from the research participation, and their willingness to participate.

Questionnaire. Instructions to complete the survey questionnaire were provided to participants who voluntarily participated in the research. They were informed that the data collection tool would consist of a four page survey questionnaire for preceptors, and a survey questionnaire for orientees. Participants were also told that completion of the survey questionnaire would take 20 minutes. Participants were informed that the survey questionnaire could be obtained from the nursing staff development office from an office staff member who is not involved in this research. Participants could fill out the questionnaire in the conference room, or in any place they choose, and not to use hospital work time in this process. Participants were instructed to enclose the questionnaire in a white envelope, provided by the

staff member in the staff development office who was not involved in the research, seal the envelope, and drop it in the locked drop box. This locked box was kept in a locked office of the staff development director.

Data Analyses

Research Design. A quasi-experimental design is the most suitable research design method for this study since random sampling will not be possible in a setting where the participants will have to be selected for the study. In this study, the sample participants were preceptors and nurse orientees. The Non-Equivalent Group Design (NEGD) most frequently and commonly used in social research (Trochim, 2006) was used to compare the treatment group – the group of nurses who have been exposed to the preceptor program, and the comparison group – the group of nurses who did not participate in a preceptor program. The design is effective in evaluation of the impact of an educational program on the outcome (Gribbons & Herman, 1997) in four similar areas (critical care units of four different hospitals), where a fair comparison could be used (Trochim, 2006) for the treated groups and the comparison groups. Trochim (2006) suggests that the groups are considered to be similar, as they work in critical care, but are not equivalent due to other variables that may affect the study such as the previous preceptor experience, academic preparation of preceptors, and the number of years preceptors have worked in critical care. Data was included in the questionnaire to control for these intervening variables and to determine the correlation of these variables to the effectiveness of preceptors in delivery of skills and knowledge to orientees.

The groups in this study were preceptors who precepted in 2012 – 2014, and nurse orientees who were under supervision as preceptees in 2012 -2014. Preceptors and

orientees were from four hospitals in New York City. Nurse orientees were new graduate nurses (NGN's), and nurses with work experience in other aspects or areas of nursing but who were new hires of the critical care units. There was no prior determination of previous experience of the preceptors in both groups that may have influenced their responses of self-perception in the items included in the questionnaire. The intervening variables identified may be present in both the treatment groups and the comparison groups and therefore was made a part of the questionnaire. The intervening variables may influence the preceptors' abilities and performance with or without the preceptor training. The intervening variables can be a threat to the internal validity of the study, considered by Trochim (2006) to be selection threat. According to Vogt (2007, p. 109) matching of characteristics of the comparable groups is difficult but may be done by matching pretest results of both groups. In this study, a pretest post-test design was not applicable as the preceptors in the treatment groups have already been exposed to a preceptor training program. Given these challenges, a nonequivalent group post-test only design was used for this study comparing a treatment group to a non-treatment group. Although a potential selection threat may exist (Trochim, 2006), this study investigated the dependent variables, the five subset of teaching characteristics, to determine how these characteristics were impacted by the preceptor training program. Analysis was further accomplished in determining the impact of the independent variable on each subset of characteristics demonstrated by preceptors.

According to Vogt (2007, p. 108), a quasi-experimental design is useful to groups, such as hospital groups, that have already been formed, in this case, nurses involved in orientation procedure, inclusive of preceptors and orientees. Data was gathered using survey questionnaires through self-evaluation by preceptors and evaluation of preceptors by orientees. Data was

analyzed using multiple regression analysis.

The NCTEI has 48 items that can be divided into five categories for the purpose of this study. The categories are: *teaching ability, nursing competence, characteristics related to evaluation, characteristics related to interpersonal relationships*, and *characteristics related to teacher personality*. The items in the questionnaire describe the characteristics of effective teaching behaviors. Each section of the survey focuses on a component of clinical teaching behavior. Questions 1 – 16 contained items on teaching ability; items 17-26 included characteristics of nursing competence; items 27 – 35 described characteristics related to student evaluation; items 36 – 41 described interpersonal relationship; and items 42 – 48 described teacher personality (Mogan & Knox, 1987). Each item in the questionnaire will be represented by a five point Likert scale and responses will be coded using a numerical value where: 1 = never observed, 2 = rarely observed, 3 = sometimes observed, 4 = frequently observed, and 5 = always observed. The sum of the aggregate scores and scores in each of the five categories was determined. Ratings of each category of subset was analyzed in order to determine the effective characteristics of preceptors most and least developed. Data was entered in Excel spreadsheet for analysis. Mean scores and standard deviation was determined. Responses from the NCTEI were coded and entered into a statistical package for social sciences (SPSS) and analyzed. The ratings of effectiveness of preceptors was compared between cohort A, B, C, and D. Items in the questionnaire with the highest scores will indicate effective teaching behaviors. Paired *t* test was performed to compare the aggregate scores of the control group (cohort A and B) with the experimental group (cohort C and D) by entering data in computer software package.

The independent variable was measured as a *yes* or *no* to having preceptor training as

indicated in the questionnaire. The intervening variables: years of experience as preceptor, years of experience in critical care, and academic preparation of preceptors were collected from data obtained from questionnaires for preceptors. Data from information obtained for the independent variable and the intervening variables was analyzed for each cohort and entered into a statistical package. Mean scores and standard deviations were determined for each cohort.

Aggregate scores of each dependent variable, the five effective teaching characteristics, were analyzed using multiple regression controlling for the independent variables and the intervening variables. This analysis will help determine which characteristic of the preceptor had the biggest impact on the overall score, controlling for all other variables.

Multiple regression analysis explained the correlation of the independent and dependent variables. Using regression analyses, the scores of all sites were combined in two separate scores: control sites and treatment sites. Multiple regression identified the contribution of the independent variable and each of the mediating variables to the dependent variable, while controlling for other variables in the equation. The sum of the regression analyses was expressed as a regression coefficient using *R* squared. A semi-partial correlation (sr^2) between the independent and intervening variables and the dependent variable was determined. A semi-partial correlation is used to determine the unique contribution of one independent variable above the influence of the other mediating variables to the dependent variable (Berger, 2003). The total increase in the sum of the independent variable taking into account the sum of the intervening variables was analyzed in order to determine if this was associated with the dependent variable. SR^2 was used to determine the effect size and the magnitude of the impact on the dependent variable. In multiple linear regression, the percentages of variance in the dependent variable which are uniquely explained by the independent variable, is represented by

SR^2 (Neill, 2011). The magnitude of the treatment effect may be summarized using effect size measurements that can be measured as the standardized difference between two means or by correlating the scores on the dependent variable with the independent variable (Becker, 2000). Effect size is an important index in explaining the significance of a sample size in statistical analysis and may be expressed in terms of percentages of variance where small is 1 %, medium is 9 %, and large is 25 % (Becker, 2000).

CHAPTER IV

FINDINGS

Overview

As stated in Chapter 1, the study reported here examined the impact of preceptor training on the effectiveness of nurse preceptors in delivery of knowledge and skills to nurse orientees. The chapter reports the characteristics of effective teachers (preceptors) perceived by orientees in two hospitals that provide preceptor training and two hospitals that do not provide preceptor training. It also presents the report of preceptors on self-perception on the same effective teaching characteristics included in the survey questionnaires for orientees in two hospitals that provide preceptor training and two hospitals that do not provide preceptor training.

Background and Experiences of Orientees in the Sample

Orientees included in the study were nurses who were new hires in critical care units who were on orientation from 2012 -2014. New hires are new graduates with either an Associate degree of nursing (ADN), or baccalaureate degree of nursing (BSN). Orientees also included nurses who had experience in other nursing specialties and were new hires in critical care units. Orientees were diverse in age, gender, cultural background and religion. The number of sample participants in each cohort of participating hospitals is presented in Table 2.

For analysis, participating hospitals are coded: Cohort A is coded as hospital 1, Cohort B is coded as hospital 2, Cohort C is coded as hospital 3, and Cohort D is coded as hospital 4. Hospitals 1 and 2 do not provide preceptor training and are considered as the control group. Hospitals 3 and 4 provide preceptor training and are considered as the experimental group. All the participating hospitals are located in New York. Hospital code is presented in Table 2.

Table 2

Hospital Code and Corresponding Orientee Sample

Hospital Code	*n*	Percent of Total
1	48	36.90
2	16	12.30
3	39	37.30
4	17	13.10

The number of sample participants in the control group and the experimental group and its corresponding frequencies are presented in Table 3.

Table 3

Frequencies of Control and Treatment Group

Participants	*n*	Percent
Control	64	49.20
Treatment	66	50.80

Background and Experience of Preceptors in the Sample

Preceptors are nurses who are assigned by nurse managers or nurse educators to teach and supervise new hires for a certain period of time designated by the respective hospitals. The orientation period of new hires vary from 3 months to 6 months depending on hospital policy. During the orientation period, orientees are supervised by several preceptors. Orientees do not usually have only one preceptor for the entire orientation period due to staffing difficulties and the availability of preceptors. Therefore, in answering the survey questionnaires, each orientee

rated only the preceptor who had the greatest impact in their training and who spent the most time teaching them clinically in the application of patient care.

Preceptors included in the study were those who supervised nurses from the period of 2012 – 2014. Preceptors' academic credentials varied from associate degree in nursing, baccalaureate degree in nursing, master's degree in nursing, and master's degree in science. Some preceptors possess the critical care nursing specialty certification. The age of preceptors ranged from 30 – 65 years. Preceptors' work experience varied and were categorized as years of experience in critical care and years of experience as a preceptor. It is important for this study to include these two categories of work experiences because not all nurses with extensive work experiences are given the opportunity to act as preceptors. Preceptor demographics is presented in Table 4.

For this study, preceptors are diverse in age, ethnicity, cultural background, religion, and gender. This study only examined the effectiveness of preceptors if they have attended a preceptor training based on the characteristics of effective teaching behaviors included in the survey, comparing the findings with a control group.

There are internal factors involved in selecting nurses to serve as preceptors in addition to the policy of the institution. These internal factors are: the willingness of nurses to act as preceptors, the criteria for selecting preceptors based on the decision of the nurse managers and nurse educators, and the acuity of patients in the units on a particular day requiring a smaller nurse to patient ratio. Hospital code and number of preceptor sample is presented in Table 5.

Table 4

Preceptor Demographics Used as Independent Variable in Multiple Regression Analysis

Preceptor Characteristics	*n*	Valid Percent
1. Attended preceptor program		
Yes	45	52.90
No	40	47.10
2. Years of experience in critical care		
1 - 5	27	34.60
6 - 10	30	38.50
11 - 15	4	5.10
16 - 20	7	9.00
21 or more	4	4.90
3. Academic degree		
Associate Degree	25	29.80
Bachelor of Science in Nursing	50	59.50
Master's Degree	9	10.70
4. Years of experience as preceptor		
1 - 5	51	63.00
6 - 10	10	12.30
11 - 15	8	9.90
16 - 20	8	9.90
21 or more	4	4.90

Table 5

Hospital Code and Number of Preceptor Sample Participants

	Attended Preceptor Training			
Hospital Code	No	Yes	*n*	Percent
Hospital 1	20	11	31	36.5
Hospital 2	15	3	18	21.2
Hospital 3	6	18	24	28.2
Hospital 4	4	8	12	14.1

Teaching characteristics in the survey questionnaire were individually rated by orientees (as seen in Appendix K). Means of individual teaching characteristics are higher in the treatment group when compared to the means of individual characteristics in the control group. The standard deviation of the mean scores for the treatment group reveals a closer representation of the mean for this group. A smaller standard deviation describes the mean better (Vogt, 2007, p. 29).

Orientees Ratings of the Five Sub-Groups of Effective Teaching Behaviors

As shown in Table 6, individual scores were aggregated and averaged to create aggregate mean. When comparing the mean scores of teaching behaviors, the mean scores of the treatment group is higher than the mean scores of the control group. The standard deviation of the treatment group is smaller than the standard deviation of the control group, better describing the mean of the treatment group.

The aggregate scores of the subgroups of the five effective teaching behaviors (as seen in Table 6), suggest that the orientees of hospitals that do not provide preceptor training (cohorts A and B), and orientees of hospitals that provide preceptor training (cohorts C and D) rated

characteristics related to evaluation as the most important teaching characteristic followed by *characteristics related to nursing competence, characteristics related to teaching ability, characteristics related to personality,* and finally, *characteristics related to interpersonal relationship*. The mean scores of the treatment group in all five subgroups are higher in the treatment group compared to the control group. The standard deviation of the mean in all subgroups in the treatment group suggests less variance of the mean scores compared to the control group. The results further illustrate that the characteristic with the highest rating for the treatment group and the control group is *characteristic related to evaluation* and the characteristic with the lowest rating for both groups is characteristic related to *interpersonal relationship*. The frequency of rating of each characteristic of effective teaching behaviors as rated by the control group and treatment group is found in Appendix L.

Table 6

Aggregate Mean of the Five Sub-groups of Effective Teaching Behaviors of Preceptors Rated by Orientees.

Effective Teaching Behaviors	*n*	*M*	*SD*
1. Teaching ability			
Control	64	3.81	0.72
Treatment	66	4.33	0.45
2. Nursing competence			
Control	64	3.85	0.69
Treatment	66	4.33	0.45
3. Characteristic related to evaluation			
Control	64	3.87	0.77

Treatment	66	4.38	0.48
4. Characteristic related to interpersonal relationship			
Control	64	3.63	0.81
Treatment	66	4.18	0.53
5. Characteristic related to personality			
Control	64	3.80	0.73
Treatment	66	4.27	0.55

Levene's Test for Homogeneity of Variances

In order to compare the means of the control group and the experimental group, an independent sample *t*-test was performed using SPSS for each aggregate mean. The results of the independent sample *t*-test illustrate that there are unequal variances in the means of the control group and the treatment group, violating the assumption of homogeneity of variances. The results suggest that there is a statistical difference between the control group and the treatment group in orientees' responses on the five categories of effective teaching characteristics, indicating that the hypothesis for this research is true, that "Preceptor training will positively impact effective teaching behaviors of preceptors to deliver knowledge and skills to nurse orientees."

Since the sample population surveyed were all nurse orientees in critical care units, it becomes necessary to illustrate the results based on Levene's test on homogeneity of variances to compare the means between the treatment group and the control group in order to determine that the results are not due to chance, and that the findings are statistically significant. In this study, the findings suggest that the variances are not equal, therefore, rejecting the null hypothesis that variances are equal. Since the null hypothesis of equal variances is rejected in this test, the

findings in the SPSS output that reads "equal variances not assumed," for the *t*-test is used (Norusis, 2008, p. 141). Table 7 reports the results of the *t*-test.

The relative magnitude of the experimental effect was determined using Cohen's method (Cohen, 1992). This effect size was calculated by determining the difference between the two means (the treatment and the control) divided by the standard deviation of the two conditions (Cohen, 1992). A Cohen's *d* of less than 0.20 is a small effect size, 0.50 is a moderate effect size, and .80 or greater is a large effect size (Cohen, 1992, p. 99). For this study, the characteristic of effective teaching behaviors: *teaching ability*, *nursing competence*, *evaluation*, and *interpersonal relationship* demonstrate a large effect size of greater than 0.80 and the characteristic of teacher personality demonstrates a moderate effect size of .72.

Table 7

Independent Sample t-test Comparing Aggregate Characteristic Means for Control Group and Treatment Group

Characteristics	*n*	*M*	*SD*	*t*	*df*	*p-value*
1. Teaching ability						
Control	64	3.81	0.72	-4.82	106.06	0.001
Treatment	66	4.33	0.45			
2. Nursing competence						
Control	64	3.85	0.69	-4.63	108.50	0.001
Treatment	66	4.33	0.45			
3. Evaluation						
Control	64	3.87	0.77	-4.42	104.76	0.001
Treatment	66	4.38	0.48			
4.Interpersonal relationship						
Control	64	3.63	0.81	-4.58	108.81	0.001

Treatment	66	4.18	0.53			
5. Personality Control	64	3.80	0.73	-4.00	117.00	0.001
Treatment	66	4.27	0.55			

Note. $p < .05$

The independent sample *t*-test on *characteristic related to teaching ability* indicates that the mean is higher for the treatment group ($M = 4.33$, $SD = 0.45$) than for the control group ($M = 3.81$, $SD = 0.72$), t (106.6) = -4.82, $p = .001$, indicating a statistically significant finding. The effect size ($d = .86$) indicates a large magnitude of experimental effect on characteristic related to *teaching ability* for the treatment group.

For *characteristic related to nursing competence*, the independent sample *t*-test indicates that the mean is higher for the treatment group ($M = 4.33$, $SD = 0.45$) than the control group ($M = 3.85$, $SD = 0.69$), t (108.50) = -4.63, $p = .001$, suggesting a statistically significant finding. The effect size ($d = 0.82$) suggests a large magnitude of experimental impact for the treatment group.

The *t*-test for *characteristic related to evaluation* illustrates higher mean for the treatment group ($M = 4.38$, $SD = 0.48$) compared to the mean of the control group ($M = 3.87$, $SD = 0.77$), t (104.76) = -4.42, $p = .001$, indicating a statistically significant finding. The effect size ($d = 0.81$) suggests a large magnitude of experimental effect for the treatment group.

The result of the independent *t*- test for *characteristic related to interpersonal relationship* illustrates that the mean of the treatment group ($M = 4.18$, $SD = 0.53$) is higher than the mean of the control group ($M = 3.63$, $SD = 0.81$, t (108.81) = -4.58, $p = .001$, suggesting a statistically significant finding. The difference between the means of the control group and the

treatment group represented by Cohen's *d*, suggests a large effect size ($d = 0.81$) indicating a large magnitude of experimental impact for the treatment group.

The independent *t*-test performed for *characteristic related to personality* illustrates that the mean of the treatment group ($M = 4.27$, $SD = 0.55$) is significantly higher than the mean of the control group ($M = 3.80$, $SD = 0.73$), t (117), = -4.00, $p = .001$, suggesting a statistically significant finding. The difference between the means of the control group and the treatment group represented by Cohen's *d* suggests a moderate effect size ($d = 0.72$) or magnitude of experimental impact for the treatment group.

Confidence intervals for each characteristic of effective teaching behaviors as reported by orientees is represented in Table 8. The confidence interval of each characteristic of effective teaching suggests that the researcher can be 95 percent confident that the true value of the difference of each characteristic is between the upper and lower limits.

Table 8

Confidence Intervals on Orientees' Report of Effective Teaching Behaviors of Preceptors

				95% CI	
Characteristics	*t*	*df*	*p-value*	*LL*	*UL*
Teaching ability	-4.82	106.00	0.001	-0.72	-0.30
Nursing competence	-4.63	108.00	0.001	-0.68	-0.27
Evaluation	-4.42	104.00	0.001	-0.73	-0.27
Interpersonal relationship	-4.58	128.00	0.001	-0.79	-0.31
Personality	-4.119	117.00	0.05	-0.69	-0.24

Note. CI = confidence intervals; *LL* = lower limit, *UL* = upper limit

Results of Preceptor Survey

The preceptor survey results for cohorts A and B (control group), and for cohort C and D, (treatment group) were entered into the Excel spreadsheet for analysis of the mean and standard deviation for each of the characteristic of effective teaching behavior. The result of the analysis of effective teaching characteristics rated by preceptors is found in Appendix M.

Analysis of effective teaching characteristics as rated by preceptors (as seen in Appendix M) illustrates that preceptors in the control group scored higher means in survey questions pertaining to responsibility, communication, and approachableness. The standard deviations of the means in the treatment group showed a closer distribution of scores around the mean compared to the standard deviations of the means in the control group. The frequencies of ratings of teaching characteristics as rated by preceptors is found in Appendix N.

Table 9

Aggregate Means of the Five Sub-Groups of Effective Teaching Characteristics Rated by Preceptors

Characteristics	*n*	*M*	*SD*
1. Teaching ability			
Control	45	4.19	0.56
Treatment	40	4.35	0.49
2. Nursing competence			
Control	45	3.98	0.49
Treatment	40	4.21	0.46
3. Evaluation			
Control	45	4.19	0.54
Treatment	40	4.28	0.47
4. Interpersonal relationship			
Control	45	4.33	0.58

Treatment	40	4.53	0.41
5. Personality			
Control	45	4.18	0.62
Treatment	39	4.40	0.55

As shown in Table 9, individual scores were aggregated and averaged to create the aggregate mean. The treatment group scored higher means in each of the five subgroups of effective teaching behavior when compared to the means of the control group. The standard deviations of the means in the treatment group showed a closer distribution of scores around the mean compared to the standard deviations of the means of the control group.

For the control group, the *characteristic related to interpersonal relationship,* has the highest mean, followed by *characteristic related to teaching ability, characteristic related to evaluation, characteristic related to personality,* and the *characteristic related to nursing competence.* For the treatment group, the characteristic with the highest mean is *characteristic related to interpersonal relationship,* followed by *characteristics related to personality, characteristic related to teaching ability, characteristic related to evaluation,* and the *characteristic related to nursing competence.*

Levene's Test for Equality of Variances was reviewed prior to interpreting *t*-test results of the five subgroups of teaching characteristics. Levene's Test for Equality of Variances is useful when the same variable is measured in two independent groups and the researcher needs to determine if the variances in the means of the two groups are equal (Norusis, 2008, p.141). In the Levene's Test for Equality of Variances, a small significance level suggests that the null hypotheses (that the variances are equal), can be rejected (Norusis, 2008, p.141). Since the null hypothesis of equal variances is rejected in this test, the findings in the SPSS output that reads "equal variances not assumed," for the *t*- test is used (Norusis, 2008; Vogt, 2007).

The results indicate that preceptors' means on *teaching ability* as rated by the treatment group (M = 4.35, SD = 4.50), is higher than the scores of the control group (M = 4.19, SD = 0.56), t (83) = -1.42, p = .16. The p value suggests that preceptor training has no statistical significance on *teaching ability*.

Table 10

Independent Sample t-Test Comparing the Means of the Control Group With the Means of the Experimental Group of Preceptors Surveyed

Characteristics	*n*	*M*	*SD*	*t*	*df*	*SE*	*p-value*
1. Teaching ability							
Control	45	4.19	0.56	-1.43	83.00	0.11	0.16
Treatment	40	4.35	0.50				
2. Nursing competence							
Control	45	3.98	0.49	-2.22	82.60	0.10	0.03
Treatment	40	4.25	0.47				
3. Evaluation							
Control	45	4.19	0.54	-0.88	82.90	0.11	0.38
Treatment	40	4.28	0.47				
4.Interpersonal relationship							
Control	45	4.33	0.58	-1.91	79.30	0.10	0.06
Treatment	40	4.53	0.41				
5. Personality							
Control	45	4.18	0.63	-1.65	81.97	0.12	0.11
Treatment	39	4.40	0.55				

Note. $p < .05$.

The result of the independent sample *t*- test on *nursing competence* indicate that preceptors in the treatment group have higher means (M = 4.25, SD = 0.47) than the control group (M = 3.98, SD = 0.49), t (82.6) = -2.219, p = .03, d = .56. The result suggests that preceptor training is statistically significant and has a moderate experimental effect on *nursing competence*.

The independent sample *t*-test on characteristics related to *evaluation* suggests that preceptors in the treatment group have higher means (M = 4.25, SD = 0.47), compared to means of the control group (M = 4.19, SD = 0.54), t (82.9) = -8.77, p = .38. The result illustrates that preceptor training has no statistical significance on the *characteristic related to evaluation* and that the higher means could just be a chance occurrence.

The independent sample *t*-test on *interpersonal relationship* suggests that preceptors in the treatment group have higher means (M = 4.53, SD 0.41), compared to means of the control group (M = 4.33, SD = 0.58), t (79.2) = -1.911, p = .06. The result suggests that there is no statistical significance on *interpersonal relationship* if preceptors attended a preceptor training, and the higher means could just be due to chance.

The independent sample *t*-test on the fifth subgroup of teaching characteristics, *personality*, suggests that the treatment group has a higher mean (M = 4.40, SD = 0.55) compared to the control group (M = 4.18, SD = 0.63), t (81.9) = -1. 650, p = .11. The finding suggests that there is no statistical significance on *personality* as a teaching characteristic if the preceptor attended preceptor training and that the resulting difference in the means between the control group and the experimental group is merely related to chance.

The *t*-test failed to suggest a statistically significant difference between the means of the control group and the treatment group in four characteristics of effective teaching behaviors except for *characteristic related to nursing competence* as shown in Table 10.

The confidence intervals for each characteristic of effective teaching behaviors as reported by preceptors is illustrated in table Table11. The confidence interval for *teaching ability*, demonstrates that the lower limit is - 0.393 (below zero) and the upper limit is 0.06 (above zero). This finding shows a wide range of difference, and does include zero, inferring that

the researcher cannot be 95 percent confident of the scores of effective teaching. The same finding is true of the other characteristics except for *nursing competence.* These results suggest that for the four teaching characteristics except for *nursing competence*, the researcher cannot be 95 percent confident that the null hypothesis can be rejected due to a lack of statistical significance. For the *characteristic of nursing competence*, the probability that the researcher is wrong is 2 percent ($p < .05$), with a confidence interval that has a lower limit of - 0.437, and an upper limit of - 0.023 (values do not include zero), the researcher can be 95 percent confident that this is a significant finding.

Table 11
Confidence Intervals on Preceptors' Report of Effective Teaching Behaviors

				95% CI	
Characteristic	*t*	*df*	*p*	*LL*	*UL*
1. Teaching ability	-1.43	83.00	0.16	-0.39	0.06
2. Nursing competence	-2.22	82.60	0.02	-0.44	-0.02
3. Evaluation	-0.88	82.90	0.38	-0.32	0.12
4.Interpersonal relationship	-1.91	79.30	0.06	-0.42	0.01
5. Personality	-1.65	81.90	0.12	-0.47	0.04

Note. CI = confidence interval; *LL* = lower limit, *UL* = upper limit. $p < .05$

Correlation and Multiple Regression Analysis

Correlation and multiple regression analysis were conducted to examine the relationship of the five categories of the dependent (criterion) variables: *teaching ability*, *nursing competence, evaluation, interpersonal relationship, and personality*, with the independent (predictor) variables: attendance in preceptor training, years of experience in critical care, academic preparation, and years of experience as preceptor. Data entered in SPSS presented these findings. Table 12 illustrates the correlations between the predictor variables, *teaching ability*, and the criterion variables.

Data presented in Table 12 illustrates a small correlation between *characteristic related to teaching ability* and the independent (predictor) variables: preceptor training (r = .19, p =.05), academic degree (r = .16, p = .08), and years of experience as preceptor (r = .08, p = .24), and an inverse correlation between *characteristic related to teaching ability*, and the independent variable, years in critical care (r = -.195, p = -.19). Data suggests no statistically significant correlation between the *characteristic related to teaching ability* and the independent variables.

Table 12

Bivariate Correlations Between the Outcome Variable – Teaching Ability, and the Predictor Variables

Dependent Variable	Preceptor Training	Years in Critical Care	Academic Degree	Years of Experience as Preceptor
Teaching Ability				
Pearson *r*	0.19	-0.19	0.16	0.08
Sig (1 tailed)	0.05	0.43	0.08	0.24
n	74.00	74.00	74.00	74.00

Note. Correlation is significant at the level of .05.

Data presented in Table 13, illustrates a small correlation on *characteristic related to nursing competence* and the independent variables preceptor training (r = .27, p = .01), and the independent variable academic degree (r = .37, p = .001). These data suggest a correlation and a statistical significance between characteristic related to *nursing competence* and the two independent variables: preceptor training and academic degree. There is a small correlation between *characteristic related to nursing competence* and the independent variables: years in critical care (r = .125, p = .14), and years of experience as preceptor (r = .12, p = .12) although for these two independent variables the correlation is not statistically significant (p > .05).

Data shown in Table 14 suggests that there is no correlation between the dependent variable, *evaluation*, and the independent (criterion) variables: preceptor training (r = .14, p =

.12), years in critical care (r = -.00, p = .49), academic degree (r = .02, p = .44), and years of experience as preceptor (r = ,09, p = .25).

Table 13

Bivariate Correlations Between the Outcome Variable - Nursing Competence, and the Predictor Variables

Dependent Variable	Preceptor Training	Years in Critical Care	Academic Degree	Years of Experience as Preceptor
Nursing Competence				
Pearson *r*	0.27	0.12	0.37	0.12
Sig (1 tailed)	0.01	0.14	0.001	0.12
n	74.00	74.00	74.00	74.00

Note. Correlation is significant at the level of .05.

Table 14

Bivariate Correlations Between the Outcome Variable - Evaluation, and the Predictor Variables

Dependent Variable	Preceptor Training	Years in Critical Care	Academic Degree	Years of Experience as Preceptor
Evaluation				
Pearson *r*	0.14	-0.00	-0.02	0.09
Sig (1 tailed)	0.12	0.49	0.44	0.25
n	74.00	74.00	74.00	74.00

Note. Correlation is significant at the level of .05.

Data in Table 15 suggests that the independent variable, preceptor training has a small correlation (r = .21, p = .03) with the dependent variable, *interpersonal relationship,* and it is statistically significant. There is no correlation between *interpersonal relationship* and the dependent variables: years in critical care (r = -.10, p = .19), academic degree (r = .11, p = .18)

and years of experience as preceptor (r = -.04, p = .38). These independent variables are not statistically significant.

Table 15

Bivariate Correlations Between the Outcome Variable - Interpersonal Relationship, and the Predictor Variables

Dependent Variable	Preceptor Training	Years in Critical Care	Academic Degree	Years of Experience s Preceptor
Interpersonal Relationship				
Pearson *r*	0.21	-0.10	0.11	-0.04
Sig (1 tailed)	0.03	0.19	0.18	0.38
n	74.00	74.00	74.00	74.00

Note. Correlation is significant at the level of .05.

Table 16

Bivariate Correlations Between the Outcome Variable - Personality, and the Predictor Variables

Dependent Variable	Preceptor Training	Years in Critical Care	Academic Degree	Years of Experience as Preceptor
Personality				
Pearson *r*	0.17	0.07	0.08	0.12
Sig (1 tailed)	0.07	0.27	0.24	0.15
N	73.00	73.00	73.00	73.00

Note. Correlation is significant at the level of .05.

Data in Table 16 suggests that there is a small correlation between the independent variables: preceptor training (r = .17, p = .07), and years of experience as preceptor (r = .12, p = .15) although these findings are not statistically significant. The independent variables: years in critical care (r = .07, p =.27), and academic degree (r = .08, p = .24) do not illustrate a correlation.

Data illustrated in Tables 12 – 16 do not suggest a strong correlation with the independent variables and the dependent variables (p >.05). Of the five sub-groups of effective teaching characteristics, *characteristic related to nursing competence* is statistically associated with the dependent variables: preceptor training (r = .27, p < .*05*), and academic degree (r = .37, p < .05). *Characteristic related to interpersonal relationship* is statistically associated with the independent variable, preceptor training (r = .21, p < .05). This correlational significance is further reviewed by multiple regression analysis to better explain the dependent variables: the five sub-groups of effective teaching characteristic, while controlling for the independent variables: attendance in preceptor training, years of critical care experience, academic degree, and years of experience as preceptor.

Multiple linear regression analysis was used to develop a model for predicting characteristics of effective teaching behaviors: *characteristics related to teaching ability*, *characteristics related to nursing competence*, *characteristics related to evaluation*, *characteristics related to interpersonal relationship*, and *characteristics related to personality*, from the predictor variables: preceptor training, years in critical care, academic preparation, and years of experience as preceptor. Basic descriptive statistics and regression coefficients are shown in tables 17 to 21 for each subgroup of teaching characteristic

A multiple regression analysis was conducted with all predictors: attendance in preceptor training, years of experience in critical care, academic preparation, and years of experience as a preceptor. The linear combination of all four predictors, as shown in Table 17, is not significantly related to *characteristic of teaching ability* R^2 = .07, adjusted R^2 = .02, F (4, 69) = 1.37, p = .25.

Table 17

Summary of Multiple Linear Regression Analysis for Variables Predicting Teaching Ability (N =74)

Variables	*B*	*SE B*	*β*	*t*	*p-value*
Constant regression	4.03	0.202		19.97	0.001
Preceptor Training	0.174	0.126	0.172	1.38	0.17
Years in critical care	0.069	0.056	0.185	-1.22	0.22
Academic preparation	0.119	0.098	0.145	1.20	0.23
Years as preceptor	0.063	0.059	0.158	1.063	0.29

Table 18 illustrates the results of multiple regression analysis conducted for all four predictors: attendance in preceptor training, years of experience in critical care, academic preparation, and years of experience as preceptor and its relation to *characteristic related to nursing competence.* The linear combination of all four predictors is significantly related to *characteristic of nursing competence, $R^{2 =}$* .18, Adjusted R^2 = *.02, F*(4, 69) = 3.84, *p* = .01. The total variance of the dependent variable, *characteristic of nursing competence,* predicted by the independent variables taken together is 18 percent. The partial correlation (as seen in Table 19) suggests that of the four predictors, academic preparation has the strongest contribution .32 of the total variance of the *characteristics of nursing competence*. The standardized beta weight of academic preparation (*β*= .33, *p* = .02) suggests a statistical significance to *nursing competence*.

The contribution of other three predictors to the variance of characteristic related to *nursing competence* (as seen in Table 19) suggests that: attendance in a preceptor program contributes .16, (β= .17, p = .13), years in critical care contributes -.03 (β = -.04, p = .78), and years as a preceptor contributes .08 (β= .11, p = .43).

Table 18

Summary of Multiple Linear Regression Analysis for Predictors of Nursing Competence (N = 74)

Variable	B	SE B	β	*t*	*p-value*
Constant	3.51	0.18		19.30	0.001
Preceptor training	0.17	0.13	0.18	1.52	0.13
Years in critical care	-0.01	0.05	0.04	-0.29	0.78
Academi degree	0.26	0.09	0.33	2.93	0.02
Years of as preceptor	0.04	0.05	0.11	0.785	0.43

$p < .05$.

The linear combination in all four predictors: preceptor training, years in critical care, academic preparation, and years as preceptor (as seen in Table 20) is not significantly related to *characteristic related to evaluation*, R^2 = .03, adj R^2=.03, F (4, 69) = .57, p = .69.

Table 19

Summary Statistics Determining Independent Variable Contributions to Regression Effects for Nursing Competence.(*n* = 74)

Variables	*β*	*Zero Order*	Sr^2	*r*	*p-value*
Preceptor training	0.17	.0.27	0.18	0.16	0.13
Years in critical care	0.04	-0.12	-0.04	-0.03	0.78
Academic preparation	0.33	0.37	0.33	0.32	0.02
Years as Preceptor	0.11	0.12	0.09	0.08	0.43

Note. R^2 = .18. p < .0.5

Table 20

Summary of Multiple Linear Regression Analysis for Predictors of Evaluation (n = 74)

Variables	*B*	*SE B*	*β*	*t*	*p-value*
Constant	4.22	0.21		20.19	0.001
Preceptor training	0.14	0.13	0.14	1.11	0.271
Years in critical care	-0.05	0.06	-0.12	-0.80	0.45
Academic preparation	0.00	0.10	0.00	0.01	0.99
Years as preceptor	0.05	0.06	0.13	0.87	0.38

Note. p < .05

Table 21 illustrates the multiple regression analysis of the four predictors of *interpersonal relationship*: attendance in preceptor training, years in critical care, academic preparation, and years as preceptor. The linear combination in all four predictors: preceptor training, years in

critical care, academic preparation, and years as preceptor (as seen in Table 21) is not significantly related to *characteristic related to interpersonal relationship* $R^2 = .08$, adj $R^2 = .02$, $F\ (4, 69) = 1.47$, $p = .22$.

Table 21

Summary of Multiple Linear Regression Analysis for Predictors of Interpersonal Relationship (n = 74)

Variables	*B*	*SE B*	*β*	*t*	*p-value*
Constant	4.39	0.20		21.8	0.001
Preceptor training	0.24	0.12	0.24	1.92	0.06
Years in critical care	-0.07	0.06	0.20	-1.34	0.18
Academic preparation	0.06	0.09	0.079	0.65	0.52
Years as preceptor	0.01	0.06	0.03	0.23	0.81

Note. $p < .05$.

Table 22 illustrates the multiple regression analysis of the four predictors of *characteristics of personality*: attendance in preceptor training, years in critical care, academic preparation, and years as preceptor. The linear combination of all four predictors is not significantly related to the outcome variable, *personality*, $R^2 = .04$, adjusted $R^2 = .02$, $F\ (4, 68) = .72$, $p = .58$.

Through the process of regression analysis the researcher is able to determine the total contribution of all variables together and the actual contribution of each predictor variable to the variance of the dependent variable facilitating an understanding of the results of data. The preciseness of the outcome: the five teaching characteristics or subgroups in the study, is better

explained by estimating the contribution of each variable to the variance of the dependent variable. The predictor with the strongest contribution in each of the teaching characteristics has the strongest influence in the outcome variable. It is important to determine the role of each independent variable separate from the effects of the other variables to be able to explain the hypothesis that states "Preceptor training positively impacts the effectiveness of preceptors."

Table 22

Summary of Multiple Linear Regression Analysis for Predictors of Personality (n = 74)

Variables	*B*	*SE B*	*β*	*t*	*p-value*
Constant	4.09	0.24		16.84	0.001
Preceptor training	0.18	0.15	0.15	1.18	0.24
Years in critical care	-0.02	0.07	-0.04	-0.30	0.77
Academic preparation	0.04	0.12	0.04	0.34	0.73
Years as Preceptor	0.06	0.07	0.12	0.78	0.44

The standardized coefficients is small suggesting that each dependent variable does not contribute much to the effective teaching characteristics measured. One reason why the estimates may be so unstable is the small sample size of the preceptors in the study. A good sample size would have been 82 at the minimum (Vogt, 2007), but in this study there were only 74 preceptors. According to Vogt, (2007), missing data could present a real problem. It is altogether difficult to conclude that this finding is truly not statistically significant due to the important pieces of missing data. The small beta weights in this table is similar to the results of

the Pearson *r* (as seen in Table 12 to 16), where the results showed no linearity between the dependent and independent variables related to the small sample size.

Summary

Findings on Orientees' Survey

Results on the aggregate scores of the five subgroups of effective teaching characteristics on orientees' survey suggest that the mean scores of the treatment group is higher than the mean scores of the control group. The standard deviation of the mean scores in the treatment group shows a closer variance around the mean when compared to the standard deviation of the mean scores of the control group. For both groups, the control group and the treatment group, the characteristics with the highest means are: *characteristics related to evaluation,* followed by *nursing competence*, *teaching ability, personality*, and lastly, *interpersonal relationship*.

Levene's Test suggests that there are unequal variances in the means of the control group and the means of the treatment group, violating the assumption of homogeneity of variances. The independent sample *t*- test suggests that there is a statistical significance ($p < .001$) in preceptor training in all five subgroups of teaching characteristics. Data from orientee surveys suggest that those preceptors who attended the preceptor program received higher ratings on their performance than those preceptors who did not. There is a statistically significant relationship between attending preceptor training and higher ratings.

The magnitude of the impact of the preceptor training was determined using *Cohen's d* (Cohen, 1992, p. 99) and the result revealed a large effect size in all subgroups of effective teaching characteristics: *teaching ability* .86, *nursing competence* .82, *interpersonal relationship* .81, *evaluation* .81, and *personality* .72.

Findings on Preceptor Survey

Aggregate scores of the means of preceptors illustrate that the means of the control group is highest in *interpersonal relationships*, followed by *teaching ability*, *evaluation*, *personality,* and lastly in *nursing competence*. Aggregate scores of the means of preceptors showed that those that received preceptor training had higher means in *interpersonal relationship*, followed by *personality*, *teaching ability*, *evaluation* and lastly, *nursing competence.* For both the control and the experimental groups the highest rated characteristic was *interpersonal relationship* and the lowest was *nursing competence*.

The independent samples *t*- test analysis comparing the means of the control group and experimental group on each of the teaching characteristics found that the only teaching characteristic that was statistically significant was *nursing competence (p* = .02). The magnitude of impact on the effect size using *Cohen's d* for nursing competence is .56. These findings further suggest that the difference in the means of the four subgroups of teaching characteristics: *teaching ability*, *evaluation*, *interpersonal relationship*, and *personality* may be related to chance.

To further investigate the correlation of the independent variables to the dependent variables, Pearson *r* was performed by SPSS and the results suggest that there is no linearity between the variables. Data suggests that there is a significant correlation between *nursing competence* and preceptor training (*pr* = .27, *p* = .01), and between *interpersonal relationship* and preceptor training (*pr* = .21, *p* = .03). A correlation was found with preceptor training and *teaching ability* (*pr* =.19, *p* =.05). A correlation was also found with academic degree and *nursing competence* (*r* = .37, *p* = .001).

To examine the contribution of each independent variable to the dependent variables, multiple regression was performed using SPPS and the output (as seen in Table 18) revealed that the linear combination of all four predictors is significantly related to *characteristic of nursing competence, $R^{2 =}$* .18, Adjusted R^2 = *.02*, $F(4, 69) = 3.84$, $p = .01$. The total variance of the dependent variable, *characteristic of nursing competence,* predicted by the independent variables taken together is 18 percent. The partial correlation suggests that of the four predictors, academic preparation has the strongest contribution, .33 of the total variance of the *characteristics of nursing competence*. The standardized beta weight of academic preparation (β= .33, $p = .01$) suggests a statistical significance to *nursing competence*. The contribution of other three predictors to the variance of characteristic related to *nursing competence* suggests that: attendance in a preceptor training contributes .16, (β = .18, p = .13), years in critical care contributes -.03 (β = -.04, p = .68), and years as a preceptor contributes .08 (β = .11, p = .43). In summary, multiple regression results suggest that for the five outcome variables: *teaching ability*, *nursing competence*, *evaluation*, *interpersonal relationship*, and *personality*, the independent variable, academic preparation, has the strongest contribution to the variance of the outcome variable, *nursing competence*, and preceptor training has the second strongest contribution to the variance of *nursing competence*. The standardized beta weights in each variable is small and has a p value > .05 inferring that the small sample size has affected the result of the standardized coefficients. Since sample size matters greatly in statistical inference (Vogt, 2007), therefore, these results may be due to the small sample size of preceptors surveyed.

CHAPTER V

DISCUSSION AND CONCLUSION

Overview

The main purpose of this study has been to explain the need for preceptor training in order to enhance the effectiveness of preceptors in mentoring and coaching new hires of nurses in critical care. Specifically, the study has explored the characteristics that preceptors need to demonstrate to become better clinical teachers encompassing the skills of *teaching ability*, *nursing competence*, the ability to *evaluate* learners (orientees), the ability to demonstrate an effective *interpersonal relationship*, and the effect of *personality.* This final chapter synthesizes the findings of chapter 4, and is organized into five components. The first component reviews the importance of the research summarizing the key points in chapters 1 – 3 including the issues currently affecting the new nurse in a clinical environment that is so complex, requiring effective preceptorship; the orientees' reactions to the lack of proper clinical preceptorship; the importance of a clinical education guided by the *Nursing Code of Ethics*; the value of positive precepting based on studies; and the need to increase the nursing workforce in a critical care setting through the proper orientation of nurses. The second component summarizes the study findings from Chapter 4 as they relate to the hypothesis, and the research question. The third section presents a discussion of the implications for theory, presenting the strengths and weakness of the study, and evaluating the scholarship presented in the literature review. The fourth section, presents the implications to applied practice, proposing recommendations for institutional practice to enhance the orientation process. The fifth section presents the implications for future research, presenting a discussion of the limitations of the study, and recommendations for future research.

Importance of the Research

The study is intended to increase an awareness of the importance of positive precepting during the orientation period of new hires of nurses in the critical care units by investigating the impact of preceptor training on the effectiveness of preceptors in clinical teaching. An environment that is new to nurses where patient care is complex based on a variety of patient needs require that nurses be taught how to prioritize care for patient safety. Preceptors that demonstrate positive attitude (Murphy, 2008) while precepting will help reduce stress of nurses during orientation allowing learning to take place. Orientees fear committing medication errors from not being able to relate theory to practice and the lack of support from peers and leaders (Beecroft, Dorey, & Wenten, 2008) create an environment that deprives orientees of the necessary essentials that will help develop critical thinking and decision-making skills.

The current nursing shortage that led to an increase in hiring of new nurses from the years 2004 -2008 (HRSA, 2010, p.1) and increasing the nursing workforce presents the need for proper orientation of new nurses. As predicted by HRSA (2002), the nursing shortage will increase by 29% in the year 2020, reaching a shortfall of 804,416, creating a crisis in healthcare. One way to increase retention of nurses is to create a healthy environment in the workplace where nurses feel that they belong and they are comfortable with their preceptors. As discussed in the literature review, nurses leave due to an unfriendly workplace (Mackusick & Minick, 2010). The study findings illuminate the need for a preceptor training program that will guide preceptors in developing the core teaching behaviors and characteristics outlined in the survey instrument used in this research.

The value of this research emphasizes the outcomes of positive precepting by not allowing nurses to have patient assignments that do not match their skill levels when preceptors

engage in evaluating their orientees as part of the learning process (Chestnutt and Everhart 2007). This research supports an earlier study on orientation strategies in New Hampshire involving a model that allowed nurses to track the progress of their orientees resulting in positive outcomes in the context of decision-making skills through the guidance of their preceptors (Proulx & Bourcier, 2008). Preceptor training provided by Catholic Medical Center, Manchester, New Hampshire involved teaching preceptors effective communication, assessment, providing orientees with the proper feedback, and clinical instructions (Proulx & Boucier, 2008). These same characteristics are evaluated in the survey questionnaires for orientees and preceptors employed in this research.

The value of this research in the perspective of the orientees will be in the improvement of interpersonal relationship with the preceptor, as the preceptor develops the skills in promoting a harmonious relationship with the orientee, The characteristics of interpersonal relationship as outlined in the survey questionnaires involve support and encouragement of students, preceptor approachableness, establishing a climate of mutual respect, listening attentively, and demonstrating empathy. These are fundamental characteristic traits of preceptors that will enable orientees to voice their questions and share their thoughts on matters relating to the learning scenario. These traits demonstrate that an ethical preceptor is an effective preceptor who respects the learner and allows an open line of communication. As mentioned in the literature review, orientees undergo a reality shock (Kramer, 1974; Pratt, 2009) when coming to a new environment where their excitement dies down and is replaced by a state of dislike and disbelief of the situation at hand, finally deciding to leave the unhealthy environment. The research emphasizes the use of humor, making learning fun (Moscaritolo, 2009), alleviating stress and anxiety for the orientee, thus creating a healthy work environment.

The research is also significant in the perspective of preceptors providing preceptors with a better understanding of the requirements of positive precepting leading to productive outcomes. Preceptors will develop effective strategies in clinical supervision resulting in nurse satisfaction and quality patient care (Kramer et al., 2008).

The research is important in the nursing profession to assist nurses in bridging the gap in theory to practice as nurse preceptors effectively assist nurses in the application of clinical theory to patient care.

The research informs nurses that a clinically competent nurse will deliver the best patient outcomes and that nurse preceptor programs have been developed by hospitals to improve the performance of preceptors and achieve the best learning outcomes for orientees (Burns, Northcutt, 2009). The results of the study advise nurse leaders on the effectiveness of preceptor programs contributing to the current limited literature on the outcomes of preceptor training. The study supports the efforts of nurse leaders and organizations such as the National League for Nursing in developing the nursing workforce to the level of excellence, and in dedicating public policy, and nursing research grants for nursing education. As mentioned in the literature review, the *Nursing Code of Ethics* sets the nursing standards in performance and education emphasizing that educators have the responsibility of assessing the needs of learners and the effectiveness of their teaching (American Nurses Association, 2012).

Summary of Findings

This section will discuss the findings from the orientee surveys and the preceptor surveys. The dependent variables in the research are the effectiveness of preceptors based upon five effective teaching characteristics of preceptors. The five teaching characteristics of preceptors are: characteristics related to *teaching ability*, characteristics related to *nursing competence*,

characteristics related to *evaluation*, characteristics related to *interpersonal relationships*, and characteristics related to *personality*. The independent variable in the research instrument for orientees is attendance in preceptor training by preceptors. The independent variable in the research instrument for preceptors are: attendance in preceptor training, and intervening variables which include academic degree, years of experience in critical care, and years of experience as preceptor.

Summary of Finding of Orientee Survey

The study analyzed responses of nurses who were orientees from the period of 2012 - 2014 form four hospitals in New York. Two of these hospitals do not offer preceptor training, and two hospitals offer preceptor training. Sample participants included 66 nurse orientees from two hospitals that provide preceptor training (treatment group), and 64 nurse orientees from two hospitals that do not provide preceptor training (control group). Orientees are diverse in age, gender, cultural background and religion. Orientees are graduates of either an associate degree of nursing (ADN) or a baccalaureate degree of nursing (BSN).

Orientees rated preceptors' 48 teaching characteristics in the survey questionnaires designed by Knox and Mogan (1985) using a five-point Likert scale (as seen in Appendix A). The results showed that the preceptors in hospitals that provided preceptor training received higher scores from orientees in the 48 characteristics outlined in the survey questionnaire compared to preceptors in hospitals that do not provide preceptor training. The frequency of rating of each characteristic of effective teaching behavior as rated by the control group and the treatment group is found in appendix L. The 48 teaching characteristics described five sub-groups of teaching characteristics: 16 items described *characteristics related to teaching ability*, 10 items described *characteristics related to nursing competence*, 9 items described

characteristics related to evaluation, 6 items described *characteristics related to interpersonal relationship*, and 7 items described *characteristics related to personality* (Mogan & Knox, 1985). The mean scores of the treatment group in the five sub-groups are higher when compared to the mean scores of the five subgroups in the control group. These results suggest that preceptor training does impact the effectiveness of preceptors as rated by the orientees in the hospitals that provide preceptor training. The findings further suggest (as seen in Table 6) as discussed in Chapter Four, that the orientees in both groups (treatment group and control group) rated *characteristic related to evaluation* as the most important teaching characteristic of a preceptor, followed by *characteristics related to nursing competence*, *characteristics related to teaching ability, characteristics related to personality*, and finally, *characteristics related to interpersonal relationship.* The mean scores of the five subgroups were further compared using independent sample *t*-tests which shows that there is a statistical significance ($p < .001$) in all five subgroups of teaching characteristics. These findings suggest that there is statistical significance between higher ratings and preceptor training. The magnitude of the impact of the results revealed a large effect size in all subgroups of effective teaching characteristics for the treatment group: teaching ability ($d = 0.86$), nursing competence ($d = 0.81$), interpersonal relationship ($d = 0.81$), and personality ($d = 0.72$). These findings, therefore, support the study's hypothesis that states that "Preceptor training will positively impact effective teaching behaviors of preceptors to deliver knowledge and skills to nurse orientees."

Summary of Findings of Preceptor Survey

The study analyzed responses of nurses who were preceptors from the period of 2012 - 2014 from four hospitals in New York. Two of these hospitals do not offer preceptor training, and two hospitals offer preceptor training. Sample participants included 45 preceptors from two

hospitals that provide preceptor training (treatment group), and 40 preceptors from two hospitals that do not provide preceptor training (control group). Preceptors are nurses assigned to supervise new hires of nurses in the clinical setting. Since the orientation period in hospitals vary from 3 months to 6 months orientees may have more than two or more preceptors during the entire orientation period. As discussed in Chapter 4 (as seen in Table 4), preceptor demographics included preceptors who have varied academic credentials: associate degree in nursing, baccalaureate degree in nursing, master's degree in nursing, and master's degree in science. Some preceptors have a certification in critical care nursing. Preceptors' work experience varied from 1 year to 21 years in critical care, and work experience as a preceptor which varied from 1 year to 21 years. Preceptors are diverse in age, ethnicity, cultural background, religion, and gender.

The survey questionnaire for preceptors included the 48 effective teaching characteristics in the NCTEI survey designed by Knox and Mogan (1985) with additional information required for this study used as independent variable: attendance in preceptor training, and intervening variables (independent variables), academic preparation, years in critical care, and years of experience as preceptor (as seen in Appendix B). Preceptors rated themselves through self-perception of these teaching characteristics.

As discussed in Chapter 4, the treatment group scored higher means in each of the five subgroups of effective teaching behaviors when compared to the means of the control group. Preceptors in the treatment group rated *characteristics related to interpersonal relationship* as the highest of the five subgroups followed by *characteristics related to personality*, *characteristics related to teaching ability, characteristics related to evaluation*, and *characteristics related to nursing competence.* Preceptors in the control group scored lower

means in each of the five subgroups of effective teaching behaviors. It is worth noting that although preceptors in the control group scored lower than the treatment group, the *characteristics related to interpersonal relationship* received the highest rating, followed by *characteristics related to teaching ability, characteristics related to evaluation*, *characteristics related to personality*, and *characteristics related to nursing competence.*

The result of the independent sample *t*-test on *nursing competence* indicate that preceptors in the treatment group have higher means than the control group (as seen in Table 10), The results suggest that preceptor training is statistically significant ($p = .03$) and has a moderate experimental effect on *nursing competence* ($d = .56$). The *t*-test failed to suggest any statistical significant difference between the means of the control group and the treatment group in the four characteristics of effective teaching behaviors.

Since there are other independent variables that have to be accounted for in the preceptors' self-perception of effective teaching characteristics, it becomes necessary to see the correlation of each of these variables to these teaching characteristics. As discussed in Chapter 4, there is a significant correlation between *characteristics related to nursing competence* and the independent variables preceptor training ($r = .27$, $p = .01$), and academic degree ($r = .37$, $p = .001$). There is also a significant correlation between preceptor training and *characteristics related to interpersonal relationship* (r .21, $p = .03$).

Based on these findings preceptor training does impact effective teaching characteristics: *nursing competence* and *interpersonal relationships* of preceptors. These findings support the hypothesis in this study. However, preceptor training does not seem to impact the other teaching characteristics.

In order to examine the contribution of each independent variable: preceptor training, academic preparation, years in critical care, years of experience as a preceptor, to the dependent variable; the five effective teaching characteristics, multiple linear regression was performed using SPSS. The results of the multiple linear regression analysis suggest that the linear combination of all four predictors is significantly related to *characteristics of nursing competence*. The total variance of the dependent variable, *characteristics of nursing competence,* predicted by the independent variables taken together is 18%. Of the four predictors, academic preparation has the strongest contribution (.33 of the total variance) and is statistically significant (β = .33, p = .01); attendance in preceptor training contributes .16 of the total variance (β - .18, p = .13); years in critical care contributes -.03 (β = .04, p = .68) of the total variance; years as a preceptor contributes .08 (β = .11, p - .43).

In summary, multiple linear regression suggests that, when controlling for all variables in the analysis, academic preparation has the strongest impact on the *characteristics related to nursing competence,* followed by preceptor training, although preceptor training is not statistically significant. The independent variables studied are not significantly related to the other four effective teaching characteristics: *teaching ability*, *evaluation, interpersonal relationship*, and *personality* by the multiple linear regression model.

Theoretical Implications of Research Findings

The theoretical implications will be discussed in the context of interpretation of findings in relation to the research question and hypothesis of the study.

Research Question.

The research question in this study is “Does preceptor training positively impact teaching behaviors of preceptors to effectively deliver knowledge and skills to nurse orientees?”

Hypothesis.

The hypothesis for this research is "Preceptor training will positively impact effective teaching behaviors of preceptors to deliver knowledge and skills to nurse orientees."

Implications of Orientee Survey.

The results from the orientee survey further suggest that the characteristic with the highest rating for the treatment group and the control group is *characteristics related to evaluation.* In the review of literature, this result is similar to the finding of a study conducted by Mogan and Knox (1987) that investigated effective qualities of teachers using the NCTEI. Orientees' responses in the survey questionnaire on the *characteristics of evaluation* suggest that orientees appreciate the evaluation process allowing them to evolve into a higher level of performance, and serves to increase their confidence while feeling the support of their mentors. Studies on outcomes of orientees in specialty areas where orientees were evaluated in intervals of 6 weeks and 6 months led to professional growth of nurse preceptors and increased job satisfaction (Cooney, 1992). Healthy work environments require that there must be effective communication, authentic leadership, and true collaboration, where nurses have to hold each other accountable for keeping these standards as a functional yardstick of performance (AACN, 2005). Evaluating the orientees' performance requires the proper communication from preceptors who are the leaders at the bedside in any learning situation for the novice nurses. The implementation of these elements of a healthy work environment depends on a preceptor who openly communicates with the orientee, providing feedback, and evaluating performance for a more improved and favorable outcome in patient care.

The success of the orientation model implemented by preceptors in Catholic Medical Center in Manchester, New Hampshire is based upon preceptors' evaluation of the orientees'

basic critical care skills and tracking their progress (Proulx & Bourcier, 2008). Preceptor training supports evaluation and this research suggests that preceptors received a higher rating from orientees on *characteristics related to evaluation* in the treatment group compared to the preceptor rating in the control group.

In the five subgroups of teaching characteristics, *characteristics related to interpersonal relationship* received a higher rating from the orientees in the treatment group, although this subgroup received the lowest rating in both the treatment group and the control group. There is evidence that when *interpersonal relationship* between the preceptor and the orientee is lacking orientees suffer a culture shock and leave the unit without completing orientation (Kramer, 2008). A good *interpersonal relationship* will support the use of humor, making learning fun (Moscaritolo, 2009), and provide nurses with a sense of belonging (Baltimore, 2004; Morris et al., 2007), support socialization, and respect diversity (Gibbon et al., 2008; Lowe & Archibald, 2009; Reising, 2002; Boyle, 1996; Bandura, 1975). Zelembo and Monterosso (2008) posit that the relationships between preceptors and preceptees (orientees) shape the students' experience of the clinical environment and the real clinical work. The literature review supports the need for a mentoring relationship that helps transition the nurse from a new graduate into professional practice (Persaud, 2008). Existing literature reveal that studies involving caring and caring practices enhance the mentoring process (Watson, 1979; Wade & Kasper, 2006; Echevaria, 2013). When preceptors are supportive of nurses who are new learners in the orientation period, anxiety and stress of new nurses are relieved and learning takes place. One of the elements of a *Healthy Work Environment* (AACN, 2005) is meaningful recognition, requiring that nurses practice the ethical principle of respect for one another at the workplace through recognition of one's strengths and weaknesses in the practice setting where mentoring and coaching take place.

Through preceptor training, this requirement can be emphasized and practiced during orientation. The magnitude of the impact of preceptor training to *characteristics related to interpersonal relationship* in this research is large (d = .81) suggesting that the hypothesis in this research is true and that the research question is answered positively, that preceptor training does impact the effectiveness of preceptors in delivery of knowledge and skills to nurse orientees.

Critical thinking skill is valuable in nursing practice as nurses identify patient needs and problems related to a disease process. A preceptor with *teaching ability* and *nursing competence* can ask the right questions to stimulate the thinking abilities of the orientee and avoid misconceptions about the work in critical care. In this research, preceptor training has a strong impact on *characteristics related to teaching ability*, and *characteristics related to nursing competence* based on a large effect size. These results are similar to the study conducted by Mogan and Knox (1987) using the NCTEI where *teaching ability* and *nursing competence* received the highest rating out of the five subgroups of teaching characteristics using analysis of variance (ANOVA). Mogan and Knox (1987) investigated preceptor characteristics, not effects of preceptor training. In a previous study conducted at Northwestern Memorial Hospital it was found that when preceptors were not prepared to properly orient nurses there was not enough opportunity to help new nurses develop critical thinking skills (Morris et al., 2007). The new model which required preceptors to attend preceptor classes assisted preceptors in identifying orientees' learning needs (Morris et al., 2007). The findings of this research add evidence to previous studies, further supporting preceptor training and its positive impact on *teaching abilities* and *nursing competence*. Studies on preceptor training revealed the development of critical thinking and learning relationships (Sorensen et al., 2008) suggesting that *teaching abilities*, *interpersonal relationships*, and *nursing competence* are characteristics that strongly

influence the learning of orientees during the orientation period. The results of this study further suggest consistency in these findings on effective teaching characteristics: *teaching ability, interpersonal relationship,* and *nursing competence*

Preceptor training has a moderate impact on *characteristics related to personality* based on effect size. *Personality* as a teaching characteristic is based on the theoretical framework of Watson's theory of caring (Biggs & Schriner, 2010) in addition to the positive energy an instructor demonstrates towards teaching, organization, and responding to students. Magnet institutions that offer preceptor training foster a positive learning environment for nurses (ANCC, 2014). The survey questionnaire used in this study, described personality in questions 42 – 48 of the NCTEI (see Appendix A). These descriptors exemplify qualities of personality that support a positive learning environment. The result of this study suggests that preceptors in hospitals that offer preceptor training demonstrate this type of personality. In a similar study on perception of nursing students conducted to investigate effective teaching characteristics of instructors, *characteristics related to teacher personality* received the lowest rating out of the five categories of teaching characteristics. The previous study was intended mainly to investigate teaching behaviors. In the present study, *characteristics related to personality* received the lowest rating from the treatment group and the control group although the treatment group had a higher rating compared to the control group. In this study preceptor training has a strong impact on personality based on the effect size.

Orientees' responses of the survey questionnaire in hospitals that offer preceptor training supports the hypothesis that "Preceptor training will positively impact effective teaching behaviors of preceptors to deliver knowledge and skills to nurse orientees."

Implications of Preceptor Survey.

Preceptors' ratings of the five subgroups of effective teaching characteristics revealed higher means in the treatment group compared to the means of preceptors in the control group. Further analysis of these responses suggest that only one characteristic, i.e., *characteristics related to nursing competence* is statistically significant when comparing the means of the control with the treatment group. The effect size of this characteristic is moderate (d = .56) and is statistically significant. A study that investigated the qualities of the "ideal" "best," and "poorest" teachers through the perception of students identified the profile of the best clinical teacher as one who is highly competent (Benor & Leviyof, 1997). This research was not investigating how preceptor training affected *nursing competence* but it confirms that *nursing competence* is perceived by students as one of the most important teaching characteristic. Another study using the NCTEI (Knox & Mogan, 1985) rated *teaching ability* and *nursing competence* highest, out of the five subgroups of effective teaching characteristics. In the present study, *teaching ability* received the third highest rating in the treatment group of preceptors and second highest in the control group. There is evidence based on the present study that preceptor training impacts on the effectiveness of preceptors in the *characteristics related to nursing competence.*

The present study suggests a small, but statistically significant correlation between preceptor training and *characteristics related to nursing competence* (r = .27, p = .01), and a small, but statistically significant correlation between academic degree and *characteristics related to nursing competence* (r = .37, p = .001), illuminating the importance of both independent variable to *nursing competence*. There is also a small, but statistically significant correlation between preceptor training and *characteristics related to interpersonal relationship* (r

= .21, p = .03). The multiple regression model also suggests that academic preparation has the strongest impact on *characteristics related to nursing competence,* followed by preceptor training, although academic preparation is the only variable that turned out to be statistically significant.

Based on these findings from the preceptor survey, the hypothesis that states that "Preceptor training will positively impact effective teaching behaviors of preceptors to deliver knowledge and skills to nurse orientees," is true in only two effective teaching behaviors: *characteristics related to nursing competence, and characteristic related to interpersonal relationship.* This may be due to a small sample of preceptors surveyed in the study. Interpersonal relationship is essential to student-teacher relationship and there is a need for improvement in this area according to the National Council of State Board of Nursing (2005) as stated in the review of literature. Theories of caring and caring practices which is at the core of interpersonal relationships during orientation will enhance the mentoring process (Watson, 1979; Wade & Kasper, 2006; Echevarria, 2013).

Implications to Applied Practice

This section addresses the importance of the research to the nursing profession in the context of preceptor preparation for the role of preceptorship and the support that preceptors need from nursing leaders and managers; the accountability and responsibility of institutions in the process of nursing orientation in relation to the development of the new nurse and the transfer of knowledge for safe and quality patient care; development of healthy work environments; the importance of academic degree to the preceptor effectiveness in the context of *nursing competence.*

The findings presented in this research will inform nurse administrators that preceptor training will enhance effective teaching characteristics: *teaching ability, nursing competence, interpersonal relationships, evaluation,* and *personality,* as there is evidence of the magnitude of the effect of preceptor training to each of these teaching characteristics in the orientees' survey. . The findings of the preceptor survey suggest that preceptor training significantly impacts *nursing competence* and *interpersonal relationship.* Preceptor survey also suggests that academic degree significantly impacts *nursing competence* .

Preceptor training has a strong impact to *characteristics related to teaching ability* of preceptors based on a large effect size. This findings suggests that in preceptor training, preceptors learn how to effectively impart clinical knowledge such as the use of andragogy an adult learning theory that involves self-directed learning (Knowles, 1980; Nielsen, 1989, Meizow, 1981). Andragogy involves dialogue, self-reflective learning, as learners learn in a way that enhances their capacity to function (Merizow, 1981, p. 21). Preceptors use andragogy in goal-setting, and assessment of learning needs as they collaborate with learners to determine the skills that learners are able to perform on a day to day basis and as patient assignments change from the less complex to the more complex assignment. This is important in a critical care setting in order for the learner to direct his or her own learning in collaboration with the preceptor's assessment and guidance.

As there are limited studies on preceptor training, this study will provides information that preceptor training is necessary in nursing practice to assist preceptors in imparting knowledge and skills to orientees with the use of effective teaching behaviors. The research only investigated effective behaviors and not teaching methodologies. Caring for the student enhances the teaching and learning environment (Ali, 2012; Beck, 2001), informing preceptors

that there is a need to improve in this area of teaching. Orientees perceived caring demonstrated by preceptors as verbal and non-verbal as outlined in the survey questionnaire (NCTEI), supporting the findings of previous studies (Ali, 2012).

Magnet hospitals already have the structures and practices that support clinical performance of preceptors, to practice with decision-making skills and productivity that empower nurses (Kramer et al., 2008). This is the ideal, and hospitals that are non-magnet, or aspire to acquire the Magnet accreditation must follow suit to enhance the learning environment for nurses. Hospitals need to provide nurses with professional development by nurturing and developing excellent professional nurses within the organization (Kramer et al., 2008). The findings of one study on preceptor training revealed that critical thinking and learning relationships improved when preceptors were prepared to teach through a preceptor program (Sorensen et al., 2008). The present study will contribute more information on the effects of a preceptor program to the development of teaching characteristics. Billay and Myrick (2007) considers preceptor training as one way of strengthening preceptorship.

Multiple linear regression analysis used in this study suggests that academic preparation has the strongest impact on *characteristics related to nursing competence.* In this study, 29.8% of preceptors have an associate degree in nursing, 50.5% of preceptors have a bachelor's degree in nursing, and 10.7% of preceptors have a master's degree (as seen in Table 4). These data suggests that academic advancement of professional nurses is necessary in order to practice and teach with *nursing competence* in the preceptor role. As discussed in the literature review the role of preceptors require an advanced level of clinical expertise and knowledge in evaluating and educating students (Paton, 2010). Valuable knowledge and skills necessary to equip nurses in leading change, promoting health, transforming healthcare, educational, and organizational

systems can be gained from a master's degree curriculum (American Association of Colleges of Nursing, 2011). This research inspires nurses to advance in their educational goals and achievements, to obtain a higher degree in nursing and continue to significantly contribute to the profession. There is evidence based on this research that despite a small sample of preceptors who completed the survey questionnaire, through multiple regression, information was obtained on the contribution of academic degree to the total variance of *characteristics related to nursing competence* (β = .33, p = .01). Analysis also suggests a small, but statistically significant correlation between academic degree and *nursing competence* (r = .37, p = .001).

Implications for Future Research

In order to enhance nursing practice, preceptors will need to attend preceptor training that will help them develop effective teaching characteristics. Orientees will greatly benefit from the efforts of preceptors who will provide them with skills and knowledge necessary in the care of critical patients. Stress and anxiety of orientees as well as frustrations of preceptors who are not prepared to teach will be relieved through preceptor training. Effective teaching characteristics of preceptors will foster a healthy work environment. A recommendation for future research will be in the areas of retention of orientees for at least a period of one to three years in the intensive care units where they received orientation. Another recommendation for future research will be to investigate the time of orientation completion of new nurses when their preceptors have attended a preceptor training. It is important to investigate the reasons why orientees fail orientation, and why they do not complete orientation and request for transfer to another nursing area or specialty. A thorough analysis of factors affecting failures of orientees will enlighten the future methods of clinical training and eliminate the culture shock described by Kramer (2008).

This study illuminates the need for workforce development of nurses through the pursuit of a higher level of academic degree such as the baccalaureate in nursing program and the master's program as the study suggests a significant correlation between academic degree and *characteristics related to nursing competence*. The Board of Nursing, the American Association of Colleges of Nursing, and the National League for Nursing are organizations that encourage and promote educational advancement of nursing workforce to the highest level of learning in order to increase quality and safety in patient care.

The independent variables: years in critical care, and years of experience as preceptor, did not suggest a statistical finding to the outcome variable: the five subgroups of effective teaching behaviors, which may primarily be due to the small sample size of preceptors in the study. Future studies on these independent variables will need to be investigated with a larger sample of preceptors.

Limitation of the Study

A major limitation of the study is the use of nonprobability sampling through purposive sampling (Vogt 2007, p. 81). The lack of randomization of sampling presents a threat to external validity (Vogt, 2007, p. 84) The lack of control on the content of preceptor program is another limitation, although it is safe to assume that these programs are properly planned by clinical educators of hospitals to the highest quality standards.

Another limitation of the study is attrition, especially in the case of orientees who decide to leave the unit before the completion of orientation, or dropped out from one unit to transfer to another unit. In this particular case, the orientee who transferred to a general floor not considered to be critical care unit, is not able to voluntarily participate in the research.

There is currently a severe shortage of nurses affecting the number of nurse orientees and preceptors in critical care units. This is a major limitation of the study that affects determination of effect size mainly in the preceptor survey.

Having only two control groups and two treatment groups is considered a limitation of the study that might affect the study's generalizability. Further, the study is limited to only four hospitals in two geographic locations, New York City and Utica, New York.

Preceptors and orientees often encounter unpredictable events in clinical practice that may affect teaching and learning situations that interplay with all the variables examined in this study. This condition becomes a limitation affecting the results of this study.

The strength of the study is the internal validity and reliability of the NCTEI measurement which has been used in other research studies (Sook, et al., 2000). A quasi-experimental design is most suitable for this study since random sampling is not possible where participants in the study belong to a group of nurses who were orientees and preceptors from the period of 2012 – 2014.

One commonality in the nursing profession is that nurses in all types of specialty incorporate theory and clinical knowledge into the practice of delivering safe and quality patient care. New nurses advance in their practice from novice to expert with the proper guidance of a mentor who must be equipped with the necessary skills that will facilitate the transfer of knowledge in the clinical setting. Cognitive and psychomotor skills along with critical thinking and decision-making abilities of orientees who successfully complete orientation come from preceptors who teach with kindness and tact and nurture nurses through the elements of effective teaching characteristics investigated in this study. In this context, despite the study's limitations, the study is considered generalizable.

REFERENCES

Ali, W. G. (2012). Caring and effective teaching behavior of clinical nursing instructors in clinical area as perceived by their students. *Journal of Education and Practice*, 3(7), 15-26.

Alspach, G. (2008). Calling all preceptors: How can we better prepare and support you? *Critical Care Nurse*, 28 (5), 13 – 16.

American Nurses Association (2012). Code of Ethics for Nurses. *Nursing World.* Retrieved from http://www.nursingworld.org/MainMenuCategories/EthicsStandards/CodeofEthicsforNurses.aspx.

American Association of Colleges of Nursing, (2008). *Preferred vision of the professoriate in baccalaureate and graduate nursing program*. Retrieved from http://www.aacn.nche.edu/Publications/position/preferred-vision.

American Association of Colleges of Nursing (2011). *The essentials of master's education in nursing*. Retrieved from http://www.aacn.nche.edu/education-resources/IV.

American Association of Critical Care Nurses (2003). *Standards for Acute and Critical Care Nursing Practice.* Retrieved from http://www.aacn.org/WD/Practice/Content/standrds.for.acute.and.ccnursing.practice.pcms.

American Association of Critical Care Nurses (2003). ECCO delivers education for nurses when hospitals need it. *AACN News.* Retrieved from http://www.aacn.org/wd/learning/content/ecco/article-jan03v20.pems?-1&mid-2875.

American Association of Critical Care Nurses. (2005). *AACN Standards for Establishing and Healthy Work Environments.* Retrieved from http://www.AACN.org/WD/HWE/Docs/HWEStandards.pdf.

American Nurses Association (2001). Nursing code of ethics with interpretive statements.

Nursing World. Retrieved from STATHOME/WEBPAGE/ethics/CODE/nwcoe1115htm.

American Nurses Credentialing Council (2012). Magnet recognition program model. Retrieved from http://www.nursecredentialing.org/magnet/programoverview/new-magnet-model.aspx.

American Nurses Credentialing Council (2014). Magnet Recognition Program Overview. Retrieved from http://nurseceredentialing.org/Magnet/ProgramOverview.

Baltimore, J. J., (2004). The hospital clinical preceptor: Essential preparation for success. *The Journal of Continuing Education in Nursing.* 35(3), 133-140.

Bandura, A. (1977). Social Learning Theory, New York: General Learning Press

Becker, L. A. (2000). Effect Size (ES). Retrieved from http://www.bwgriffin.com/gsu/ Courses/edur913.

Beecroft, P. C., Dorey, F. & Wenten, (2008). Turnover intention in new graduate nurses: a multivariate analysis. *Journal of Advanced Nursing.* Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2440489/

Beck, C. T. (2001). Caring within nursing education: A meta synthesis. *Journal of Nursing Education,* 40(3), 101-109.

Benner, P. E. (1984). *From novice to expert: Excellence and power in clinical nursing practice*. Menlo Park, CA: Addison-Wesley.

Benor, D. E., & Leviyof, I. (1997). The development of students' perceptions of effective teaching: the ideal, best and poorest clinical teacher in nursing. *Journal of Nursing Education,* 36(5), 206-11.

Berger, D. E. (2003). Introduction to multiple regression. *Claremont Graduate University.* Retrieved from http://wise.cgu.edu.

Bergman, K., & Gaitskill, T. (1990). Faculty and students' perception of effective clinical Teacher: An extension study. *Journal of Professional Nursing,* 6, 33 – 44.

Biggs, L., Schriner, C. L. (2010). Recognition and support of today's preceptors. *The Journal of Continuing Education in Nursing.* 41(7), 317-322. Retrieved from http://www.search. Proquest.com,nec.gmiles.org/health/docview/734713011/13218FEED1413D0.

Billay, D., Myrick, F. (2008). Preceptorship: An integrative review of literature. *Nurse Education in Practice,* (8), 258-266

Boyle, D. K., Pokess-Vawter, S., Taunton, R. L. (1996). Socialization of new graduate nurses in critical care. *Heart Lung.* 25, 141 – 154.

Brasler, M. E., (1993). Predictors of clinical performance of new graduate nurses participating in preceptor orientation programs. *The Journal of Continuing Education in Nursing.* 24(4), 158-165.

Burns, H. K., & Northcutt, T. (2009). Supporting preceptors: A three-pronged approach for success. *The Journal of Continuing Education in Nursing,* 40(11), 509-13.

Cangelosi, P., Crocker, S., Sorrell, J. M. (2009). Expert to novice: Clinicians learning new roles as clinical nurse educators. *Nursing Education Perspectives*. Proquest Nursing and Allied Health Resource.

Chesnutt, B. M., & Everhart, B. (2007). Meeting the needs of graduate nurses in critical care orientation program in surgical intensive care. *Critical Care Nurse.* (27). Retrieved from http://www.aacn.org/wd/CEtests/media/CO733.pdf.

Cohen, J. (1992). Statistical power analysis. *Current Direction in Psychological Science,* 1(3), 98 – 101. Retrieved from http://www.jstor.org/stable/20182143.

Cook, L. J. (2005). Inviting teaching behaviors of clinical faculty and nursing students' anxiety.

Journal of Nursing Education, 44(4), 156-61.

Cooney, A. T., (1992). An orientation program for new graduate nurses: The basis of staff Development and retention. *The Journal of Continuing Education in Nursing.* 23(5), 216-219. Retrieved from http://search.proquest.com.nec.gmilcs.

Duffy, A. (2008). Guiding students through reflective practice. Preceptors experiences. A qualitative descriptive study. Retrieved from217.219.202.60/document10129/36790/ Guiding+students+through+reflections+practice.

Echevarria, I. M. (2013). Stop "eating the young" and start mentoring. *Nursing 2013 Critical Care*. Wolters Kluwer Health/Lippincott Williams & Wilkins. Pp 21-24.

Erickson, D. (2010). Critical Care Nurses, chest physicians present united front on nursing Shortage. *Meetings Net.* Retrieved from http://meetingsnet.com/news/meetings_ critical_nurses_chest/.

Fawcett, J. (2005). *Contemporary nursing knowledge. Analysis and evaluation of nursing Models and theories* (2nd ed.). Philadelphia: FA Davis.

Gibbons, J. R., Jones, D. W., Gardner, J. T., Goldstein, L. B. Moller, J. H. & Yancy, C. W. (2008). AHA policy statement: The American Heart Association's 2008 statement for healthcare reform. *Circulation.* (118). 2209-2218. http://circ.ahajournals.org/content/118/21/2209.full.

Glatthorn, A. L., & Joyner, L. R. (2005). *Writing the winning thesis or dissertation: A step-by-step guide.* Thousand Oaks, California: Corwin Press.

Gribbons, B. & Herman, J. (1997). Practical assessment and research evaluation. Retrieved from http://httppareonline.net/getvn.asp?v=5&n=14.

Hardin, P. K., & Richardson, S. J. (2012). Teaching the concept curricula: Theory and method.

Journal of Nursing Education, 51(3), 155-159. Retrieved from http://www.healio.com/Nursing/journals/JNE/%7B0E9723A5-5301-49D7-8AA9-2A33894.

Hassmiller, S. B., Cozine, M. (2006). Addressing the nurse shortage to improve the quality of patient care. *Health Affairs.* 25(1), 26-274.

Hayes, L. J., O'Brien-Pallas, Duffield, C., Shamian, J., Buchan, J., Hughes, F., Laschinger, S. K. H., North, K., Stone, P. (2006). Nurse turnover: A literature review. *Interntional Journal of Nursing Journal of Nursing Studies*, 43, 237-263. Retrieved from http://mail.elsevier-alerts.com/aem/clients/EHJ001.

Health Resources and Services Administration, (2002). Projected supply, demand, and shortage of registered nurses, 2000-2020. Retrieved from http://eric.gov/?id=ED468472.

Honor Society of Nursing, (2010). Facts on nursing shortage in North America. Retrieved from http://www.nursingsociety.org/Media/Pages/shortage.aspx.

HRSA (2010). *HRSA study finds nursing workforce is growing.* Retrieved from http://www.hrsa.gov/about/news/pressreleases/2010/100922nursingworkforce.html.

Jones, B.C., and Gates, M. (2007). The costs and benefits of nurse turnover: A business case for nurse retention. *OJIN: The Online Journal of Issues in Nursing.* (12)3, Manus. 4 DOI 10.3912/OJINvol12no03man04. Retrieved from http://www.nursingworld.org/mainmenucategories//.

Kaviani, N., Stilwell, Y. (2000). An evaluative study on clinical preceptorship. *Nurse Education Today*, 20(3), 218-216.

Knowles, M. S. (1980), *The modern practice of adult education: From pedagogy to Andragogy* (2nd ed.). New York: Cambridge Books.

Knox, J. E. & Mogan, J. (1985). Important clinical teacher behaviors as perceived by

university, nursing faculty, students and graduates. *Journal of Advanced Nursing,* 10, 25-30. Doi: 10.111/j.1365-2648.1985.tb00488.y.

Kolb, D. A. (1984). Experiential learning: Experience as the source of learning and Development. Englewood Cliffs, NJ: Prentice Hall.

Kramer, M. (1974). *Reality Shock: Why nurses leave nursing*. St. Louis, MO: C.V. Mosby.

Kramer, M., Schmalenberg, C., Maguire, P., Brewer, B., Burke, R., Chmielewski, L. et al., (2008). Structures and practices enabling staff to control their practice. *Western Journal of Nursing Research.* Retrieved from http://www.mc.vanderbilt.edu/root/sbworddocs/.

Lowe, J. & Archibald, C. (2009). Cultural diversity: The intention of nursing. Retroeved from http://www.emfp.org/DocVault/Publications/John.

Mackusick, C. i., Minick, P. (2010). Why are nurses leaving? Findings from an initial qualitative study on nursing attrition. *MedSurg Nursing*. 19(6). 335-40.

May, J. H., Bazzoli, G. J., Gerland, A. M., (2006). Hospital's responses to nurse staffing shortages. *Health Affairs.* 25(4), W316-W323.

Merizow, J. (1981). A critical theory of learning and education. Adult Education, 32, 3-24.

Modic, M B., & Schloesser, M. (2007). Preceptorship. Retrieved from http://www.nursingcenter.com/pdf.asp?AID=63.

Mogan, J., & Knox, J. E. (1987). Characteristics of 'best' and 'worst' clinical teachers as perceived by university nursing faculty and students. *Journal of Advanced Nursing,* 12, 331 – 337.

Morris, L. L., Pfeifer, B. P. Catalano, R., Fortney, R., Hilton, L.E., McLaughlin, J. et al., (2007). Designing a comprehensive model of critical care orientation. *Critical Care Nurse* (27). Retrieved from http://ccn.aacnjournals.org/cgl/content/full/27/.

Morris, D. L. (2006). Watson's theory of human caring. *Proquest.* Retrieved from http://search. Proquest.com.nec.gmilcs.org/docview/189451612/13220DD72CD57C22AD4.

Moscaritolo, L. M. (2009). Interventional strategies to decrease nursing student anxiety in the clinical learning environment. Retrieved from http://prcshsl/interventional.

Murphy, B. E. (2008). Positive Precepting; Preparation can reduce stress. *MEDSURG Nursing,* 17(3), 183-188. Retrieved from http://www.sjcme.edu/files/sjcme_files/docs/Nursing/ positive-prec.pdf

Myrick, F., Luhange, F., Billay, D., Foley, V., & Yonge, O., (2012). Putting the evidence into Preceptorship preparation. *Nursing Research and Practice.* Retrieved from www.hindawi.com/journals/nrp/2012/948593.

National Council of State Boards of Nursing (2005). Clinical instruction in pre-licensure nursing programs. Retrieved from www.ncbsn.org/Final_Cinical_Instr_Pre_Nsg_programs.pdf.

National League for Nursing (2011). Public Policy: Health Care Reform. Retrieved from http://www.nln.org/publicpolicy/hcreform_Shortage_info.htm.

Nehring, V. (1990). Nursing clinical teacher effectiveness inventory: a replication study of the characteristics of 'best' and 'worst' clinical teachers as perceived by nursing faculty and students.

Neill, J. (2011). Multiple linear regression II and analysis of Variance I: Survey research and design in psychology. Lecture 9. *Slide Share.* Retrieved from http://www.slideshare.net/ jtneill/Advanced-mlr-intro.

Neuman, D. M. L., (2008). Conceptual models of nursing and baccalaureate nursing education. *The Journal of Nursing Education,* 47(5), 199-200. Retrieved from http://search.proquest. Com.nec.gmilcs.org/heal.

Newhouse, R., Hoffman, J. J., Sufleta, J., Hairston, D. P., (2007). Evaluating an innovative program to improve new nurse graduate socialization into acute healthcare setting. *Nursing Administration Quarterly,* 31(1). Retrieved from http://search.proquest.com.nec.gmilcs.org/health/docview236047639/ 1384AB403674F2BCD8F.

Nielsen, B. (1989). Applying andragogy in nursing continuing education. *The Journal of Continuing Education in Nursing,* 20(2), 86-90. Retrieved from http://search.proquest.com. Nec.gmilcs.org.heal.

Norusis, M. J. (2008). *SPSS statistics 17.0: Statistical procedures companion.* Chicago, IL: Prentice Hall, Inc.

Nunnally, J. C. & Bernstein, I. H. (1994). *Psychometry Theory.* New York: McGrawhill.

Nursing Theories (2012). *Jean Watson's philosophy of nursing.* Retrieved from http://currentnursing.com/nursing_theory/Watson.

O'Brien-Gonzales, A., Blavo, C., Barley, G., Steinkohl, D. & Loeser, H. (2001). What did we Learn about early clinical experience? *Journal of Academic Medecine,* 76, S49-S54.

Ottolini, M. C., Ozuah, O. P., Mirza, N., & Greenberg, L. W. (2010). Students' perceptions of effectiveness of the eight step preceptor (ESP) model in the ambulatory setting. *Teaching and Learning in Medicine.* 22(2), p. 97-101.

Paton, B. L. (2010). The professional practice knowledge of nurse preceptors. *Journal of Nursing Education,* 49(3). Retrieved from http://search.proquest.com.nec.gmilcs.org.

Persaud, D. (2008). Mentoring the new graduate perioperative nurse: A valuable retention Strategy. *AORN Journal,* 87(6). 1173-1179.

Piemme, J., Tack, B., Kramer, W. & Evans, J. (1986). Developing the nurse preceptor.

Continuing Education in Nursing, 17(6), 186-189. Retrieved from http://www.proquest.com. Nec.gmilcs.org/doc.

Poynton, M., Madden, C., Bowers, R., Keefe, M., Krella, J. (2007). Nurse residency program Implementation: The Utah experience/practitioner application. *Journal of Healthcare Management.* 52(6). Retrieved from http://search.proquest.com.nec.gmilcs.org.

Proulx, D. M., & Bourcier, B. J., (2008). Graduate nurses in the intensive care unit: An orientation model. *Critical Care Nurse,* 28(4). Retrieved from http://ccnjournals.org.

Reising, D. L. (2002). Early socialization of new critical care nurses. *Amercian Journal of Critical Care,* 11(1), 19-26.

Ryan-Nichols, Kimberly, D. (2004). Preceptor recruitment and retention: The preceptor partnership is the most effective means of ensuring that students integrate professional theory with clinical practice but a growing lack of preparation may threaten the process. *The Canadian Nurse,* 100(6), 18-22.

Sadau, K. E., Cheng, H. G., Pan, Z., Gallard, P. R., Hammer, L. (2011). Effect of a preceptor education workshop: Part 1. Quantitative results of a hospital wide study. Retrieved from http://search.proquest.com.nec.gmilcs.org/nursing/docview/858137929/fulltext/132182BA.

Sandau, K. E., & Halm, M. A., (2010). Preceptor-based orientation programs: Effective for nurses and organizations. *American Journal of Critical Care.* Retrieved from http://ajcc.aacnjournals.og/content/19/2/184.full.pdf+html?sid=623294b7-ab9d-46fb-8a69-46c5eo4.

Saucier, B. L. (1995). Critical thinking skills of baccalaureate nursing students. *Journal of Professional Nursing,* 11(6), 351-7. Retrieved from http:://www.ncbi.nlm.gov/ pubmed/8606258.

Schaubhut, R. M., & Gentry, J, A., (2010). Nursing Preceptor Workshops: Partnership and Collaboration between academia and practice. *The Journal of Continuing Education in Nursing,* 41(4), 155-160. Retrieved from http://search.proquest.com.nec.gmilcs.org/health/docview/205395394/1363CAC406B2050.

Schein, E. H. (1995). Kurt Lewin's change theory in the field and in the classroom: Notes toward a model of managed learning. *Reflections,* 1(1), 60-73.

Schwirian, P. M. (1978). Evaluating the Performance of Nurses: A multidimentional approach. *Nursing Research,* 27(6), 347-351.

Sich, S. & Bell, S. (1994). Perceptions of effective clinical teachers in associate degree programs. *Journal of Nursing Education,* 33(9), 389-394, from ProQuest Nursing & Allied Health Source Database.

Siela, D., Rwibell, K. R., & Keller, V. (2011). The shortage of nurses and nursing faculty: What critical care nurses can do. *AACN Advanced Critical Care.* 19(1). Retrieved from http://www.aacn.org/WD/careers/Content/TOC-3.PCMS?PID=1&&menu=.

Sigma Theta Tau International (2010). Facts on the nursing shortage in America. Retrieve from http://nursing society.org/Media/Pages/Shortage.asps.

Shin, K., Jung, DY, Shin, S., Kim, M. S. (2006). Critical thinking disposition and skills of senior nursing students in associate, baccalaureate, and RN-BSN programs. *Journa of Nursing Education,* 45(6), 233-7. Retrieved from http://www.ncbi.nln.gov/pubmed/1678001.

Smedley, A., Penney, D., Dawn, A. (2009). A partnership approach to the preparation of Preceptors. *Nursing Education Perspectives.* 30(1) 31-6.

Smith, M. K. (2002) 'Malcolm Knowles, informal adult educator, self-direction and andragogy', *The Encyclopedia of Informal Education.* Retrieved from http://www.infed.org/thinkers/er-

knowl.htm.

Smith, M. K., (2001). 'David A. Kolb on experiential learning'. *The encyclopediaof informal education.* Retrieved from http://www.infed.org/b-explrn.htm.

Sook, W., Cholowski, K., Williams, A. K. (2002). Nursing students' and clinical educators' perceptions of characteristics of effective clinical educators in an Australian university school of nursing. *Journal of Advanced Nursing,* 39(5), 412-420.

Sorensen, H., Yankech, L. R. (2008). Precepting in the fast lane: Improving critical thinking in new graduate nurses. *The Journal of Continuing Education in Nursing,* 39(5). Retrieved from http://search.proquest.com.nec.gmiles.org/docview/223320662/1322311A301332F792D/1

Trochim, M. K. W. (2006). The nonequivalent group design. *Quasi-Experimental Design.* Retrieved from http://www.socialresearchmethods.net/kb/quasnegd.php.

US Department of Health and Human Services. (2002). HRSA Data Warehouse. Retrieved from http://datawarehouse.hrsa.gov/bhpr.aspx.

United States Department of Labor, (2010). Databases, tables, and calculators by subject. *Bureau Of Labor Statistics*. Retrieved from http://data.bls.gov/timeseries/LNS14000000.

Vogt, W. P. (2007). *Quantitative research methods for professionals.* Boston, MA: Pearson Education, Inc.

Wade, H. G., Kasper, N. (2006). Nursing students' perception of instructor caring: An instrument based on Watson's theory of transpersonal caring. *Journal of Nursing Education,*

Watson, J. (1979). *Nursing: The philosophy and science of caring.* Boston: Little, Brown, and Co.

Westra, R. J., Graziano, M. J., (1992). Preceptors: A comparison of their perceived needs before and after the preceptor experience. *The Journal of Continuing Education in Nursing,* 23(5),

212-215.

Yonge, O., Hagler, P., Cox, C., & Drefo, S. (2008). Listening to Preceptors. *Journal for Nurses In Staff Development,* 24 (1), 21 – 26.

Zelembo, M., Monterosso, L., (2008). Contemporary Nurse: *A Journal for the Australian Nursing Profession,* 30(1), 89-94. Retrieved from http://search.proquest.com.nec. Gmilcs.org/heal.

APPENDICES

APPENDIX A

Survey Questionnaire for Orientees

Title of Study: The Impact of Preceptor Training on Effectiveness of Preceptors in Delivery of Skills and Knowledge to Nurse Orientees

Questionnaire Survey for <u>Orientees</u>

Please take twenty minutes to complete the survey. After you have completed the survey, enclose the form in the envelope, seal it, deliver to Staff Development Office and drop in the designated locked box. Your answers to the survey questions are strictly confidential. This is a voluntary activity and you may withdraw at any time.

Nursing Clinical Teacher Effectiveness Inventory

Please grade the effectiveness of your clinical preceptor using the scale provided. Encircle the number that best explains your rating. Please use the following scale where 1 = Never observed; 2 = Rarely observed; 3 = Sometimes observed; 4 = Frequently observed; 5 = Always observed

The preceptor

1. Explained clearly

1 = never observed
2 = rarely observed
3 = sometimes observed
4 = frequently observed
5 = always observed

2. Emphasized what is important

1 = never observed
2 = rarely observed
3 = sometimes observed
4 = frequently observed
5 = always observed

3. Stimulated student's interest in the subject

1 = never observed
2 = rarely observed
3 = sometimes observed
4 = frequently observed
5 = always observed

4. Was not accessible to students

1 = never observed
2 = rarely observed
4 = frequently observed
5 = always observed

3 = sometimes observed

5. Demonstrated clinical procedures and techniques

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

6. Helped students identify and make use of practice opportunities

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

7. Offered special help when difficulties arise

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

8. Was prepared for teaching

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

9. Enjoyed teaching

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

10. Enjoyed active participation in discussion

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

11. Geared instruction to student's level of readiness

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

12. Understood what students are asking or telling

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

13. Answered carefully and precisely questions raised by students.

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

14. Questioned students to elicit underlying reasoning

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

15. Helped students organize their thoughts about problems

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

16. Promoted student independence

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

17. Demonstrated poor clinical skills and judgment

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

18. Demonstrated communication skills

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

19. Revealed broad reading in his or her area of interest

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

20. Discussed current developments in his or her field
    1 = never observed
    2 = rarely observed
    3 = sometimes observed
    4 = frequently observed
    5 = always observed
21. Directed students to useful literature in nursing
    1 = never observed
    2 = rarely observed
    3 = sometimes observed
    4 = frequently observed
    5 = always observed
22. Demonstrated a breadth of knowledge in nursing
    1 = never observed
    2 = rarely observed
    3 = sometimes observed
    4 = frequently observed
    5 = always observed
23. Recognized own limitations
    1 = never observed
    2 = rarely observed
    3 = sometimes observed
    4 = frequently observed
    5 = always observed
24. Took responsibility for own actions
    1 = never observed
    2 = rarely observed
    3 = sometimes observed
    4 = frequently observed
    5 = always observed
25. Was a good role model
    1 = never observed
    2 = rarely observed
    3 = sometimes observed
    4 = frequently observed
    5 = always observed
26. Enjoyed nursing
    1 = never observed
    2 = rarely observed
    3 = sometimes observed
    4 = frequently observed
    5 = always observed
27. Made specific suggestions for improvement
    1 = never observed
    2 = rarely observed
    4 = frequently observed
    5 = always observed

3 = sometimes observed

28. Provided constructive feedback on student's performance
    1 = never observed
    2 = rarely observed
    3 = sometimes observed
    4 = frequently observed
    5 = always observed
29. Identified students' strengths and limitations objectively
    1 = never observed
    2 = rarely observed
    3 = sometimes observed
    4 = frequently observed
    5 = always observed
30. Observed students' performance
    1 = never observed
    2 = rarely observed
    3 = sometimes observed
    4 = frequently observed
    5 = always observed
31. Communicated expectations of students poorly
    1 = never observed
    2 = rarely observed
    3 = sometimes observed
    4 = frequently observed
    5 = always observed
32. Had unrealistic expectations of students
    1 = never observed
    2 = rarely observed
    3 = sometimes observed
    4 = frequently observed
    5 = always observed
33. Gave students positive reinforcement for good contributions, observations, and performance
    1 = never observed
    2 = rarely observed
    3 = sometimes observed
    4 = frequently observed
    5 = always observed
34. Corrected students' mistakes without belittling them
    1 = never observed
    2 = rarely observed
    3 = sometimes observed
    4 = frequently observed
    5 = always observed
35. Did not criticize students in front of others

1 = never observed 4 = frequently observed
2 = rarely observed 5 = always observed
3 = sometimes observed

36. Provided support and encouragement to students
1 = never observed 4 = frequently observed
2 = rarely observed 5 = always observed
3 = sometimes observed

37. Was unapproachable
1 = never observed 4 = frequently observed
2 = rarely observed 5 = always observed
3 = sometimes observed

38. Encouraged a climate of mutual respect
1 = never observed 4 = frequently observed
2 = rarely observed 5 = always observed
3 = sometimes observed

39. Listened attentively
1 = never observed 4 = frequently observed
2 = rarely observed 5 = always observed
3 = sometimes observed

40. Showed a personal interest in students
1 = never observed 4 = frequently observed
2 = rarely observed 5 = always observed
3 = sometimes observed

41. Demonstrated empathy
1 = never observed 4 = frequently observed
2 = rarely observed 5 = always observed
3 = sometimes observed

42. Demonstrated enthusiasm
1 = never observed 4 = frequently observed
2 = rarely observed 5 = always observed
3 = sometimes observed

43. Was a dynamic, energetic person
1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

44. Was self-confident

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

45. Used criticism of teaching performance constructively

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

46. Was open-minded and non-judgmental

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

47. Had a good sense of humor

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

48. Was organized

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

APPENDIX B

QUESTIONNAIRE FOR PRECEPTORS

Title of Study: The Impact of Preceptor Training on Effectiveness of Preceptors in Delivery of Skills and Knowledge to Nurse Orientees

Please take twenty minutes to complete the survey. After you have completed the survey, enclose the form in the envelope, seal it, deliver to Staff Development Office and drop in the designated locked box. Your answers to the survey questions are strictly confidential. This is a voluntary activity and you may withdraw at any time.

The questionnaire has two parts: Part I will be a brief information on your clinical years of experience in critical care (ED, ICUs, Telemetry/Stepdown Unit, PACU), your years of experience as a clinical preceptor, your academic preparation in nursing, and whether you have or have not attended a preceptor program. Part II will be your rating on your effectiveness as a clinical preceptor.

Answer YES or NO to the corresponding item below**.**

I have attended a preceptor program _____

Place an x mark on the corresponding items below:

Years of experience in critical care

1 - 5 years _____

6 – 10 years _____

11 – 15 years _____

16-20 years _____

21 or more years _____

Academic Preparation in Nursing

Associate Degree _____

Bachelor of Science in Nursing _____

Master's Degree _____

Years of Experience as a Preceptor

1-5 years _____

6-10 years _____

11-15 years _____

16-20 years _____

21 or more years _____

Nursing Clinical Teacher Effectiveness Inventory

Please grade your effectiveness as a clinical preceptor using the scale provided. Encircle the number that best explains your rating. Please use the following scale where 1 = Never observed; 2 = Rarely observed; 3 = Sometimes observed; 4 = Frequently observed; 5 = Always observed

As a preceptor I

1. Explained clearly

1 = never observed
2 = rarely observed
3 = sometimes observed
4 = frequently observed
5 = always observed

2. Emphasized what is important

1 = never observed
2 = rarely observed
3 = sometimes observed
4 = frequently observed
5 = always observed

3. Stimulated student's interest in the subject

1 = never observed
2 = rarely observed
3 = sometimes observed
4 = frequently observed
5 = always observed

4. Was not accessible to students

1 = never observed
2 = rarely observed
3 = sometimes observed
4 = frequently observed
5 = always observed

5. Demonstrated clinical procedures and techniques

1 = never observed
2 = rarely observed
3 = sometimes observed
4 = frequently observed
5 = always observed

6. Helped students identify and make use of practice opportunities

1 = never observed
2 = rarely observed
3 = sometimes observed
4 = frequently observed
5 = always observed

7. Offered special help when difficulties arise

1 = never observed
2 = rarely observed
3 = sometimes observed
4 = frequently observed
5 = always observed

8. Was prepared for teaching

1 = never observed
2 = rarely observed
3 = sometimes observed
4 = frequently observed
5 = always observed

9. Enjoyed teaching

1 = never observed
2 = rarely observed
3 = sometimes observed
4 = frequently observed
5 = always observed

10. Enjoyed active participation in discussion

1 = never observed
2 = rarely observed
3 = sometimes observed
4 = frequently observed
5 = always observed

11. Geared instruction to student's level of readiness

1 = never observed
2 = rarely observed
3 = sometimes observed
4 = frequently observed
5 = always observed

12. Understood what students are asking or telling

1 = never observed
2 = rarely observed
3 = sometimes observed
4 = frequently observed
5 = always observed

13. Answered carefully and precisely questions raised by students.

1 = never observed
2 = rarely observed
3 = sometimes observed
4 = frequently observed
5 = always observed

14. Questioned students to elicit underlying reasoning

1 = never observed
2 = rarely observed
4 = frequently observed
5 = always observed

3 = sometimes observed

15. Helped students organize their thoughts about problems

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

16. Promoted student independence

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

17. Demonstrated poor clinical skills and judgment

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

18. Demonstrated communication skills

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

19. Revealed broad reading in his or her area of interest

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

20. Discussed current developments in his or her field

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

21. Directed students to useful literature in nursing

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

22. Demonstrated a breadth of knowledge in nursing
    1 = never observed
    2 = rarely observed
    3 = sometimes observed
    4 = frequently observed
    5 = always observed
23. Recognized own limitations
    1 = never observed
    2 = rarely observed
    3 = sometimes observed
    4 = frequently observed
    5 = always observed
24. Took responsibility for own actions
    1 = never observed
    2 = rarely observed
    3 = sometimes observed
    4 = frequently observed
    5 = always observed
25. Was a good role model
    1 = never observed
    2 = rarely observed
    3 = sometimes observed
    4 = frequently observed
    5 = always observed
26. Enjoyed nursing
    1 = never observed
    2 = rarely observed
    3 = sometimes observed
    4 = frequently observed
    5 = always observed
27. Made specific suggestions for improvement
    1 = never observed
    2 = rarely observed
    3 = sometimes observed
    4 = frequently observed
    5 = always observed
28. Provided constructive feedback on student's performance
    1 = never observed
    2 = rarely observed
    3 = sometimes observed
    4 = frequently observed
    5 = always observed
29. Identified students' strengths and limitations objectively
    1 = never observed
    2 = rarely observed
    4 = frequently observed
    5 = always observed

3 = sometimes observed

30. Observed students' performance

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

31. Communicated expectations of students poorly

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

32. Had unrealistic expectations of students

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

33. Gave students positive reinforcement for good contributions, observations, and performance

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

34. Corrected students' mistakes without belittling them

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

35. Did not criticize students in front of others

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

36. Provided support and encouragement to students

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

37. Was unapproachable

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

38. Encouraged a climate of mutual respect

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

39. Listened attentively

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

40. Showed a personal interest in students

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

41. Demonstrated empathy

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

42. Demonstrated enthusiasm

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

43. Was a dynamic, energetic person

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

44. Was self-confident

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

45. Used criticism of teaching performance constructively

1 = never observed 4 = frequently observed

2 = rarely observed 5 = always observed

3 = sometimes observed

46. Was open-minded and non-judgmental

1 = never observed
2 = rarely observed
3 = sometimes observed
4 = frequently observed
5 = always observed

47. Had a good sense of humor

1 = never observed
2 = rarely observed
3 = sometimes observed
4 = frequently observed
5 = always observed

48. Was organized

1 = never observed
2 = rarely observed
3 = sometimes observed
4 = frequently observed
5 = always observed

APPENDIX C

IRB APPROVAL LETTERS

From New England College

November 12, 2012

To: Marie Ortaliz

Re: IRB Approval

Dear Marie,

I am writing to congratulate you on the approval by the IRB for your dissertation proposal. This is a very exciting project. Your work with nursing education will have far reaching effects on how students learn and how teachers teach in the future.

This approval is valid for one calendar year from the date of acceptance. If you have a need to extend that time frame please contact the IRB in order to request an extension for a second year.

Again, congratulations on your fine efforts. If the IRB may be of further assistance please contact me at your convenience.

Sincerely,

Carlton J. Fitzgerald

Carlton J. Fitzgerald

IRB Chair

November 9, 2013

To: Marie Ortaliz

Re: IRB Approval

Dear Marie,

I am writing to let you know that your request for an extension has been approved. This approval is valid for one calendar year from the date of approval. If you have a need another extension to that time frame, please contact the IRB in order to request an extension for a second year.

Sincerely,

Carlton J. Fitzgerald

Carlton J. Fitzgerald

IRB Chair

APPENDIX D

LETTER TO GRANT PERSMISSION TO CONDUCT RESEARCH STUDY

September 18, 2012

Name of Director
Director of Staff Development

RE: Permission to Conduct Research Study

Dear Director (Name);

I am writing to request permission to conduct a research study at your institution. I am currently enrolled in the doctoral program at New England College in New Hampshire, and am in the process of writing my dissertation. The study is entitled "Impact of Preceptor Training Program on Effectiveness of Preceptors in Delivery of Knowledge and Skills to Nurse Orientees".

The study protocol will involve 50 nurses and 30 nurse preceptors as sample participants in the critical care units. The participants will anonymously complete a four page questionnaire. The survey process will take no longer than 20 minutes. I will be meeting with the nurse manager and educator of the critical care units before and during the data collection. Participation will be voluntary and participants will be given a consent form to sign.

If approval is granted, participants will complete the survey in the nursing conference room at the hospital's site. The survey results will be pooled for the dissertation project and individual results of the study will remain absolutely confidential and anonymous. Should this study be published, only pooled results will be documented. No costs will be incurred by either your hospital or the individual participants.

Your approval to conduct this study will be greatly appreciated. I will follow up with a telephone call next week and would be happy to answer any questions or concerns that you may have at this time. You may contact me at my email address: mortaliz@nec.edu. or Gavin Henning at his email address: Ghenning@nec.edu.

If you agree, kindly sign below and return the signed form in the enclosed self-addressed envelope. Alternatively, kindly submit a signed letter of permission on your institution's letterhead acknowledging your consent and permission for me to conduct this survey/study at your institution.

Sincerely,

Marie Ortaliz
New England College

Approved by:

_____ _____ _____

Print your name and title Signature Date

APPENDIX E

IRB APPROVAL LETTERS FROM NEW YORK CITY HEALTH AND HOSPITAL CORPORATION

NEW YORK CITY HEALTH AND HOSPITALS CORPORATION
160 Water St., 11th Floor ● New York ● New York 10038

HHC CENTRAL OFFICE APPROVAL LETTER

To: Mrs. Evelyn Montecer

From: Central Office Research Reviewer

Date: 4/29/2013

Title: Impact of Preceptor Training on Effectiveness of Preceptors in Delivery of Knowledge and Skills to Nurse Orientees

Re: HHC Protocol Number: 042913-Lin-S0070 IRB Number: 13-003

Dear Dr. Evelyn Montecer

This research project has been approved by the HHC Central Office Research Reviewer and is authorized for implementation at Lincoln Medical and Mental Health Center for no longer than 365 days beginning on Monday, April 29, 2013 unless specified for a lesser approval period by the IRB. This authorization is contingent upon current documentation of IRB and HHC approval for all types of IRB reviews for the duration of this research project. No investigator may recruit any patients or continue research project implementation unless all types of IRB and HHC approvals are both documented as current.

As a principal investigator, it is your responsibility to notify your Facility Research Coordinator within 72 hours if your protocol has been withdrawn, suspended, terminated and/or closed by the IRB.

NYC HHC requires that investigators:

- Ensure research-related tests and procedures rendered during the course of the research project are not billed as ‘standard of care’ but billed to the research project agreement, grant, or contract;
- Provide the facility with a list of all subjects initials, where recruited and/or enrolled, medical record number and protocol number upon request;
- Report all adverse events to the IRB;
- Report all local serious adverse events to HHC;
- Report changes that require further conflict of interest disclosure;
- Ensure that signed informed consent documents are kept in the subjects medical record; and
- Notify HHC about changes in sponsored program funding agreements, grants, or contracts.

If you have any questions about this letter or other research matters, please call your Facility Research Coordinator.

CC: Facility Research Review Committee

Hello Mrs. Montecer:

Please be advised that your Study #13-003 was granted approval for continuation for another year. Attached please find a copy of your approval letter; the original letter is in the IRB office and can be picked up at your earliest convenience. Please be advised that your approved study documents such as verbal ICF, Questionnaires and Flyer is still valid for use because their date doesn't expire.

Thank you

Ina Tamaldeo

Best Regards

Lincoln Hospital IRB Team **Institutional Review Board, 5D-Rm 222**
Ph #s (718) 579-5339, 5402, 5620, 4915 6513 or 1285
Fax (718) 579-6427

APPENDIX F

IRB APPROVAL LETTER FROM QUEENS HOSPITAL CENTER

To: Delia Beaudouin

From: Michelle D Rodriguez, CIP, CIM, Assistant IRB Director

CC: BRANY IRB File # 13-12-269(HHC)-05H
IRB ONLY, Grants Manager
Research Coordinator

Date: 11/20/13

Re: **Determination of EXEMPT Status for Investigator Initiated Protocol Preceptor Training**

Protocol Title: Impact of Preceptor Training on Effectiveness of Preceptors in Delivery of Knowledge and Skills to Nurse Orientees

1. **BRANY IRB Decision:**
   The BRANY Institutional Review Board is in receipt of an Application for Determination of Exempt Status for the above-mentioned protocol. The IRB has determined that this protocol is **exempt from IRB review**, under category # 1, as detailed in 45 CFR 46.101(b) and the BRANY Standard Operating Procedures, Section III (1) (f):

   (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.

2. **Items Considered by BRANY IRB for Exempt Determination:**
   - Investigator Initiated Clinical Study Protocol Preceptor Training, Version dated 10/3/2013
     - Verbal Consent Script
   - Recruitment Flyer
   - Questionnaire for Preceptors
   - Questionnaire for Orientees

3. **HIPAA Determination:**
   BRANY IRB has determined that the data collected for this research is de-identified. As such, HIPAA does not apply to this research.

4. **Review by Other Committees:**
   Please note: Additional Health & Hospitals Corporation (HHC) central office approval is required for studies conducted at any of HHC facilities. Please obtain this approval from your local facility review committee, or go to http://reason.nychhc.org/ and click on **PI and Reviewers only** to begin the process. Instructions are available for first time users.

5. **IRB Approval Period/Expiration of IRB Approval:**
   While research that has been determined to be exempt from IRB review is not subject to continuing review, the Principal Investigator must notify the IRB of any changes in the protocol (e.g., study design, procedures, etc.), as such changes may call for IRB review.

If you have any questions or require any additional information, please call me at 516-470-6969 or send an email to me at mrodrigu3@brany.com. Thank you.

APPENDIX G

IRB APPROVAL LETTER FROM MONTEFIORE HOSPITAL

EINSTEIN
Albert Einstein College of Medicine
OF YESHIVA UNIVERSITY

Science at the heart of medicine

Institutional Review Board

Yeshiva University
FWA #00000140

Montefiore Medical Center
FWA #00002558

North Bronx Healthcare Network
FWA #00009807

East Campus IRB
Jack and Pearl Resnick Campus
1300 Morris Park Ave., Belfer 1002
Bronx, NY 10461
718.430.2237 fax 718.430.8817

West Campus IRB
Montefiore Medical Center
3308 Rochambeau Avenue
Bronx, NY 10467
718.798.0406 fax 718.798.5687

http://www.einstein.yu.edu/irb

Notification of Exempt Determination

Date: March 28, 2014

Principal Investigator
Catherine O'Brien

Study Title:	Impact of Preceptor Training on Effectiveness of Preceptors in Delivery of Skills and Knowledge to Nurse Orientees		
IRB #:	2013-2709	Reference #:	001164
Type of Submission:	Submission Response for Initial Review Submission form		
Determination Date:	03/28/2014		

Exempt Category
Exempt 2: Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior.

HIPAA Determination
HIPAA does not apply to this study.

Re-review by the IRB will be required if any substantive change is made in the protocol during the course of the study, to determine whether or not the study still qualifies as Exempt Research.
Reportable Events must be reported to the IRB in compliance with the Einstein IRB policy.

Reviewed Documents: To obtain a list of documents that were approved with this submission, follow these steps: Go to Study Assistant – My Studies and open the study – Click on Submissions History – Go to Completed Submissions – Locate this submission and click on the Details button to view a list of submitted documents and their outcomes.

For a list of all currently approved documents, follow these steps: Go to Study Assistant – My Studies and open the study – Click on Informed Consent to obtain a list of approved consent documents and Other Study Documents for a list of other approved documents.

APPENDIX H

ST. LUKES FAXTON MEDICAL CENTER APPROVAL LETTER

Marie E. Smith RN CRRN CCM CTCS
Regional Cancer Center
Clinical Trials Coordinator
315-624-5705

We care. Body, mind, and spirit

"Faith is not believing God can, it is knowing God will."

>>> Traci Coulthart 4/23/2014 7:14 AM >>>
thank you for taking the time to look this over for me. I appreciate it!

Traci Coulthart RN BSN
Critical Care Clinician

>>> Marie Smith 4/22/2014 3:23 PM >>>
Hi Traci,
I have reviewed all of the information provided. Since this research is an anonymous survey of employees and no patients are involved in any way, the Faxton St. Luke's Healthcare IRB would not be responsible for oversight of this project. I hope this answers any questions. If not, please do not hesitate to contact me. Thanks, Marie

Marie E. Smith RN CRRN CCM CTCS
Regional Cancer Center
Clinical Trials Coordinator
315-624-5705

We care. Body, mind, and spirit

"Faith is not believing God can, it is knowing God will."

.

APPENDIX I

FLYER TO ANNOUNCE RESEARCH

Hospital Name_____

You are invited to participate in a research study on:

"Impact of Preceptor Training on Effectiveness of Preceptors in Delivery of Knowledge and Skills to Nurse Orientees"

The Purpose of the study is to identify the core characteristics of preceptors that will make them effective in order to improve the orientation process in nursing. The information you will provide will give insight to the development of a more effective orientation process for new nurses in the critical care areas. This is a one time questionnaire and the expected time frame to complete the survey is 20 minutes.

The research is a multi-site study. At _____(name of hospital), the study is conducted jointly by the Principal Investigator, _____ RN, and Co-Investigator, Marie Ortaliz, RN, as part of a Doctoral Dissertation from the Department of Graduate Studies/Doctoral of Education Program at New England College.

Eligibility requirements:

- RN assigned in ED, Adult ICUs, PACU, Telemetry, and Step Down
- The participating RN functioned as a preceptor or was a nurse orientee during 2012 – 2014
- Participation is voluntary

The Survey is Anonymous.

Survey questionnaires are available in Staff Development Office Room_____.

Informational sessions regarding the research study will be held on:

Dates_____ Time_____ Location _____

If you are interested in participating in this research but missed the information sessions, please see the Prinicpal Investigator, _____ at the Staff Development Office.

APPENDIX J

CONSENT FOR ANONYMOUS SURVEY

You are being invited to participate in a research study about the Impact of a Preceptor Training Program On the Effectiveness of Preceptors in Delivery of Knowledge and Skills to Nurse Orientees. The study is being conducted by Marie Ortaliz and Gavin Henning, from the Department of Graduate Studies/Doctoral of Education Program at New England College. The study is part of a doctoral student dissertation.

There are no known risks if you decide to participate in this research study. There are no costs to you for participating in the study. Your participation will not affect your employment benefits or your employability. The information you provide will give insight to the development of a more effective orientation process for new nurses in critical care. The questionnaire will take about twenty minutes to complete. The information collected may not benefit you directly, but the information learned in this study should provide more general benefits for the nursing profession.

This survey is anonymous. Do not write your name in the survey. No one will be able to identify you or your answers, and no one will know whether or not you participated in the study. Individuals from the Institutional Review Board may inspect these records. Should the data be published, no individual information will be disclosed.

Your participation in this study is voluntary. By completing the questionnaire, enclosing it in the white envelope provided, and submitting it to a staff member at the nursing office, you are agreeing to participate. You are free to decline to answer any particular question you do not wish to answer for any reason. You may withdraw at any time.

If you have any questions about the study, please contact Marie Ortaliz, 11 Rockridge Drive, Thiells, NY 10984, email address: mortaliz@nec.edu; phone number 718-414-7861, and Dr. Gavin Henning New England College, 98 Bridge Street, Henniker, NH, email address: Ghenning @nec.edu; phone number 603-428-2217

The New England College Institutional Review Board has reviewed my request to conduct this project. If you have any concerns about your rights in the study, please contact Dr. Gavin Henning of the New England College IRB or by email Ghenning@nec.edu

Date of IRB Approval: _____

IRB Number:

Project Expiration Date:

APPENDIX K

Teaching Characteristics in Survey Questionnaire Rated by Orientees

Characteristic	*n*	*M*	SD
1. Explained clearly			
Control	64	4.04	0.70
Treatment	66	4.43	0.65
2. Emphasized what is important			
Control	64	4.06	2.08
Treatment	66	4.60	0.83
3. Stimulated students' interest in the subject			
Control	64	3.68	2.06
Treatment	66	4.37	0.95
4. Was not accessible to students			
Control	64	3.57	1.94
Treatment	66	3.96	1.25
5. Demonstrates clinical procedures and techniques			
Control	64	3.92	2.0
Treatment	66	4.5	1.01
6. Helped students identify and make use of practice opportunities			
Control	64	3.87	2.0
Treatment	66	4.41	0.95
7. Offered special			

help when difficulties arise			
Control	64	4.23	1.75
Treatment	66	4.53	0.93
8. Was prepared for teaching			
Control	64	3.81	1.60
Treatment	66	4.33	0.97
9. Enjoyed teaching			
Control	64	3.89	1.57
Treatment	66	4.44	1.22
10. Encouraged active participation in discussion			
Control	64	3.84	1.50
Treatment	66	4.43	0.97
11. Geared instructions to students' level of readiness			
Control	64	3.79	1.44
Treatment	66	4.27	0.96
12. Understood what students are asking or telling			
Control	64	4.12	1.39
Treatment	66	4.31	0.82
13. Answered carefully and precisely			
Control	64	3.98	1.34
Treatment	66	4.45	0.95
14. Questioned students to elicit underlying			

reasoning			
Control	64	3.67	1.29
Treatment	66	4.15	1.02
15. Helped students organize their thoughts about patient problems			
Control	64	3.62	1.25
Treatment	66	4.25	1.09
16. Promoted students' independence			
Control	64	4.01	1.22
Treatment	66	4.76	0.95
17. Demonstrates poor clinical skills and judgment			
Control	64	4.16	1.18
Treatment	66	4.27	1.02
18. Demonstrated communication skills			
Control	64	3.98	1.15
Treatment	66	4.31	0.96
19. Revealed broad reading in his or her area of interest			
Control	64	3.09	1.12
Treatment	66	3.98	1.21
20. Discussed current development in his or her field			
Control	64	2.92	1.24
Treatment	66	3.70	1.15
21. Directed students to useful			

literature in nursing			
Control	64	2.69	1.33
Treatment	66	3.71	1.20
22. Demonstrated breadth of knowledge in nursing			
Control	64	3.78	1.40
Treatment	66	4.34	1.17
23. Recognized own limitations			
Control	64	3.60	1.37
Treatment	66	4.09	1.17
24. Took responsibility for own actions			
Control	64	4.06	1.35
Treatment	66	4.45	0.98
25. Was a good role model			
Control	64	4.09	1.32
Treatment	66	4.63	1.03
26. Enjoyed nursing			
Control	64	4.01	1.30
Treatment	66	4.56	0.91
27. Made specific suggestions for improvement			
Control	64	3.82	1.28
Treatment	66	4.48	1.04
28. Provided constructive feedback			
Control	64	3.82	1.26
Treatment	66	4.42	1.04
29. Identified students' strengths and limitations			

Control	64	3.64	1.24
Treatment	66	4.29	1.05
30. Observed students' performance			
Control	64	3.79	1.22
Treatment	66	4.45	1.02
31. Communicated expectations poorly			
Control	64	3.57	1.24
Treatment	66	3.89	1.10
32. Had unrealistic expectations of students			
Control	64	3.93	1.25
Treatment	66	4.13	1.20
33. Gave students positive reinforcement for good contribution, observation, and performance			
Control	64	3.79	1.23
Treatment	66	4.16	1.04
34. Corrected students' mistakes without belittling them			
Control	64	4.10	1.22
Treatment	66	4.39	0.92
35. Did not criticize students in front of others			
Control	64	3.82	1.20
Treatment	66	4.31	1.20
36. Provided support			

and encouragement to students			
Control	64	3.92	1.19
Treatment	66	4.50	0.96
37. Was unapproachable			
Control	64	3.89	1.17
Treatment	66	3.98	1.24
38. Encouraged a climate of mutual respect			
Control	64	4.15	1.16
Treatment	66	4.39	0.92
39. Listened attentively			
Control	64	3.93	1.17
Treatment	66	4.57	0.99
40. Showed a personal interest in students			
Control	64	3.79	1.15
Treatment	66	4.53	1.01
41. Demonstrated empathy			
Control	64	3.73	1.14
Treatment	66	4.48	1.02
42. Demonstrated enthusiasm			
Control	64	3.65	1.18
Treatment	66	4.41	1.11
43. Was a dynamic energetic person			
Control	64	3.76	1.12
Treatment	66	4.45	1.00
44. Was self-confident			

Control	64	4.18	1.13
Treatment	66	4.60	0.83
45. Used criticism of teaching performance constructively			
Control	64	3.65	1.13
Treatment	66	4.10	1.01
46. Was open-minded and non-judgmental			
Control	64	3.93	1.12
Treatment	66	4.41	0.87
47. Had a good sense of humor			
Control	64	3.73	1.13
Treatment	66	4.48	0.92
48. Was organized			
Control	64	4.59	1.13
Treatment	66	4.56	0.84

APPENDIX L

Frequencies of Frequently Observed and Always Observed Effective Teaching Characteristic Rated by Orientees

Teaching Characteristics	Control %	Treatment %
1. Explained clearly	76.6	93.9
2. Emphasized what was important	82.8	95.5
3. Stimulated students' interest in the subject	60.9	87.9
4. Was not accessible to students	56.3	75.8
5. Demonstrated clinical procedures and techniques	71.9	95.4
6. Helped students identify and make use of practice opportunities	75.0	95.4
7. Offered special help when difficulties arise	81.3	95.5
8. Was prepared for teaching	62.5	89.4
9. Enjoyed teaching	67.2	86.2
10. Encouraged active participation in discussion	67.2	90.7
11. Geared instructions to students' level of readiness	65.6	89.2
12. Understood what students are asking or telling	81.2	86.4
13. Answered carefully and precisely questions raised by students	71.9	93.9
14. Questioned students to elicit underlying reasoning	67.2	81.6
15. Helped students organize their thoughts and patient problems	57.8	86.4
16. Promoted students' independence	73.0	93.9
17. Demonstrated poor	81.3	83.4

clinical skills and judgment		
18. Demonstrated communication skills and judgment	76.6	89.4
19. Revealed broad reading in his or her area of interest	37.5	72.3
20. Discussed current developments in his or her field	33.3	64.6
24. Took responsibility for own actions.	71.5	92.5
25. Was a good role model	71.9	95.5
26. Enjoyed nursing	71.8	93.9
27. Made specific suggestions for improvement	62.5	93.9
28. Provided constructive feedback on students' performance	62.5	94.0
29. Identified students' strengths and limitations objectively	54.7	86.2
30. Observed students' performance	68.8	92.4
31. Communicated expectations of students poorly	54.7	69.7
32. Had unrealistic expectations of students	76.2	78.8
33. Gave students positive reinforcement for good contributions, observations, and performance	65.6	87.9
34. Corrected students' mistakes without belittling them	82.8	90.9
35. Did not criticize students in front of others	70.3	83.3
36. Provided support and encouragement to students	73.5	93.8
37. Was unapproachable	67.2	72.7
38. Encouraged a climate of mutual respect	76.6	89.4

39. Listened attentively	67.2	98.5
40. Showed a personal interest in students	56.2	90.9
41. Demonstrated empathy	57.8	92.4
42. Demonstrated enthusiasm	54.0	92.3
43. Was a dynamic, energetic person	59.4	89.4
44. Was self-confident	82.8	96.9
45. Used criticism of teaching performance constructively	57.1	83.4
46. Was open-minded and non-judgmental	68.8	86.2
47. Had a good sense of humor	61.0	95.4
48. Was organized	75.0	95.4

APPENDIX M

Ratings of Effective Teaching Characteristics By Self-Perception of Preceptors

Teaching Characteristics	*n*	*M*	*SD*
1. Explained clearly			
Control	49	4.33	0.5
Treatment	36	4.44	0.51
2. Emphasized what is important			
Control	49	4.60	1.70
Treatment	36	4.44	0.51
3. Stimulated students' interest in the subject			
Control	49	4.18	2.05
Treatment	36	4.27	0.51
4. Was not accessible to students			
Control	49	3.87	2.20
Treatment	36	3.83	0.95
5. Demonstrates clinical procedures and techniques			
Control	49	4.56	2.07
Treatment	36	4.50	0.51
6. Helped students identify and make use of practice opportunities			
Control	49	4.30	2.15
Treatment	36	4.50	0.74
7. Offered special help when			

difficulties arise			
Control	49	4.40	2.19
Treatment	36	4.47	0.88
8. Was prepared for teaching			
Control	49	3.95	2.20
Treatment	36	4.30	0.81
9. Enjoyed teaching			
Control	49	4.12	2.1
Treatment	36	4.57	0.83
10. Encouraged active participation in discussion			
Control	49	4.22	2.13
Treatment	36	4.42	0.77
11. Geared instructions to students' level of readiness			
Control	49	4.10	2.12
Treatment	36	4.23	0.74
12. Understood what students are asking or telling			
Control	49	4.12	2.06
Treatment	36	4.37	0.66
13. Answered carefully and precisely			
Control	49	4.28	2.05
Treatment	36	4.4	0.71
14. Questioned students to elicit underlying reasoning			

Control	49	3.98	2.03
Treatment	36	4.22	0.80
15. Helped students organize their thoughts about patient problems			
Control	49	4.04	2.01
Treatment	36	4.31	0.79
16. Promoted students' independence			
Control	49	4.16	1.99
Treatment	36	4.23	0.96
17. Demonstrates poor clinical skills and judgment			
Control	49	3.86	1.94
Treatment	36	3.38	1.14
18. Demonstrated communication skills			
Control	49	4.26	1.93
Treatment	36	4.36	0.73
19. Revealed broad reading in his or her area of interest			
Control	49	3.39	1.19
Treatment	36	4.05	0.93
20. Discussed current development in his or her field			
Control	49	3.31	1.89
Treatment	36	4.11	0.98
21. Directed students to useful literature in			

nursing			
Control	49	3.32	1.86
Treatment	36	3.97	1.09
22. Demonstrated breadth of knowledge in nursing			
Control	49	3.92	0.64
Treatment	36	3.92	0.64
23. Recognized own limitations			
Control	49	4.35	1.81
Treatment	36	4.4	0.78
24. Took responsibility for own actions			
Control	49	4.61	1.79
Treatment	36	4.5	0.70
25. Was a good role model			
Control	49	4.33	1.77
Treatment	36	4.5	0.69
26. Enjoyed nursing			
Control	49	4.60	1.76
Treatment	36	4.61	.67
27. Made specific suggestions for improvement			
Control	49	4.18	1.74
Treatment	36	4.36	0.73
28. Provided constructive feedback			
Control	49	4.16	1.72
Treatment	36	4.42	0.85
29. Identified students' strengths and limitations			
Control	49	4.02	1.70

Treatment	36	4.53	1.01
30. Observed students' performance			
Control	49	4.42	1.68
Treatment	36	4.55	0.91
31. Communicated expectations poorly			
Control	49	3.86	1.66
Treatment	36	3.37	1.22
32. Had unrealistic expectations of students			
Control	49	4.06	1.70
Treatment	36	3.55	1.03
33. Gave students positive reinforcement for good contribution, observation, and performance			
Control	49	4.39	1.75
Treatment	36	5.40	0.81
34. Corrected students' mistakes without belittling them			
Control	49	4.45	1.73
Treatment	36	4.44	0.84
35. Did not criticize students in front of others			
Control	49	4.22	1.72
Treatment	36	4.5	1.25
36. Provided support and			

encouragement to students			
Control	49	4.63	1.71
Treatment	36	4.75	0.60
37. Was unapproachable			
Control	49	4.37	1.70
Treatment	36	3.83	1.01
38. Encouraged a climate of mutual respect			
Control	49	4.45	1.69
Treatment	36	4.72	0.87
39. Listened attentively			
Control	49	4.45	1.67
Treatment	36	4.61	0.61
40. Showed a personal interest in students			
Control	49	4.20	1.65
Treatment	36	4.42	0.86
41. Demonstrated empathy			
Control	49	4.28	1.64
Treatment	36	4.61	0.71
42. Demonstrated enthusiasm			
Control	49	4.21	1.62
Treatment	36	4.46	1.41
43. Was a dynamic energetic person			
Control	49	4.06	1.61
Treatment	36	4.43	0.70
44. Was self-confident			
Control	49	4.33	1.60

Treatment	36	4.46	0.71
45. Used criticism of teaching performance constructively			
Control	49	3.73	1.58
Treatment	36	4.46	0.71
46. Was open-minded and non-judgmental			
Control	49	4.27	1.57
Treatment	36	4.68	0.71
47. Had a good sense of humor			
Control	49	4.25	1.56
Treatment	36	4.48	0.71
48. Was organized			
Control	49	4.37	1.56
Treatment	36	4.54	1.09

APPENDIX N

Frequencies of Frequently Observed and Always Observed Effective Teaching Characteristics Rated by Preceptors

Teaching Characteristics	Control %	Treatment %
1. I explained clearly	88.6	92.9
2. I explained what is important	90.9	95.0
3. I stimulated students' interest in the subject	81.8	92.5
4. I was not accessible to students	70.4	72.5
5. I demonstrated clinical procedures and techniques	90.9	92.5
6. I helped students identify and make use of practice opportunities	91.1	95.0
7. I offered special help when difficulties arise	86.6	92.5
8. I was prepared for teaching	73.3	90.0
9. I enjoyed teaching	77.3	90.0
10. I encouraged active participation in discussion	79.6	95.0
11. I geared instructions to students' level of readiness	84.1	89.7
12. I understood what students are asking or telling	84.1	90.0
13. I answered carefully and precisely questions raised by students	90.9	90.0
14. I questioned students to elicit underlying reasoning	72.7	85.0
15. I helped students organize their thoughts and patient problems	77.3	92.5
16. I promoted students' independence	92.2	87.2
17. I demonstrated poor clinical skills and judgment	70.5	66.7
18. I demonstrated communication skills and judgment	77.8	92.5
19. I revealed broad reading in his or her area of interest	51.1	65.0
20. I discussed current developments in his or her field	53.4	60.0
21. I directed students to useful literature in nursing	46.6	67.5
22. I demonstrated breadth of knowledge in nursing	75.6	90.0
23. I recognized my own limitations	74.5	87.1
24. I took responsibility for my own actions.	90.9	90.0

25. I was a good role model	93.4	95.0
26. I enjoyed nursing	93.3	97.5
27. I made specific suggestions for improvement	83.5	87.5
28. I provided constructive feedback on students' performance	80.0	87.5
29. I identified students' strengths and limitations objectively	80.0	95.0
30. I observed students' performance	91.2	95.0
31. I communicated expectations of students poorly	64.4	66.6
32. I had unrealistic expectations of students	75.6	65.0
33. I gave students positive reinforcement for good contributions, observations, and performance	91.2	85.0
34. I corrected students' mistakes without belittling them	91.0	90.0
35. I did not criticize students in front of others	82.2	90.0
36. I provided support and encouragement to students	97.0	100.0
37. I was unapproachable	82.2	77.5
38. I encouraged a climate of mutual respect	88.9	97.5
39. I listened attentively	93.3	95.0
40. I showed a personal interest in students	82.2	88.0
41. I demonstrated empathy	86.6	95.0
42. I demonstrated enthusiasm	86.7	86.8
43. I was a dynamic, energetic person	77.8	89.4
44. I was self-confident	86.7	92.1
45. I used criticism of teaching performance constructively	62.3	76.3
46. I was open-minded and non-judgmental	82.2	94.7
47. I had a good sense of humor	86.6	89.5
48. I was organized	84.4	94.7