Simmons College

The School of Nursing and Health Sciences

AN EXAMINATION OF NURSES PERCEPTIONS OF ONLINE NURSING TRAINING COMPETENCIES IN AN ACUTE CARE SETTING

A Dissertation

By

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Submitted in Partial Fulfillment Of The Requirements

For the Degree of

Doctor of Philosophy

May 10, 2017

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School of Nursing and Health Sciences
Health Professions in Education

This Dissertation An Examination of Nurses Perceptions of Online Nursing Training Competencies In An Acute Care Setting has been examined and found to be complete. The following dissertation committee members have approved this dissertation.

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ABSTRACT

As hospitals increasingly use e-learning to educate nurses, how the nurses feel about e-learning has been overlooked. This phenomenological qualitative research involved the use of semi-structured interviews with thirteen registered nurses from a community teaching hospital in the Northeast. These nurses were asked to describe their experiences with e-learning. Interview questions focused on their thoughts and experiences with e-learning. Participants were voluntary and interviews were conducted on the phone and recorded on an iPhone app called Tape a Call. Interviews were taped, transcribed and analyzed for recurring themes. Data were validated by using another experienced qualitative researcher and NVivo software. Participants reported different views of e-learning. The themes that arose were participants: find e-learning helpful with learning, would like adjunct material with the e-learning, had to complete e-learning during work time, computers do not always support the e-learning programs, and some participants had no recall of the e-learning assignments.
Acknowledgements

First and foremost, I would like to acknowledge my committee. I would like to thank Dr. Donna Glynn, who talked me into getting a PhD and agreed to be chair of my committee. I am grateful to Dr. Kathy Ahern Gould, who was a wealth of knowledge and supported me in so many ways, I can’t count. A special thanks to Dr. Linda Moniz, who valiantly kept me on deadline and had quiet, confident presence. Finally, I would like to thank the registered nurses who volunteered to be a part of this study. They are truly dedicated to their patients and their profession. I am honored that they shared their wisdom and knowledge with me.
Dedication

This work is dedicated to my children Sean (age 13), Grace (age 10) and James (9). I give my deepest love and gratitude to the sacrifices you made during this program. I love you all to the moon and back. And to my mother Eileen Kane and father Marty Kane, none of this would be possible without you.
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CHAPTER ONE

Statement of the Problem

Nurses work in a demanding, and ever changing healthcare environment. Technology, medical advances, disease treatments, and nursing care, are continually changing. One of the many challenges nurses and nurse leaders face is maintaining competency through continuing professional education (Brown-Wilson, 2013). Nurse leaders must address many issues including: compliance to hospital policies, clinical practice, mandatory education, up to date practice alerts, and implementation of new evidenced based practice initiatives (Brigham and Women’s Faulkner Hospital Nursing Education. 2016, May 16. Retrieved from www.http://www.brighamandwomen’sfaulkner.org).

Models for hospital education have shifted from traditional classroom, or face to face formats, to e-learning formats (Atack & Rankin, 2001). E-learning is any learning that occurs online. E-learning can be power point with sound or no sound, interactive when you drag and drop items, or can be webinars. This change creates new challenges, as nurses at all levels must adapt to these changing educational models. Safe patient care depends on nurses being current in their practice. Hospital based nursing leaders continue to search for the most effective, cost effective ways to provide the necessary information to maintain clinical competency and mandatory education for their staff (Pilcher, 2013).

Historically, when nurses care for patients with increased acuity, bedside care and documentation of patient care consumes most of their shift (Atack & Rankin, 2001). However, advances in technology allow e-learning to take place both in work settings and at home (Domun & Bahadur, 2014).

Healthstream Learning Center (HLC) and Net Learning (NL), are two examples of e-
learning programs that some hospitals rely on to ensure clinical competency for their busy nursing staff (Koch, 2014). The HLC is a web-based, online learning management system. The HLC provides a mechanism where nurses complete select online courses, or educator designed blended courses. The system also provides a tool to maintain educational records for employees. Net Learning is similar e-learning programs widely used in hospitals. Begini, Begini, and Belzar (2013) report that e-learning is also called web-based learning, online learning, distributed learning, computer assisted instruction, or internet based learning.

**Advantages of Online Learning**

E-Learning education is a cost effective and time efficient tool (Heartfield, Morello, Harris, Lawn, Pols, Stapleton, & Battersby, 2013). The course content is structured, and is often standardized to meet specific learning objectives. Participant’s activities and completed education can be tracked in a database. Mandatory education topics may include: Cultural Competency, Bariatric Sensitivity, Constant Observation, and Administration of Blood Products (Brigham and Women’s Faulkner Hospital Nursing Education, 2017).

E-Learning can be designed to include specific objectives addressing institutional learning outcomes. Evaluation of knowledge or concepts may be completed efficiently, as most e-learning programs offer pretests, posttests, and course evaluation at the completion of each session. Updating electronic content is more effective and cost efficient than updating printed material (Lahti, Hatonen & Valimaki, 2012; Ruiz, Mintzer, & Leipzig, 2006).

Traditional classroom or face-to-face learning often entails complex scheduling, which may require nurses to leave the clinical area, and burdens off shift learning. Online learning allows all nurses, regardless of shift or weekend work hours, to access the same educational content (Chang, Liu, & Hwang, 2011).
The overall cost of educating hospital-based nurses can be reduced by 50% when utilizing e-learning formats (Berke & Wiseman, 2003). Ruiz, Mintzer, and Leipzig (2006) state that the cost to replace a bedside nurse for classroom education can extend to up to $400 a day for the extra nurse, and another $800-$1200 a day for the nursing education staff to provide the educational program. The savings are attributed to decreased instructor time, decreased travel and labor costs, and reduced institutional cost. Berke and Wiseman (2003) described a formula that breaks down the cost of e-learning for nursing staff:

To calculate the soft dollar savings, reduce the total training hours of 40 hours by 25%, and then multiply the saved hours by the cost per hour. When the e-learning model is reduced by 25% to 30 hours, the total savings per employee is $300.00. If you times that by 50 employees, you can save $15,000.00 annually. The 10 hours of orientation time that is saved, can be given to the nurse so he/she can be productive on the nursing unit earlier and may be able to assist with staff shortages. (p. 28)

For example, if a new nurse makes $30.00 per hour and the nurse has 40 hours of class time, the cost is $1200.00 for classroom orientation. Recent studies have shown that e-learning is as effective as traditional learning and some reports that e-learning is superior (Cheng & Chow, 2016; Sinclair, Kable, Levett-Jones, & Booth, 2016). Gormley (2013) states that novice nurses report being very comfortable with online learning because many nursing school programs offer hybrid programs and incorporate online learning in addition to face-to-face classes (Gormley, 2013).

Other advantages to online learning include flexible formats that fit individual schedules and lifestyles. Online learning allows adults to learn when it is convenient for them, on a day and time that works with their schedule (Wahl & Latayan, 2011).
Disadvantages to Online Learning

Many nurses may not be comfortable with e-learning programs (Cheng & Chow, 2016). Some disadvantages include, a steep learning curve and a reliance on traditional educational methods (Pilcher, 2013). Experienced nurses may be used to paper, pens, notebooks and hardcover books. Contemporary learners are still evolving; using laptop computers, Ipads, and IPhones, as digital tools for life and work (Gormley, 2013).

Significance of the Problem

Current technology allows online learning to replace traditional classroom or face-to-face learning, creating new challenges for evaluation of knowledge retention, and ability to measure how this learning transfers to clinical competency. It is still unclear what nursing perceptions are of the online experience for the working nurse. Nurses are busier than ever and healthcare education is changing at a rapid pace. Online learning methods allow nurses to complete educational requirements, often during work hours, or on their own time. Currently, e-learning programs are very diverse, offering many types of learning options. However, every person has a unique learning style. Nurse leaders are always challenged to provide the right learning experience to meet the needs of their employees.

Study Purpose

The purpose of this study is to apply phenomenological research strategies in the examination of experiences of nurses who use online learning in a hospital setting for education. The intention of this study was to develop a portrait of the participants’ experiences to gain greater insight into perceptions of staff nurses, using e-learning systems, at an academic community hospital in the Northeast.
Research Question

What is the staff nurses perception of the effectiveness of e-learning on maintaining safe patient practice and ensuring clinical competence?

Definition of Terms

Attitude. Attitude is your frame of mind, and your feelings. Nurses need a critical attitude so they can think critically about their patient’s problems, and remove their own bias from patient care (Leach, Hofmeyer, & Bobridge, 2015).

Competency. Competency based learning is focused on outcomes, abilities and is learner centered (Gruppen, Burkhardt, Fitzgerald, Funnell, Haftel, Lypson, Mullan, Santen, Sheets, Stalburg, & Vasquez, 2016).

E-learning. All content and class discussions are online. Online allows students to engage in self-directed learning and take responsibility for their own learning (Domun & Bahadur, 2014). For the purpose of this study, online or computer based educational programs, required or offered, working in a hospital setting.

Knowledge. Nursing knowledge is multifaceted, and can come from the classroom and from working with patients. Nursing knowledge comes from different sources, such as physiology, psychology and pharmacology (Hall, 2005).

Master of Science in Nursing. MSN allows graduates to become nurse practitioners, nurse educators, nurse managers and other leadership roles. MSN graduates have improved clinical judgment and improved problem-solving skills (Clark, Casey, & Morris, 2015).

Nursing Competence. Meretoja and Koponen, (2011) describe nursing competence as “functional adequacy and capacity to integrate knowledge and skills with attitudes and values into specific contexts of practice” (p. 415). It is the combination of knowledge,
attitude and skills that reflect superior performance (Beavis, Morgan, & Pickering, 2012).

**Nursing Leadership.** Nurse leaders display certain characteristics: ability to make decisions, interpersonal relationship skills, flexibility, creativity, and are innovative. The nurse leader may or may not have an advanced degree, and may have a role as a nurse director, nurse manager, nurse practitioner, or nurse educator. (Soutodemoua, Inchawspe, Dall’Agnol, DeMagalhaes, & Hoffmeister, 2013). For this study, nursing leadership is defined, as a nurse with or without an advanced degree, who performs high-level functions.

**Registered Nurse.** A registered nurse protects, promotes and optimizes health and abilities, prevents illness and injury, facilitates healing, alleviates suffering through the diagnosis and treatment of human response, and advocates in the care of individuals, families, groups, communities, and populations (www.nursingworld.org, nd). Registered nurses can have an associate’s degree, Bachelor of Science in nursing and a master’s in science of nursing.

**Retention.** The power or ability to keep or hold something. For this study, knowledge retention is defined as an ability to retain things in the mind; a preservation of the after effects of an experience and learning that makes recall or recognition possible (www.Mirriam-Webster.com, nd.).

**Safe Patient Practice.** Patient safety practices have been defined as “those that reduce the risk of adverse events related to exposure to medical care across a range of diagnoses or conditions” (www.jointcommission.org, nd).

**Skills.** The job functions of the nurse that take special training. Some of the skills nurses perform are vital sign assessment, intravenous therapy, medication teaching and administration, and patient hygiene (McNett, 2012).


**Significance of the Study**

Although there is a lot of quantitative research on e-learning, nursing leadership must continue to seek a clear understanding of the experience of the nursing e-learner. E-learning is a contemporary educational model and is quickly becoming standard practice for nursing education. As this method of education continues to expand, nurse leaders must also explore the experience of the learner. A phenomenological approach may encourage nurses to express their experiences, and this descriptive information may inform nurse leaders as they design future educational programs (Dowling, 2005).

This study may contribute to a body of knowledge about e-learning from the perspective of the staff nurse. This knowledge may transfer into new models of education to better meet the learners' needs. This research was an effort to contribute to the nursing view of how effective e-learning was for medical-surgical staff nurses in: gaining knowledge they can transfer into practice, maintaining safe patient practice and retaining the knowledge they have learned. New models of education continue to be introduced to healthcare professionals and research continues to determine the effectiveness of these methods as they relate to clinical performance and employment. As these methods evolve, it is important to understand the experience of the learner.

This study examined the staff nurses’ perception of the effectiveness of e-learning and attempts to narrow the gap in the literature that contributes to nursing and e-learning. This research may assist nursing leadership in hospitals with choosing the best e-learning system for their nurses. There are many types of e-learning programs available and this study investigates the staff nurses’ perception of e-learning and the different ways e-learning can benefit them.
CHAPTER TWO

Review of the Literature

The purpose of this study is to apply phenomenological research strategies in the examination of experiences of nurses who use online learning in a hospital setting for education. The review of literature will provide an overview of online nursing education in a hospital setting. The review will also focus on research specifically related to nurses’ perception of e-learning.

A search of the Cumulative Index to Nursing and Allied Health Literature (CINAHL), Cochrane Library, Educational Resources Information Center (ERIC), and published dissertations from 2002-2017 was undertaken. This range of time covered 15 years of reviewed literature on the topic. Only English articles were identified in the search. The search was conducted using the following key words: nurses and e-learning, online nursing education, nursing competency and e-learning, learning retention, hospital based staff education, nurse educators and e-learning, qualitative research and phenomenology.

The literature search focused on registered nurses, therefore studies that included nursing students were excluded. Extensive research has been done on the nursing student, however, the current study addressed the experience of the nurse employed as a registered nurse, in a hospital setting.

E-learning is an efficient and cost effective way for nurses to update their knowledge on evidenced based practice, maintain clinical competence, and receive education at work. Healthcare employers continue to search for cost effective methods to educate staff nurses to maintain clinical competency, while reducing educational expenses. It has been long recognized that traditional classroom learning at work is difficult because nursing staffing
levels are sometimes low, and varying work shifts can make scheduling classes difficult (Atack, 2003; Chang, Liu, & Hwang, 2011).

E-learning has been growing in popularity since the 1980’s when computers became widely used. Studies began to report that computer based learning can be equally as effective as classroom based learning if effective techniques are utilized. Roh and Park (2010) completed a meta-analysis on the effectiveness of computer-based education in nursing. The 27 studies analyzed, looked at knowledge, attitude and practice level with nurses after e-learning assignments. The results showed that computer based education in nursing had positive effects on knowledge, attitude and practice.

Bluestone, Johnson, Fullerton, Carr, Alderman, and BonTempo (2013) completed an integrative literature review and examined 244 studies. Thirty-seven systematic reviews and 32 randomized controlled trials met the criteria for the literature review out of the 244 studies. The studies examined educational techniques, frequency, setting and media used to deliver continuing health professional education. The successful e-learning methods were; case based e-learning, clinical simulations, and a repetitive intervention, compared to a single intervention, was shown to be superior in learning outcome.

E-learning can range from virtual learning experiences, lecture slides or educational videos or spaced learning via email case studies and questions. Educational programs offered on an e-learning platform can be standardized for large groups or personalized for individual learning (Kerfoot & Baker, 2012; Roh, & Park, 2010). The instructor maintains control of the content through design implementation and updates.

Koch (2014) completed a literature review to investigate how e-learning transforms the role of the nurse educator. Koch reviewed 40 sources in English and German. The
researchers literature search found that nurse educators became competent in technical areas, such as the ability to use hardware and software, create interactive online learning activities, and use innovative teaching methods. Koch’s review showed that although many nurse educators were experienced, the educators lacked proficiency with new technology. In addition, the researcher found that many institutions cited a lack of resources, including current technologies and e-learning systems.

In other studies, staff nurses reported higher satisfaction with e-learning when high quality information and tools are included in the e-learning package. Greater satisfaction was also reported when the educators exhibited proficiency when using the e-learning system (Chang, Chung, & Hwang, 2011; Koch, 2014). Belcher and Vonderhaar (2005) found early e-learning programs to be cost effective when compared to the cost of paying nurses to leave the clinical unit for a classroom presentation. When staff leave their unit there is a cost to replace that staff member. Nurse educator’s costs are also reduced, as much of the e-learning negates the need for in-person guidance. The authors estimated a significant cost savings in both student and educator salary.

The most effective e-learning methods are multifaceted and interactive (Militello et al., 2014). Pilcher (2013) also found that interactive e-learning could incorporate case studies, problem based learning, and games. These studies suggest that interactive web based simulation is useful to facilitate complex concepts necessary for nursing education. Conflicting reports are found throughout the literature. When e-learning was compared to instructor based learning, Lahti, Hatonen, and Valimaki (2013) completed a systematic review and meta-analysis of 11 randomized controlled trials, and found no difference in knowledge, skills, or satisfaction with e-learning education and instructor based learning.
An integrative literature review by Bluestone et al. (2013) reviewed best practices for education supporting clinical competence in health care workers across multiple disciplines. Bluestone et al., found that multiple techniques, which allow for personal interaction, were found to be superior for educating this population. The researchers also reported that case based learning, clinical simulations, practice and feedback were effective techniques for healthcare education. However, this integrative review also concluded that computer based learning can be equally or more effective than didactic, and more cost effective, if efficient techniques that meet the standards of traditional learning are used.

A methodological quality synthesis of systematic reviews on e-learning for health care providers was completed with 11 out of 231 articles that met the criteria, were reviewed by Militello, Gance-Cleveland, Aldrich, and Kamal (2014). The authors concluded that e-learning was comparable to didactic instruction when health care providers completed continuing education. Additionally, the researchers report that most successful e-learning techniques used were multifaceted and interactive.

Another study of psychiatric nurses reflected that knowledge gained from a psychiatric e-learning course, was readily applied to the subjects nursing practice. Researchers reported that nurses were able to apply the course objectives and thought more critically about their actions when caring for patients. Subjects reported an increase in self-awareness and they were able to identify several strengths and weaknesses after receiving education on caring for distressed and agitated patients (Lahti, Kontio, Pitkanen, & Valimaki, 2013). Although some of the literature addresses specific disciplines or sub-sets of nursing, this information may inform the general population of nursing. Some inconsistencies continue to exist. Researchers suggest that additional studies are needed to compare e-
More recently, Sinclair, Kable, Levett-Jones, and Booth (2015) compared traditional learning to e-learning and found e-learning to be at least as effective as traditional learning. The researchers reported optimal learning occurs when staff nurses have choices, and online learning allows for nurses to have choices on when and where learning can occur. Nurses who work rotating shifts do not need to change sleep schedule or arrange for childcare, and patient care is not interrupted because the nurse is not leaving the unit. The leadership team benefits because schedules do not have to change and overtime is not paid (Wahl & Latayan, 2011).

**Nursing Perception of Online Learning**

Atack (2002) was one of the first researchers to study e-learning in nurses. Fifty-seven post diploma-nursing students were given a questionnaire asking about experiences with a web based learning course. Most nurses found the course highly satisfactory, and nurses completing the course at home were the most satisfied. This research showed that nurses, who accessed the class at work, had more difficulty reporting insufficient time and limited computer access.

This work is not limited to one geographical area. For many years, other countries have been researching nurses and e-learning. Chow, Chung, Sit, and Wong (2005) completed a study in Hong Kong and subjects included 198 registered nurses (RN) who were completing a Bachelor’s degree. A questionnaire was distributed to students to examine how the students felt about online learning. The overall satisfaction rate with online learning was 57.6%. More than 80% agreed that online learning taught them to take responsibility for the
nurse’s own study.

In Taiwan, Chang, Liu, and Hwang (2011) did a quantitative study with 208 nurse subjects. The questionnaire was used in the study to examine whether the e-learning system were satisfactory and able to benefit the nurses. The results showed that the quality of the educational program had a direct effect on the nurse’s satisfaction with the education.

An expert educator described nurses’ perceptions, as Wood (2010) wrote a discussion paper describing one hospital’s experience after receiving negative feedback from their e-learning courses. The feedback was that some of the education was too long, boring, and “page turners” (p. 173). In response to this feedback, Wood (2010) and her colleagues changed the education format into online learning “nuggets” (p. 175). If an online learning program was 40 minutes or over, the researchers converted the educational material to a series of 5-8 minutes learning nuggets. The learning nuggets well received, yet the nurses needed to complete a few nuggets to get a comprehensive grasp on the topics.

**Multidisciplinary Perspective**

Cook, Levinson, Garside, Dupras, Erwin, and Montori (2008) completed a meta-analysis on internet based learning in the health professions. The researchers reviewed and reported on 266 studies, which included 78 randomized trials, comparing web-based learning with intervention and without intervention. Study subjects included health professional students, postgraduate trainees, physicians, nurses, pharmacists, dentists, veterinarians, and physical and occupational therapists. The research studies in the meta-analysis investigated numerous types of e-learning: online discussion via email or discussion boards, video conferencing, 89% used written text with the e-learning, 55% also used multimedia with e-learning, 9% of courses studied implemented live components with the e-learning. Seventy
seven percent of the web based courses employed adjunct methods to the e-learning, such as: patient cases, self-assessment questions and feedback. One third of courses had high levels of interactivity, but another third had low interactivity. Seven percent of the courses in the studies intentionally spaced instructional content to enhance learning.

The meta-analysis revealed that the internet instruction with intervention had a positive effect compared to no intervention. Overall, the researchers recommended that web based learning should be used with other media or in combination, with other educational modalities specific to the learner. The meta-analysis found that there are so many different types of web based learning, that it was difficult to say that one methodology was superior to another methodology.

**Various Methodologies**

E-learning allows for flexibility, creativity and variation. Kerfoot and Baker (2012) studied a concept called “spaced education” with medical students. Spaced education is an educational method delivered using periodic emails that contain clinical case scenarios and multiple-choice questions. Upon submitting an answer, the clinician is immediately presented with the correct answer and an explanation of the topic. The material is then represented in a cycled pattern over 8-42 days to reinforce the content. When using spaced education, research showed that the knowledge retention lasted up to 2 years post education (Kerfoot & Baker, 2012).

Kerfoot and Baker (2012) presented this method of spaced education (SE) to an international physician group. The topic of the education was clinical practice guidelines in urology for international urologists. The questions were based on urology, blood pressure control and prostate cancer screening. They found that 2 questions presented every 2 days
had a higher percentage of completions scores as compared to 4 questions in 4 days. This format was found to generate deep learning. Deep learning, as described in this study, is considered learning that can be recalled for up to 45 weeks. Additionally, spaced online education was found to generate a significant transfer of histopathology diagnostic skill to novel sets of histopathology images over a 45-week period. This complex skill transfer requires much deeper learning than memorization (Kerfoot & Baker, 2012).

**Conclusion**

The literature search revealed that a gap exists with research on how the working staff nurse feels about making time to complete an e-learning educational assignment while at work. Few studies were found that explore the staff nurses’ perceptions of the effectiveness of e-learning as a tool to maintain safe patient practice and competencies for staff nurses. The literature did not contain the nurse’s perception, satisfaction and if the e-learning education affected patient care outcomes.
 CHAPTER 3

Research Methodology

A qualitative phenomenological approach was used to conduct this study. The purpose of this study is to apply phenomenological research strategies in the examination of experiences of nurses who use online learning for education in a hospital setting. The intention of this study was to develop a portrait of the participants’ experiences to gain greater insight into perceptions of staff nurses, using e-learning systems, at an academic community hospital in the Northeast. The study examined what was the staff nurses’ perception of the effectiveness of e-learning. The research question was developed by discussing e-learning with other educators in a nursing education department and other nurse educators in the healthcare system.

Phenomenology is a method of philosophical inquiry that enables researchers to examine the underlying beliefs and values of individuals within a field of practice. Phenomenology focuses on the essence of the experience (Merriam, 2002). The intention of this study is to develop a rich, portrait of the participant’s experiences to inform the researcher about how staff nurses perceive the experience of e-learning to complete the required learning for hospital based employment. In this study, the hermeneutic phenomenological method as described by Van Manen was used. Hermeneutic phenomenological research focuses on the subjective experience of individuals and groups. It is an attempt to unveil the world as experienced by the subject through their life stories (Heinoken, 2015).

Malagon-Maldonado (2014) describe qualitative research is a non-statistical way to evaluate human beings’ experiences and does not use hypotheses. Furthermore, qualitative
research is a form of social inquiry that allows the researcher to study how people live, work, or receive a service. The main features of qualitative research as described by Malagon-Maldonado (2014) include: (a) a theoretical framework that is not predetermined, (b) data and findings are context-specific and may or may not have any generalizability to other settings or contexts, (c) the researchers to be immersed in the environment and with individuals whose perspectives and ideas they wish to explore, and (d) the researcher is the main instrument in the research where reflexivity provides the researchers explicit stance of the research. This chapter is organized into main sections, including the research question, qualitative design, sampling, data collection, data analysis, and methodological rigor.

**Research Question**

This investigation was guided by the following open-ended research question:

What is the staff nurses perception of the effectiveness of e-learning on maintaining safe patient practice and ensuring clinical competence?

**Research Design**

This study used a descriptive qualitative phenomenological approach, using interviews of nurses working in a hospital that utilized online competency training. The purpose of this qualitative research study was to explore and describe the perceptions and experiences of hospital nursing staff and the effectiveness of online learning and annual competency training for nurses working in an acute care hospital setting.

Based on the purpose and research question of this study, a phenomenology research design was chosen. Phenomenology describes the lived experience of the research participants, and this research design detailed the participants’ experiences during a particular time in their lives (Roberts, 2013). Phenomenology is the most elementary of all qualitative
methods and is used to spotlight common themes and describes the lived experience of numerous individuals. Cypress (2015) describes the philosophical assumptions of phenomenology as “the study of the lived experiences of persons, the view that these experiences are conscious ones and the development of descriptions of the essences of these experiences, not explanations or analysis” (p. 358).

Nurses use phenomenology to explore the subjective experience of individuals in an effort to understand a unique, personal experience. For this research to be credible, the researcher needs to document their thought process and decision-making process throughout the entire research study (Donalek, 2004). This study was specifically informed by Max Van Manen (Dowling, 2007). Van Manen’s approach guided both the methodology and research design. He is an educator who took a pedagogical approach (Willis, Sullivan-Bolyai, Knafl, and Cohen, 2016).

The researcher uncovered thematic aspects related to the nurses experience by using Van Manen’s 3 phenomenological approaches: the holistic approach, the selective or highlighting approach, the detailed line by line approach. In the holistic approach the researcher views the transcripts as a whole, and captures it’s meaning. Using the selective approach, the researcher underlines, highlights and pulls out statements or phrases that seem essential to the experience under study. The detailed approach is when the researcher analyzes every sentence. These three phenomenological approaches were used in this study.

**Sampling**

Registered nurses working on the medical surgical units at a 150 bed, non-profit, community hospital in the Northeast were invited to answer questions regarding their experience with hospital-based e-learning. A convenience sample was used and all the
medical surgical staff nurses employed at the hospital received an email inviting them to be a subject in the study.

Inclusion criteria included; registered nurses who provided direct patient care and completed at least one online education program. Exclusion criteria included registered nurses who did not provide direct patient care, who did not speak English as a primary language, who were not accessible by phone, or who worked in management positions. All nurses worked either full time or part time.

Recruitment included an email letter to all medical surgical registered nurses actively employed at the hospital, then followed by the snowball method (see Appendix A). The nurses were invited to contact the researcher by email if they were interested in participating. Nurses were screened by email and the phone interviews were scheduled by email. No nurse refused to participate.

A phone call was scheduled from the email. Each participant was informed that the phone interview would not exceed one hour. The phone interviews were conducted by the primary investigator. Phone interviews continued and data was collected and reviewed simultaneously to determine data saturation. Phone interviews took place between September to October of 2016. Some nurses were on vacation or were working off shifts, so the researcher had to work with the nurse’s schedule to conduct the interviews. An interview protocol was created to guide the interviews (see Appendix B).

**Ethical Approval and Consent**

Institutional review board approval was obtained at both the academic and medical institutions (see Appendix C and D). All flyers, recruitment materials, questions, and methods were approved prior to study (see Appendix A and B). Each participant in the study
signed a written consent form in person, or it was scanned and emailed, before the phone interview (see Appendix C & D). After the consent was obtained, all participants were informed about the purposes and the methods of the research by the primary investigator. They were also informed that participation in the study was voluntary and that they can refuse to participate or withdraw at any time. Moreover, the participants were reassured that their responses would remain confidential and participant’s identities would not be revealed in educational papers or in the publication of the findings.

Data Collection

The primary investigator was trained on qualitative interviews and the primary investigator audiotaped the phone conversations with an app on an iPhone. A transcriptionist, who was also a medical secretary, transcribed the audiotapes. No field notes were taken in order to focus attention on the participants. Each interview began by telling the subjects they were being audio recorded on the researchers iPhone with the Record a Call app. The researchers iPhone was locked with a passcode. All participants agreed to be audiotaped with the written consent, also verbal consent when called by the researcher. All interviews started with some introductory remarks confirming that it was a convenient time to conduct an interview. Demographic data was collected verbally prior to the introduction of the study questions.

Semi-structured in depth interviews were the researchers’ instrument to obtain information about the participants’ experiences regarding e-learning in the hospital setting. A rapport was developed with all participants and they expressed enthusiasm to tell the researcher their experiences with e-learning. An interview guide was used to prompt the participants (see Appendix B) and the researcher utilized interview techniques prompting
continued engagement, such as “why and how? “Explain more” and “I see”.

Participants were notified that they could stop the interview at any time and choose not to answer any questions. Fourteen registered nurses agreed to be interviewed and thirteen completed the study. Interviews were recorded and transcribed verbatim to facilitate analysis. Names and other identifying information were redacted from recordings or transcripts. The data, both audio recordings and transcripts, was secured in a locked cabinet in the investigator's home office, and will be destroyed as directed by Simmons College.

Data Analysis

Transcripts were reviewed and coded. The terms of the 1998 Data Protection Act were met for all confidential or identifiable information. The data was coded into themes. Each of the themes that emerged were then compared with those that surfaced in the literature review as recommended by Quick and Hall (2015). Data analysis was completed by the primary investigator with immersion of the data, reading and rereading the entire text of the interviews. Data was analyzed by a second coder, a qualitative researcher with extensive background in coding and data analysis, who was approved by IRB. NVivo version 11 is a computer based program that was used to assist the researcher in organizing codes and helping differentiate between the development of themes and subthemes.

Methodological Rigor

Qualitative researchers need to use a model that can ensure rigor without sacrificing the relevance of the research (Krefting, 1991). To develop trustworthiness in qualitative research, Lincoln and Guba (1994) presented five criteria to ensure rigor in qualitative research: Credibility, dependability, conformability, transferability, and authenticity.

Credibility is enhanced by the researcher confirming his/her research findings with
the participants (Cope, 2014). The researcher needs to be immersed in the research setting, which will allow the informants to be familiar with the researcher (Krefting, 1991). Credibility was achieved in this study because the research subjects worked at the hospital where the researcher was employed and the researcher is oriented to the situation and has already built trust and rapport with the participants (Cypress, 2013).

Dependability was achieved by having 1 expert qualitative nursing researcher and the primary researcher. Discrepancies in the coding results were discussed and consensus was agreed upon at each stage of the coding. Confirmability was confirmed in the results section of the research with rich quotes from the subjects that depict the themes. Transferability can occur when the findings can be applied to other settings or other groups. Authenticity occurred in the results section of the study when the feelings and emotions of the participant’s experiences were reported by the researcher in a steadfast manner. The readers will grasp the essence of the subject experience with the subject’s quotes (Cope, 2014).

Reactivity was a concern for the researcher because the nurses interviewed were also employees at the same hospital where the researcher recently worked. The subjects were aware they were voluntarily participating and that agreeing or disagreeing to be interviewed had absolutely no effect on their employment.

Summary
Phenomenology focuses on the beliefs of individuals (Merriam, 2002). The intention of this study was to learn how staff nurses perceive the experience of e-learning. Thirteen registered nurses who agreed to be interviewed were able to participate. The thirteen interviews were audiotaped with an app on an iPhone. A transcriptionist was hired to transcribed the audiotapes. Credibility was achieved in this study because the research subjects and the
primary researcher had already built trust and rapport with the participants. Reactivity was one concern for the researcher the researcher recently worked were the nurses’ were employed. Dependability was achieved by having 1 expert qualitative nursing researcher and the primary researcher review the transcripts. These are all parts of phenomenology.
CHAPTER 4

Results

The purpose of this study was to apply phenomenological research strategies to examine the experiences of nurses who use e-learning, and to analyze their perception of the effectiveness of e-learning. The intention was to develop a portrait of the participants’ experience to gain insight into how staff nurses perceive the effectiveness of e-learning, and how the e-learning affected patient outcomes. For the purpose of this study, e-learning refers to any online education a registered nurse needs to complete to fulfill job requirements.

The following research question provided the framework for this study: What is the staff nurses perception of the effectiveness of e-learning? Interview questions based on this research inquiry were developed to guide discussions with participants. Though an interview protocol (see Appendix B) was used, many of the comments utilized for this study were the results of discussions initiated by participants. While the questions were used to initiate discussion, participants deviated from the topic to describe experiences related to the phenomenon. These conversations provided additional data beyond what was addressed in the interview and contributed to the identification and analysis of the themes.

Participants

For this study, thirteen registered nurses from available population of 380-400 employed at a teaching, community hospital in the Northeast were interviewed. Interviews were conducted by phone, and recorded on the researchers iPhone app named “Record A Call.” Researcher scheduled a minimum of one hour for each interview. Table 1 describes the demographic data of participants.
Table 1

Demographic Information of Participants

<table>
<thead>
<tr>
<th>Participant</th>
<th>Age</th>
<th>Years of Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (Alphabetical order)</td>
<td>23</td>
<td>1</td>
</tr>
<tr>
<td>B</td>
<td>26</td>
<td>5 months</td>
</tr>
<tr>
<td>C</td>
<td>26</td>
<td>4</td>
</tr>
<tr>
<td>D</td>
<td>28</td>
<td>6</td>
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<tr>
<td>E</td>
<td>35</td>
<td>12</td>
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<tr>
<td>F</td>
<td>45</td>
<td>17</td>
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<tr>
<td>G</td>
<td>46</td>
<td>24</td>
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<tr>
<td>H</td>
<td>53</td>
<td>31</td>
</tr>
<tr>
<td>I</td>
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<td>32</td>
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<tr>
<td>J</td>
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<td>35</td>
</tr>
<tr>
<td>K</td>
<td>61</td>
<td>27</td>
</tr>
<tr>
<td>L</td>
<td>64</td>
<td>42</td>
</tr>
<tr>
<td>M</td>
<td>No Answer</td>
<td>No Answer</td>
</tr>
</tbody>
</table>

The researcher reviewed the demographic results which included (a) age of the participants, and (b) years at a registered nurse. The mean years of nurse’s experience was 23 years. All subjects worked at a 162 bed-community hospital in the Northeast.

Description of Themes

To organize the information in a meaningful manner, each interview was transcribed and the steps described in chapter 3 were utilized. Ultimately, five major themes were identified. The five major themes from this study are:

1. Find e-learning helpful with learning: It was some of the nurse’s perception. An interview question asked is nurses found e-learning helpful or not, and nurses who did not feel e-learning was helpful, went on to describe how ineffective the nurses
found e-learning.

2. Would like adjunct material with the e-learning: It describes the nurses who felt they needed more than just e-learning by itself. The nurses wanted to speak to an educator, or have a handout to supplement the e-learning assignment.

3. Had to complete e-learning during work time: It refers to all the nurses in the study who were not allowed to complete e-learning assignments at home, and it was mandatory the nurses completed the assignments while the nurses were at work.

4. Computers do not always support the e-learning programs: It presents the problem that some of the work computers do not have sound or headphones available to listen to the audio portion of the e-learning program.

5. No recall of the e-learning assignments: It was discovered when the primary researcher asked the nurses the research question and the nurse could not recall what educational e-learning the nurses were assigned to answer the interview or research question.

**Theme one: find e-learning helpful.** One question in the interview protocol was what the nurses found most helpful when using e-learning as a tool to maintain safe patient practice. When some of the nurses did not find e-learning helpful, they started to voice their feeling on why e-learning may not be helpful. One of the major findings of this research is that some participants, who were more novice nurses, found the e-learning helpful. Some of the more seasoned nurses did not appreciate the e-learning education as much, and found it took time away from patient care. A nurse with 3 years of experience or less is considered a novice and a nurse who has over 5 years of experience in one area is considered expert (Benner, 1984).
A participating novice nurse said:

My perception is that I find it’s really helpful and it’s kind of like a total reminder for the staff nurse, kind of a regular reminder for us when we do the healthstream practice. We review a lot of good information about good clinical practice for a staff nurse because sometimes we’re busy working, we’re busy with life, we don’t have a chance to review or forgot a lot of practice that we haven’t had a chance to provide to patients.

Another novice nurse said “I really liked the CPR recertification healthstream because it allowed me to do a simulation, and also had positive and negative feedback so that when I did something wrong, they would have me do it over again so that I would have practice doing it correctly. I like that.” One very seasoned nurse had this to say:

In the dialogue, the e-learning material acts as if you were in eighth grade or high schooler. It doesn’t start with the basic assumptions that you’re a professional who has a certain amount of education and then build up on that. It’s almost childlike some of the questions in some of the e-learning classes.

A seasoned charge nurse said:

I mean I’ve seen people take pictures of screens just so they can know what the answers are and plug them in so there’s no retention, no learning there actually. It’s just to kind of get signed off on it. I think as an independent learning tool it’s great if people use it the right way, but oftentimes it’s not used the right way.

The flexibility and convenience of the e-learning system was a positive, nurse F said:

I like the flexibility of doing it, of being able to do it anywhere and sometimes it’s nice to be able to talk to your co-workers about certain things and work your way
through them without being in a strict classroom experience, also you don’t have to get some place during the day, like in between. ...two and three p.m. and you don’t have to go off the floor to listen to a class.

Another nurse said, “It’s at your own pace. You have long enough to do it, like two months for an assignment. Not everyone learns at the same pace”. An expert nurse said:

I like the convenience of it the most. You can do it on your own.... like when you have a free couple of minutes, you can do it then or you can stay a little bit after work and do it. It’s not like you have to rush back in for an hour class.

One of the interview questions asked about e-learning and patient safety. This was a big reason some nurses had a positive experience with e-learning. A nurse stated the following:

I think that when I do my e-learning and sometimes I forgot a lot, even about HIPAA things that recently we did, I thought I knew about HIPAA but I didn’t, when I did the pre-test, I realized I forgot a lot about it. Like what kind of what kind of __ or safety tool that you can use for transfer or sending the patient information. I thought I knew it but I didn’t know it enough. So, when I do the e-learning I know more about it and I can avoid further leaking patient information such as posting on Twitter or on Face Book some information that is not acceptable and violates patient confidentiality. First I thought oh, for example, you can post … you don’t post the patient name, but I didn’t know detail that even the patient age or the place that you’re working because it could violate patient confidentiality too and they have examples for me and the questions on the test is pretty clear and I understand that everything violates patient confidentiality. Just we should not do it, even just a simple
sentence. So yes knowing that.. helping me not using Face Book or any kind of media to post patient information on-line and I know it better, in detail or specifically in which case.

A novice nurse shared similar feelings about e-learning and safety, and commented:

It definitely maintains the patient safety because not everything that you can remember or know if you don’t practice for a long time or if you’ve never been into that situation, so you might now know well. So, reviewing it and the e-learning should be cut down the time so a staff nurse can easily go over and review it and some video or some case example, narrow example that would be really helpful.

Blood transfusion e-learning education felt valuable to this seasoned nurse:

The blood one that we do for transfusions probably ensures that the right patient gets the right blood product. That one was a little more interesting this year because … or last year… because it was coded different with Epic (new computer documentation system). So, that had a couple of different places to scan. So, that probably improves safety.

The experiences sometimes differed with the novice nurse and the experienced nurse. Some nurses enjoy the flexibility and others want more information. There are a lot of variations in e-learning available and some are more interactive than others.

**Theme two: adjunct material.** Some nurses like the e-learning assignments, but would like additional materials along with the e-learning. Some of the requests were some additional time with a nurse educator, print out materials, or details on how to get more information on the topic presented. One nurse wanted hands on education in addition to the e-learning education. “People are just kind of going through the slides just to get it done and
don’t retain a lot of the information. Whereas if you supplement that with another learning tool, I think it would be more effective.” Another nurse made a similar statement and would like an educator to review after the e-learning is completed, she said:

Like let’s say a different new policy about hanging the blood and where it is on the computer and all that, do you know what I mean? You should have to go through it with an educator to demonstrate it. I mean pass it on e-learning too but have to go through it and really show a demonstration that you know what you’re doing. That’s my own opinion about some of them. Some of them I don’t think that’s necessary.

One nurse requested additional learning materials “It’s very effective as far as a learning tool. I wish there was a booklet that we could print out of the competency itself, not the test and keep it as a reference”.

Nurses also voiced concern about the lack of interaction with e-learning (this nurse works as a staff nurse and a nurse educator). Nurse J explained:

It’s remote. So, there’s no interaction. You can’t see what people are doing. So, in most cases or many cases people do it together. So, I have two, three, four nurses doing it at the same time answering the same questions. It’s no different than somebody sitting in class looking over somebody else’s shoulder and copying the answers. So, as a tool to make sure that they understand what they’re reading when you’re doing group answers and not one person is…they’re not doing it individually, but they’re doing it together, there’s no value in it at all as far as I’m concerned. Like I said, it provides information, but it’s only as good as the person reading it on the other end, the receiving end.

One nurse felt there was not a whole lot of learning going on, and commented:
Every year we have to do specific competencies. Since they’ve moved them to e-learning, we get less information, less opportunity to ask questions, less opportunity to ask for clarification or better examples. So, I don’t think there’s much learning that goes on. I think you get just the basics and that’s it. It fulfills the competency requirements, but there’s not a whole lot of new learning.

Another nurse did not feel that the e-learning fulfilled the competency requirements. One of the interview questions asked about e-learning and nursing competency requirements. The nurse mentioned CPR that is done via e-learning, and added:

I mean the only thing I would say with regards to validating competency is if you think of to be a what. ...the American Heart Association to be a less module is that I can go in and it’s very interactive. I have to click until I get things right and apex innovations as impulse modules for cardiac and the problem with this is I can sit at the computer and I can click as long as I want until I finally get the right answer and I put the leads in the right place and I do the right number of compressions. It doesn’t mean that I’m learning anything. It’s only the mouse in the maze or the rat in the maze figuring out which way to go to get the cheese. Eventually I am going to get it right.

One adjunct method mentioned was more visual cues. “I don’t know how they would do it as a visual, but more of a visual on that because sometimes just looking at the pictures but if you had pictures there but someone there to explain how deep it is and I think stuff like that would be better if that was in person but the rest of them I find it’s a good tool to just go and do it at your own pace and learn at your own pace.” Another adjunct method was a print out of the e-learning content. Nurse D said:
One thing I actually wish I could do was have a printout version of the contents and I actually tried to do that the other day was print off the slide. I think it was bariatric surgery and I really wanted to print it off because that was content that I would go over and I needed repetition. I still need repetition because I want to say that 100% of the time I remember all those back and latest and greatest practices. …e-learning is an easy way for the staff to get presented the research based ... evidence based practice. I like that because I think it’s hard to me to use my own time and go and look up evidence based practice stuff in so many. So, if someone in learning can accumulate all that stuff and make a quick power point of it all so that we can read it and be up to date, I think that’s a great use of e-learning.

Expanded education was an adjunct method, with additional teaching materials such as handouts, a copy of the educational power point, or speaking to a nurse educator. A novice nurses said “I’m trying to think what I just did. The one with the blood glucose monitoring that I did in September, I wish it had displayed some facts about diabetes itself rather than learning the meter. I wish that it had some diabetic facts on insulin’s and non-insulin diabetic patients and some of the signs and symptoms.”. The experiences of staff nurses varied when it comes to e-learning.

Adjunct material may help many nurses with ensuring competency because the material is something the nurse can review when there is a patient on the floor with the topic described in the e-learning. If a nurse completes the bariatric surgery e-learning and months later she gets a bariatric patient, the material will be available for her to review.

**Theme three: during work time.** During the interview some participants commented on what they liked least about e-learning. A recurring concept that arose was the
lack of time given to the staff to complete e-learning assignments and most were not given free time to complete the mandatory assignments, affecting patient care.

The participants discussed the challenge of caring for a patient assignment and completing their mandatory e-learning education. The nurses voiced concerns over constant interruptions by hospital staff, patient families, and patients themselves needing care. The interruptions make it difficult for the nurse to concentrate and to absorb the information he/she is getting from the e-learning education. Nurse E said:

Not being given the amount of time to do it like of say a busy floor with an assignment to actually learn something and be expected to know, be proficient in whatever you just read when you don’t have the …it’s often very loud on the floor and we also don’t have all the appropriate equipment. There are very few computers that make noise.

Another nurse had similar feelings, and reflected:

The least is I feel like we don’t have enough time to concentrate on them. I think we do it in between when we’re running and giving meds or if we have a little bit of downtime, you’re like sometimes starting the e-learning and then you’re stopping it and going back to it. So, you never really sit through a full session unless you kind of do it from home or you stay after work, which they don’t really like you to do.

Time is an issue and some nurses feel there is not enough time to complete the e-learning assignment. When rushing through and e-learning assignment, some nurses feel they rush and cannot concentrate on learning. Nurse M said:

No there’s just not enough time to do it. That’s what stinks about it. It’s more like you feel sometimes you start it and then stop it and then start it and then stop it. I wish you
had a good…they just said here’s two hours, go and bang out as many as you can and the rest is up to you. So, like you feel you’re really learning it. Sometimes I feel like you’re just trying to get it done instead of actually really reading through it and really taking it all in. Do you know what I mean?

The e-learning education at work takes away from patient care and cost shifting is happening. Hospitals used to pay nurses and they would have a break from their assignment. Now nurses need to complete the e-learning while caring for patients at the same time. Nurse L said:

Well it’s during work that they encourage. That takes staff off the floor that should be on the floor. They’re on the floor in a break room but they’re not out there to help. A lot of them will sit right down and not even leave the computer. So, I mean either that or you have to take yourself off the floor or stay late. The other thing is staying late from work to do it because you don’t have time during the work day. So, either the charge nurse or someone’s got to cover you to leave the floor to go do it which isn’t usually happening, which it shouldn’t but it changes the numbers. Even though you are on the floor you’re technically not taking care of patients because you are busy with e-learning.

Another nurse felt the interruptions were too much for learning to happen, and explained:

The least is I feel like we don’t have enough time to concentrate on them. I think we do in between when we’re running and giving meds or if we have a little bit of downtime, you’re like sometimes starting the e-learning and then you’re stopping it and going back to it. So, you never really sit through a full session unless you kind of
do it from home or you stay after work, which they don’t really like you to do.

This same nurse commented on the concern about interruptions and potential for learning, and added:

There’s just not enough time to do it. That’s what stinks about it. It’s more like you feel sometimes you start it and then stop it and then start it and then stop it. I wish you have a good. ...they just here’s two hours, go and bang out as many as you can and then the rest is up to you. So, like you feel you really learning it. Sometimes I feel like you’re really learning it. Sometimes I feel like you’re just trying to get it done instead of actually really reading through it and really taking it all in.

One nurse felt it was fine to complete e-learning at work if uninterrupted time was given, and said: “I think the information that’s given is good and again only if you do it in an uninterrupted process is it beneficial. I guess I should have added that to the last question too is that people are so often interrupted while they’re trying to get it done that it’s just not effective.”

The experienced nurse felt positively about the e-learning system. One nurse who had thirty-four years of experience as a nurse said: “I think most of it has great content but my problem is that they expect us to do it while we are at work and we’re running around answering call bells and getting pulled away from it. You’re pulled away and you can’t sit there and do it all at once to read and comprehend it.”

This novice nurse has heard other nurses complain about e-learning at work, and explained:

Some of the staff I just heard they said it’s too much time consuming and most of them complaining they don’t like it because it’s much time consuming and they say that they don’t have time to do it at work and some people they don’t want to do it at
home either and sometimes at work you have to the sound to listen to the simulation and they have to have the headphones, they have to sit at the computer to listen to it. It’s kind of inconvenient for them because they cannot just put a headphone or they don’t have the headphone or they cannot turn the sound on because it distracts other people and sometimes it takes too long for them to do it. So, that’s what the cons of the e-learning that I have been hearing from the co-workers, the feedback that they give us. So, I’m thinking if the e-learning could be more regular but less time consuming, I think everyone would be happy to take it because it’s really, really helpful. I really appreciate those e-learning courses. It’s helped me a lot especially for new nurses like me. I need to review a lot. Yes, especially when it relates to regulations about procedure we could know, we could look it up but regulations sometimes we forgot to update ourselves about, especially the healthcare system changes each year.

This one nurse came in on her own time to complete the e-learning, and said: “I just think it’s very hard to do it during work time and I think unless there’s enough people around… sometimes I do them because I come in so early but technically I’m coming in early on my own time and that’s not work time. That’s the only thing.”

A number of nurses felt that e-learning would be helpful if they did not have the constant work interruptions and were given allotted time away from patient care to complete it. Another thought from some of the nurses was to let the nurse complete the e-learning at home. Some nurses in the past have completed the e-learning at home and felt they learned better because they were able to concentrate without interruptions.

This theme focused on the nurses completing the e-learning at work and caring for
patients. The nurses expressed their feelings about not having time away from patients to complete the e-learning. The nursing unit was described my many to be loud and with faulty computers that did not have sound on them. One nurse came in early so she could complete the e-learning when not caring for patients, while other nurses had e-learning interrupted with patient issues. From what the most nurses verbalized, uninterrupted learning would be a more effective way for them to learn.

**Theme four: computers do not always support e-learning programs.** Computer issues contributed to negative feedback from some of the nurses. Volume issues were the main problem. “Few computers make noise on the unit”. “None of the computers have sound on them.” “On the unit I currently work on, there’s no volume on the computers.” One nurse had to complete her e-learning at home so she could have a working computer with sound, and said: “For example like the CPR, none of the computers have sound on them. So, I did mine at home where I could listen to it and once I could listen to it, I did just fine but I struggled with it at work.”

The frustration with computers was palpable with the nurses. Some of the e-learning programs need to have sound, such as the CPR renewal, where the nurses describe there are verbal cues from the e-learning. Some nurses came in early to complete the e-learning and some nurses completed the e-learning at home on computers with sound. Patient call lights and work related interruptions were something the most of the nurses could not avoid when completing e-learning at work.

**Theme five: recall of the e-learning course.** Some nurses, both novice and experienced nurses, experienced difficulty when trying to recall the name of some of the e-learning educational content. One nurse said:
I’m trying to think of which ones. I don’t know how to answer that. Think of the one we did every year or the usual ones…I don’t know if you get blood or finger stick ones. The blood one probably helped to ensure that the right patient got the right blood product.

Often, during the interviews the researcher reminded the nurses what e-learning education they completed because the nurse could not remember the name of the program. Nurse J, who was both a nurse educator at a different hospital and a staff nurse at the community hospital where the interviews took place, had this to say:

I put out a module recently and I do either modules or attestation and the attestation is basically, it says opening this email constitutes that you have opened it and you and you have read it and understand the contents and one was recently on an insulin pump and it was basically straightforward that provides some education about insulin pumps, the type of patient and what our policy was related to insulin pumps and I get a receipt back that tells me they opened the email. Within less than a week I had five phone calls from staff asking me about what I do with an insulin pump. Now this is straightforward, bulleted, three, four slide power points, very simple instructions on who to call, what order to use, it was right there and at least five phone calls saying “what am I supposed to do?” So the information was there and they didn’t even refer back to it. The email came from me, they called me for it. So I don’t have a lot of faith in the ability of e-learning to validate competency. To validate competency, I can’t say not necessarily to improve outcomes, but if I can’t validate the competency and they’re not reading and understanding it, then I can’t see how it can improve outcomes.
This last theme provides an indication that some participants in this study did not feel that e-learning could provide competency for nurses. The nurse still called the nurse educator for clarification. It was not clear if the nurses forgot they received the e-learning material, or they needed support from the nurse educator.

**Summary**

The findings in this research revealed the nurses’ positive experiences with e-learning and how patient safety was a common topic in the assignments. Not all nurses found e-learning helpful, and found it took away from patient care. Many nurses found e-learning helpful, but would like adjunct material along with the e-learning. Some examples of adjunct material included speaking to a nurse educator, handouts, or being able to print out the slides from the e-learning.

A major theme that arose was that the nurses found it difficult to concentrate when completing e-learning assignments at work. Interruptions were common, stopping and starting the e-learning along with not having the time at work to complete the assignment were all mentioned as factors that interfered with the e-learning. Work computers without volume was also an issue. Lack of recall of names and types of e-learning assignments was a theme and when nurses were asked to describe the e-learning assignments, they often could not remember the name of what was assigned.
CHAPTER 5

Discussion

This study, using qualitative methods, sought to understand the staff nurses’ perception of the effectiveness of e-learning, using the phenomenological methodology. A qualitative perspective is a useful method to study the nursing experience. This targeted qualitative study will allow nurse leaders to gain valuable insights as e-learning continues to evolve. Research has shown that e-learning is an effective way to educate nurses and it ensures that all nursing staff obtain standardized information. Cost savings plays a huge role in e-learning success, as does the convenience factor. Although research exists that shows the effectiveness of e-learning, a gap exists in understanding the staff nurses’ perspective of the educational experience. This study explored the staff nurse’s perception of the effectiveness of e-learning.

The literature indicates that e-learning is an evolving alternative to traditional classroom learning. The different ways of e-learning for nurses include power point presentations with a post test, doing the e-learning at home or at work, offering small nuggets of information lasting 5-8 minutes, spaced learning, case studies, games and problem based learning. The most successful e-learning was short, interactive, and was done at the nurse’s convenience.

The intention of this study was to get a rich portrait of the participant’s experiences to gain greater insight into how nurses perceive e-learning. Several important findings were identified to support the nurse’s view of e-learning. These findings included: (a) some nurses find e-learning helpful with learning, (b) nurses would like adjunct material with the e-learning, (c) nurses had to complete the e-learning during work time, (d) computers do not
always support the e-learning programs, and (e) many nurses had no recall of the e-learning assignments they had completed.

Nurses overall like e-learning when they have time away from their patient care to complete the e-learning assignment. Some seasoned nurses did not agree and gave reasons for not liking the e-learning, such as patient care interruptions and having to stop and start the e-learning due to job requirements. Other important findings included the request for adjunct materials to accompany the e-learning, such as speaking with a nurse educator, or printing out the e-learning material. Completing the e-learning at work was an issue due to the time it took to complete the e-learning and interruptions from hospital staff, families and patients. Little recall of the assignments that were completed was also a theme that was mentioned.

Some participants liked different formats. Militello, Gance-Cleveland, Aldrich, and Kamal (2014) conducted a systematic review on computer-mediated continuing education for healthcare and reviewed eleven studies. They found that the literature demonstrates that the most successful types of continuing education programs were multifaceted, interactive, and longitudinal. This finding is consistent to what is occurring in the current literature and in the hospital setting. Innovation programs that include gaming techniques and simulation continue to appear within health care education software. However, there is still a need for additional research to examine the impact of educational games on patient and performance outcomes (Akl, Kairouz, Sackett, Erdley, Mustafa, Fiander, Gabriel, & Schunemann, 2013).

Limitations

Limitations of this study include single study site, phone interviews instead of face to face interviews, no male participants and limited diversity. Another limitation was that Participants were selected from one site that was a community teaching hospital in the
Northeast. The study participants were all female. One male emailed the researcher and agreed to be in the study but the male participant never gave his phone number or answered subsequent emails. The diversity was limited due to the population of nurses at the teaching community hospital in the Northeast.

**Recommendations for Future Research**

This study explored the perceptions of the e-learning experience of registered nurses at a teaching community hospital in the Northeast. Nurses openly shared their thoughts and feelings about e-learning in a telephone interview. The process illuminated themes that can assist nurse leaders in designing and executing new e-learning platforms.

Van Manen’s method of qualitative inquiry guided this study. This approach would be useful to guide future research in this area. Currently Van Manen’s is studying the pedagogy of online relation, in an effort to continue to understand the connections and intimacy formed in the online environment. This researcher’s future study will include research using Van Manen’s current phase “the pedagogy of online relations” (Van Manen, 2010).

Future research on nurses and e-learning would benefit from using Van Manen’s model of the “pedagogy of online relations”. Max Van Manen is interested in learning about the intimacy of online relationships, including texting and social media. For the hospitals that use e-learning with wiki’s or e-learning that allows nurses to interact with each other, Van Manen’s model of online relations could be used to measure how intimacy grows with words on a screen. The study could examine how online reading and writing can help develop a close relationship with the subject matter, and can online writing nurture closeness with another person online.
The majority of the nurses in the study discussed the difficulty in caring for patients and completing e-learning assignments at work. A randomized controlled study designed to compare e-learning approaches of e-learning. One nursing group would have a patient assignment and complete the e-learning. The other nursing group would complete the e-learning with no patient assignment. A longitudinal study could examine outcomes at 3, 6 and 9 months to measure retention rate over time.

Participants in this study requested adjunct material along with the e-learning. The adjunct material that was requested was a print out of the e-learning material, education from a nurse educator after the e-learning was completed, or any additional learning material that could be offered. It would be beneficial to study post test scores comparing nurses who received adjunct material with their e-learning and those nurses who did not receive adjunct material to see if their post test scores differed. This study could provide a deeper understanding on whether or not adjunct material is necessary for nurses and e-learning.

Conclusion

The results of this qualitative research study on nurses and e-learning gave a voice to the nurses and allowed them to express their thoughts about e-learning. Although e-learning is well studies, this research allowed for the unique perspective of the participant to be heard. Although there were different generational experiences of e-learning the themes that emerged were consistent throughout the study. This information will inform nurse leaders and encourage thoughtful approaches to e-learning. Continued research in this area is essential to keep pace with the evolving technologies and healthcare education.
References


Cypress, B. (2013) Using the synergy model of patient care in understanding the lived emergency department experiences of patients, family members and their nurses during critical illness: a phenomenological study. Dimensions in Critical Care Nursing, 32(6), 310-321.


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Appendices

Appendix A Email to Staff

From: Bowen-Brady, Helene M.

Sent: Thursday, September 08, 2016 11:01 AM

To: BWFH RN List

Subject: Research Study - Volunteers needed for an exciting research study

“An Examination of Nurses Perceptions of Online Nursing Training Competencies in an
Acute Care Setting”

Nurse Volunteers Wanted for a Research Study

Eligibility Criteria:

Nurses will be asked a series of questions about their online learning experience while at work. Any nurse who has completed Healthstream while working.

If interested in participating, please text Noreen at 617-869-0575 to set up a time to talk

This research is conducted by:

Noreen Connolly PhD (c), RN

Simmons College
Appendix B Interview Protocol

Study Title: An Examination of Nurses Perceptions of Online Nursing Training Competencies in an Acute Care Setting

The purpose of this study: To examine the staff nurses perception of the effectiveness of e-learning and attempts to narrow the gap in the literature that contributes to nursing and e-learning.

This investigation will be guided by the following interview questions:

1. What are the nurses’ perceptions of the effectiveness of the e-learning system as a tool to maintain safe patient practice and competencies for staff nurses?

2. What do you like the most (what is most helpful) when using e-learning as a tool to maintain safe patient practice and competencies for staff nurses?

3. What do you like the least when using e-learning as a tool to maintain safe patient practice and competencies for staff nurses?

4. What are staff nurses perceptions of e-learning competency systems on patient care outcomes?

5. Does e-learning maintain safe patient practice?

6. Does e-learning maintain RN competencies?
Appendix C Simmons IRB

Informed Consent

I volunteer to participate in a research project conducted by Dr. Noreen Connolly PhD (c) from Simmons College. I understand the project is designed to gather information about nurses and e-learning while at work. Some interviews may be done by phone from the researcher’s cell phone 617-869-0575 and will be recorded.

1. My participation in this project is completely voluntary. I understand that I will not be paid for my participation. I may withdraw and discontinue participation at any time without penalty. If I decline to participate or withdraw, no one will be told.

2. I understand that most interviewees will find the discussion interesting and thought-provoking. If, however, I feel uncomfortable in any way during the interview session, I have the right to decline to answer any question or to end the interview.

3. Participation involves being interviewed by Noreen Connolly PhD (c). The interview will last approximately 30 minutes. Notes will be written during the interview. An audiotape of the interview will be done. If I don’t want to be taped, I will not be able to participate in the study.

4. The audiotapes and transcripts will be kept for 3 years in a locked box in the researcher’s home at 39 Bradford Rd, Milton MA

5. I understand that there is no direct benefit for participating in this research.

6. I understand the researcher will not identify me by name in any reports using information obtained from this interview, and that my confidentiality as a participant in this study will remain secure.

7. Faculty and administrators from Simmons College will neither be present at the
interview nor have access to raw notes or transcripts. This precaution will prevent my individual comments from having any negative repercussions.

8. I understand that this research study has been reviewed and approved by the Institutional Review Board (IRB) of Simmons College. If you have questions about the research, your rights as a research subject, or if you experience any research related injury, you should contact the Human Protections Administrator in the Office of Sponsored Programs 617-521-2414.

9. I have read and understand the explanation provided to me. I have had all my questions answered to my satisfaction, and I voluntarily agree to participate in this study.

10. I have been given a copy of this consent form.

My signature _______________________________ Date ______________

My printed name______________ Investigator Signature________________

APPROVED: June 7, 2016 Approval good for 1 year Simmons College IRB
Appendix D IRB Partners Informed Consent

Partners HealthCare System
Research Consent Form

Protocol Title: An Examination of an Online Nursing Training and its Utilization in an Acute Care Hospital

Principal Investigator: Noreen Connolly PhD (c), RN

Site Principal Investigator: Noreen Connolly PhD (c), RN

Description of Subject Population: Inclusion criteria will include registered nurses who provide direct patient care and have completed at least one online educational program

About this consent form

Please read this form carefully. It tells you important information about a research study. A member of our research team will also talk to you about taking part in this research study. People who agree to take part in research studies are called “subjects.” This term will be used throughout this consent form.

Partners HealthCare System is made up of Partners hospitals, health care providers, and researchers. In the rest of this consent form, we refer to the Partners system simply as “Partners.”

If you have any questions about the research or about this form, please ask us. Taking part in this research study is up to you. If you decide to take part in this research study, you must sign this form to show that you want to take part. We will give you a signed copy of this form to keep.

Why is this research study being done?
The purpose of this phenomenological study is to explore and describe the perceptions and experiences of hospital medical surgical nursing staff regarding the effectiveness of online learning training and its impact on nurse’s knowledge, attitudes and skills in an acute care hospital setting.

We are asking you to be in this study because you are a medical surgical staff nurse who has used an online learning platform (Example: Healthstream) while caring for a patient assignment. The expected enrollment will be between 10-15 medical surgical staff nurses.
How long will I take part in this research study?
The study will consist of 6 questions and the discussion should take approximately 30 minutes.

What will happen in this research study?
The interviews will be recorded and may be telephone interviews. Notes will be written during the interview. The audiotape and the transcripts will be kept for 3 years in a locked box in the researcher's home at 39 Bradford Rd. Milton, MA.

What are the risks and possible discomforts from being in this research study?
No risks or possible discomforts from being in this research study

What are the possible benefits from being in this research study?
No possible benefits from being in this research study

Can I still get medical care within Partners if I don’t take part in this research study, or if I stop taking part?
Yes. Your decision won’t change the medical care you get within Partners now or in the future. There will be no penalty, and you won’t lose any benefits you receive now or have a right to receive.

Taking part in this research study is up to you. You can decide not to take part. If you decide to take part now, you can change your mind and drop out later. We will tell you if we learn new information that could make you change your mind about taking part in this research study.

What should I do if I want to stop taking part in the study?
If you take part in this research study, and want to drop out, you should tell us. We will make sure that you stop the study safely. We will also talk to you about follow-up care, if needed.
Also, it is possible that we will have to ask you to drop out of the study before you finish it. If this happens, we will tell you why. We will also help arrange other care for you, if needed.

What happens if I am injured as a result of taking part in this research study?

We will offer you the care needed to treat any injury that directly results from taking part in this research study. We reserve the right to bill your insurance company or other third parties, if appropriate, for the care you get for the injury. We will try to have these costs paid for, but you may be responsible for some of them. For example, if the care is billed to your insurer, you will be responsible for payment of any deductibles and co-payments required by your insurer.

Injuries sometimes happen in research even when no one is at fault. There are no plans to pay you or give you other compensation for an injury, should one occur. However, you are not giving up any of your legal rights by signing this form.

If you think you have been injured or have experienced a medical problem as a result of taking part in this research study, tell the person in charge of this study as soon as possible. The researcher's name and phone number are listed in the next section of this consent form.

If I have questions or concerns about this research study, whom can I call?

You can call us with your questions or concerns. Our telephone numbers are listed below. Ask questions as often as you want.

Noreen Connolly PhD (c), RN is the person in charge of this research study. You can call her at 617-869-0575.

If you have questions about the scheduling of appointments or study visits, call Noreen Connolly PhD (c), RN at 617-869-0575.

If you want to speak with someone not directly involved in this research study, please contact the Partners Human Research Committee office. You can call them at 617-424-4100.

You can talk to them about:

- Your rights as a research subject
Your concerns about the research
A complaint about the research

Also, if you feel pressured to take part in this research study, or to continue with it, they want to know and can help.

If I take part in this research study, how will you protect my privacy?

During this research, identifiable information about your health will be collected. In the rest of this section, we refer to this information simply as “health information.” In general, under federal law, health information is private. However, there are exceptions to this rule, and you should know who may be able to see, use, and share your health information for research and why they may need to do so.

In this study, we may collect health information about you from:
- Past, present, and future medical records
- Research procedures, including research office visits, tests, interviews, and questionnaires

Who may see, use, and share your identifiable health information and why they may need to do so:
- Partners research staff involved in this study
- The sponsor(s) of this study, and the people or groups it hires to help perform this research
- Other researchers and medical centers that are part of this study and their ethics boards
- A group that oversees the data (study information) and safety of this research
- Non-research staff within Partners who need this information to do their jobs (such as for treatment, payment (billing), or health care operations)
- The Partners ethics board that oversees the research and the Partners research quality improvement programs.
- People from organizations that provide independent accreditation and oversight of hospitals and research
- People or groups that we hire to do work for us, such as data storage companies, insurers, and lawyers
- Federal and state agencies (such as the Food and Drug Administration, the Department of Health and Human Services, the National Institutes of Health, and other US or foreign government bodies that oversee or review research)
Partners HealthCare System
Research Consent Form

General Template
Version Date: October 2014

- Public health and safety authorities (for example, if we learn information that could mean harm to you or others, we may need to report this, as required by law)
- Other: □□□□

Some people or groups who get your health information might not have to follow the same privacy rules that we follow and might use or share your health information without your permission in ways that are not described in this form. For example, we understand that the sponsor of this study may use your health information to perform additional research on various products or conditions, to obtain regulatory approval of its products, to propose new products, and to oversee and improve its products’ performance. We share your health information only when we must, and we ask anyone who receives it from us to take measures to protect your privacy. The sponsor has agreed that it will not contact you without your permission and will not use or share your information for any mailing or marketing list. However, once your information is shared outside Partners, we cannot control all the ways that others use or share it and cannot promise that it will remain private.

Because research is an ongoing process, we cannot give you an exact date when we will either destroy or stop using or sharing your health information.

The results of this research study may be published in a medical book or journal, or used to teach others. However, your name or other identifying information will not be used for these purposes without your specific permission.

Your Privacy Rights

You have the right not to sign this form that allows us to use and share your health information for research; however, if you don’t sign it, you can’t take part in this research study.

You have the right to withdraw your permission for us to use or share your health information for this research study. If you want to withdraw your permission, you must notify the person in charge of this research study in writing. Once permission is withdrawn, you cannot continue to take part in the study.

If you withdraw your permission, we will not be able to take back information that has already been used or shared with others.

You have the right to see and get a copy of your health information that is used or shared for treatment or for payment. To ask for this information, please contact the person in charge of this research study. You may only get such information after the research is finished.
Informed Consent and Authorization

Statement of Person Giving Informed Consent and Authorization

- I have read this consent form.
- This research study has been explained to me, including risks and possible benefits (if any), other possible treatments or procedures, and other important things about the study.
- I have had the opportunity to ask questions.
- I understand the information given to me.

☐

☐

Signature of Subject:

I give my consent to take part in this research study and agree to allow my health information to be used and shared as described above.

Subject

Date

Time (optional)

Consent Form Version:  

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