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Hospital Nurses' Perceptions of Computer-Assisted Instruction for Professional Development

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Walden University
2020

Abstract

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MSN, Lehman College, 2003

BSN, Hartwick College, 1997

Project Study Submitted in Partial Fulfillment

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Abstract

Computer-assisted instruction (CAI) is increasingly being used for professional development. However, at one hospital in the northeast region of the United States, it was observed that nurses were not completing their CAI professional development modules and were failing to meet continuous education requirements. This qualitative case study explored professional nurses' perspectives regarding the usefulness of CAI as a mode of professional development. The conceptual frameworks used to guide this study were Davis' theory of technology acceptance, and Knowles's theory of andragogy. The research question explored how professional nurses perceived the usefulness of CAI to assimilate new learning. The participants in the study included 10 nurses and 8 nurse educators, purposely selected, who worked in a cardiac-stroke center in a hospital situated in the northeastern region of the United States. Data were collected through semistructured interviews and analyzed using coding techniques. Emerging themes perceived to be deterrents of engaging in CAI were lack of knowledge, experience, and content. This study contributes to positive social change by fostering the professional development of nurses through interventions that are informed by the study findings.

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Dedication

I dedicate this body of work to my family: Dennis, Natalia, Kaylee, and Grandma. You have sacrificed so much for me. I thank you for your love, support, encouragement, and dedication. Remember, I always love you more. To my friends, you have been a source of inspiration and motivation throughout this journey. Most importantly, I want to dedicate this study to Mayra. God took you too early from this earth and has left such a void in our hearts. You envisioned this for me long before I started it years ago. Thank you for not letting me quit that day we were driving the hills of Hawaii.

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Section 1: The Problem

Technology has become an integral part of nurses' practice and has dramatically changed the way nurses access information and acquire knowledge (Earlene, 2015). Due to the requirement for cost containment, time constraints, and the convenience of accessing a large group of learners, many continuing education courses are being offered through the means of computer-assisted instruction (CAI). Both nursing schools and professional organizations are shifting from face-to-face instruction to learning environments that foster independent and meaningful learning experiences using technology (Williamson & Muckle, 2018). There is a gap in the literature pertaining to the factors that influence an individual's beliefs, attitudes, and perceived value of the necessity for continuing education courses that are presented through CAI. Examining how nurses perceive their professional development experience with the help of CAI will contribute to stakeholders' understanding of the reason a high percentage of nurses do not complete CAI mandatory learning modules.

The Local Problem

Although CAI is an innovative approach to learning, professional nurses in a cardiac/stroke hospital in the northeast region of the United States are not completing their required continuing education modules. Professional nursing continuing education has shifted from traditional teaching methods toward CAI to offer professional nurses a self-paced experience with more flexibility and independence (Liberati, Peerally, & Dixon-Woods, 2018). The goal of CAI is to provide professional nurses with the necessary continuing education and to supply nurse educators with a measure of staff

competency, which is associated with optimal patient outcomes and safety (Liberati et al., 2018). However, at MMC (pseudonym) hospital, according to the emergency room minutes, 70% of the nurses are not completing their CAI learning modules and are failing to meet continuing education requirements. Nurses at MMC are required to meet the minimum continuing education standards through their participation in traditional and computer-assisted professional development courses. Although information technology has become an integral part of the way in which professional nurses acquire knowledge, some nurses fear technology (Hagstrom, 2016). A significant amount of the research pertaining to CAI concerns its effectiveness as an education tool, but there exists a gap in the literature related to the way students perceive CAI as a method for achieving their professional development and learning needs (Tolbert, 2015).

In 1983, the New York State Nurses Association created a continuous education program called MED-ED (New York State Nurses Association, 2014). This program focuses on providing nurses with continuing education requirements in accordance with the stipulation of the American Nurses Credentialing Center's (ANCC) Commission on Accreditation. The major concern of ANCC programs is to offer continuous education courses to nurses, to advance their professional practice, enhance their critical thinking, and acquaint them with new practice modalities in order to positively affect patient care (New York State Nurse Association, 2014.). The continuous education courses focus on the development of knowledge, skills, and attitudes to positively affect patient outcomes (Eslamina, Moeini, & Soleimani, 2015). Through an exploration of the perceptions of RNs who are exposed to professional development through CAI and an analysis of the

data from interviews, stakeholders will obtain the required information on which professional development can be carried out and stakeholders' learning preferences can be addressed.

Rationale

Through the implementation of a qualitative case study design, this study addressed the low completion rates of CAI by exploring professional nurses' perceptions of this method of instruction in helping them develop as a professional and in securing the desired learning outcomes. This study is unique because it addressed an under-researched area of professional development in the domain of nursing. Since professional nurses are required to complete annual competencies and exhibit mastery in specific content areas (Price & Reichert, 2017; Tolbert, 2015), it is essential to discover why a high percentage of nurses do not complete CAI. Literature related to nurses' perception of their ability to learn content and meet course objectives via a CAI approach is sparse (Lahti, Hatonen, & Valimaki, 2014). By reviewing the data accumulated from professional nurses regarding their experience in utilizing computer-assisted programs, hospital nurse educators can plan interventions that address the learning needs of this population, thereby creating a positive social change for nurses and the patients they care for.

Definition of Terms

The following terms inform this study:

Competency is an integration of professional judgment, skills, values, and judgement (Fudaka, 2018).

Computer-assisted instruction (CAI) is "learning facilitated and supported through the use of information and communication technology" (Bloomfield, While, & Roberts, 2008, p. 10).

Continuing education constitutes courses or extended experiences that are obtained after licensure, designed to enhance skills, knowledge, and competency. Medical professionals are expected to maintain competency in their perspective practices by taking classes or other professional development initiatives (Sinclair, Kable, Levett-Jones, & Booth, 2016).

Registered professional nurse (RN) is a person who has graduated from a nursing program and has successfully passed the exams outlined by a state or regulatory body. A professional nurse is an active member of an interdisciplinary team that helps promote patients' health, prevent illness, and care for the members of their communities (International Council of Nurses, 2017).

Significance of the Study

This study explored professional nurses' perceptions regarding the way in which CAI impacts their ability to develop as a professional and achieve their learning outcomes. The results of this study will offer rich insights into the perceptions prevalent among nurse participants with regards to the delivery of mandatory education via computer-based training. Since professional nurses are required to enroll in annual competencies and display mastery in specific content areas (Price & Reichert, 2017; Tolbert, 2015), it is crucial to determine the reason a high percentage of nurses do not complete CAI.

By reviewing the data analysis of the study findings, hospital nurse educators can plan interventions that cater to the learning needs of this population, thereby bringing about a positive social change for nurses and fostering optimal patient goal outcomes. Additionally, key stakeholders will be apprised of the outcomes of the study such that future planning and budgeting for RN education focuses on the preferred learning methods of the staff members. Positive social change will take place through more RNs completing professional development, which will, in turn, positively impact patient outcomes. The American Association of Colleges of Nursing (AACN, 2019) acknowledged that professional development positively influences nurses' levels of critical thinking and competency.

Research Questions

According to the ANCC (2014), continuing nursing education provides nurses with the tools to provide safe, evidence-based, and high-quality care for their patients. Continuing education courses are intended to improve nurses' knowledge, skills, and attitudes, which impacts their professional growth as well as their professional practices (Eslamina et al., 2015). Additionally, there is a necessity to understand the importance of planning and implementing proper educational modalities for professional nurses. Past challenges associated with the delivery of continuing education inform future educational endeavors (Harmon, Clark, Dyck, & Moran, 2016) to promote knowledge and skill development, and because a large percentage of RNs are not completing CAI, determining the reason nurses at the local setting are failing to complete CAI education

will address the need for improvement. The following research questions guided this study:

- RQ1: How do registered nurses describe their experience with CAI as a method for professional development?
- RQ2: How do registered nurses perceive CAI as a method for meeting their professional development and continuing education requirements?
- RQ3: How do nurse educators perceive CAI as a method for meeting professional development and continuing education requirements of the nursing staff?

Review of the Literature

Using the Walden University library, I conducted an extensive search of the literature by accessing the online databases of Google Scholar, CINAHL, ERIC, PubMed, Proquest, and Science Direct. The terms and phrases that were searched individually and in combination included *computer-assisted instruction, learning, nurses, benefits, Malcolm Knowles, Davis' theory of technology acceptance model,* and *technology.* The literature review encompasses the conceptual framework of this study. Most of the materials included in the review were peer-reviewed journal articles that have been published in the past five years. Some earlier research findings were also included for setting the context. In case of unavailability of information for the defined years, the search was expanded to include older references.

Nurses are an integral part of successful patient care, and meeting their learning needs is crucial to that success (Ulrich & Grady, 2016). Salmond and Echevarria (2017)

explained that nurses, as members of the interdisciplinary team, not only provide comprehensive care, but are also placed in a position to transform and change healthcare. Nurses coordinate and communicate the plan of care between family, providers, and patients. They play an important role in evidence-based practices, procedures, and technology that impact patient care (Ulrich & Grady, 2016). As supported by the findings from Aiken's research (2016), the presence of educated nurses at the bedside is associated with better patient outcomes.

MMC strives to offer nurses educational opportunities that promote their professional advancement. Educational activities that are incorporated into the process of professional development should meet the learning needs of the staff members. It is necessary to design educational programs that not only improve patient outcomes, but also enhance team performance, and foster professional advancement (American Nurses Association, n.d.). Recent changes in the regulations of national hospital accreditation organizations require hospitals to evaluate their educational programs, and the impact of acquiring knowledge on the overall practice of professional nurses (Alkhenizan & Shaw, 2011). Although many nurses find computer-assisted learning to be flexible, cheaper, and self-directed, there is a gap in the literature concerning nurses' perceptions of the way this method of instruction meets the learning needs of the population it is intended to serve.

Conceptual Framework

This study is guided by Davis's (1986) technology acceptance model (TAM) and Knowles's (1970) adult learning theory of andragogy, both of which can serve to answer

the research question and achieve the purpose of the present study. The theories relate to reasoned action, which states that the primary motivation for an individual's actions is the anticipated result of those actions (Davis, 1986). The TAM explains that the degree to which an individual accepts a given technology depends upon two factors: perceived usefulness and perceived ease of use. The applicability of Knowles's theory to this study aligns with nurses' requirement for flexibility, control, and feedback to participate in any learning experience. Nurses expect the course-learning objectives to be clear, patient focused, and relevant to their practice. Therefore, as posited by emergency room staff at MMC, nurses' failure to complete CAI modules could be attributed to their discomfort with the technology or failure to perceive the technology as not useful.

Technology Acceptance Model

The TAM is recognized as the most developed technology acceptance model due to its wide range of empirical support (Prasanna & Huggins, 2016) that explains the reason a person rejects or accepts information technology (Park, 2009). Some of the external variables related to TAM include attitude, belief, and intention to use technology (Park, 2009). Davis focused on two elements of predicting technology behavior: perceived usefulness and perceived ease of use (Park, 2009). According to Fayad and Paper (2015), individuals' positive or negative experience with a task determines their level of engagement with that activity. Davis (1986) believed that a person's willingness to participate in or adapt to any information system is contingent on how easy it is to use and how it can enhance personal job performance (Park, 2009). Davis's theory of technology acceptance has evolved, and TAM has been upgraded to the TAM2 model,

which includes the claim that perceived technology usefulness and technology usage intention are influenced by social factors (i.e., subjective norm, voluntariness, and image), a cognitive instrumental process (i.e., job relevance, output, quality, and result demonstrability), and experience (Park, 2009). TAM2 is equally as important as TAM because it has enabled organizations to identify behaviors or intentions that would increase acceptance and usage.

Evaluating the relationship between technology and nursing is multifaceted. Chong et al. (2016) stated that human and organizational behaviors are the potential factors that would help to improve efficiency, improve safety, and reduce cost. According to Chong et al., when evaluating how nurses adopt to a new technology, a theoretical model such as TAM would help guide to a better understanding of its impact on nursing practice.

Although nurses have a positive attitude to improved quality care, flexibility of learning, and immediate feedback, there are barriers that could affect nurses' engagement in CAI. According to Chen Lin, Chiou, Chen, & Yang (2016), some of these barriers or behaviors are results of nurses' perception and satisfaction toward information technology. Many of the challenges stem from older nurses having doubts of their ability or mastery in working with technology (Lin et al., 2016).

Many new technologies have been introduced into the area of nursing continuing education, to enhance patient care, reduce costs, and create better working environments for professional nurses (deVeer, Fleuren, Beckkema & Francke, 2011). However, new technologies can attain success only if administrators and educators have a deeper

understanding of the variables that influence professional nurses' perceptions of the technology-based learning method. It is essential to analyze the factors that enhance or impede the acceptance of CAI as a learning tool for continuing education courses for professional nurses. According to deVeer et al. (2011), it is crucial that educators pay attention to the perceived characteristics of technological innovations in the domain of healthcare if they want nurses to adopt new learning behaviors. Tacy, Northam, and Wieck (2016) explained that educational researchers have explored the impact that factors such as perception, motivation, training attitude, skills, acceptance, and stress have on students' perception of CAI as a learning method. deVeer et al. (2011) utilized frameworks such as TAM to introduce new technological innovations in the healthcare sector and help explain the way desired user behavior relates to technology acceptance.

The first element of TAM is innovation using technology. A major determinant for the acceptance of this theory is the perceived complexity or relative benefits of the technology for the user (deVeer et al., 2011). If nurses believe that the technology will enhance their job performance, they will be more inclined to use it. Other factors that influence technology acceptance include whether the users have the knowledge or skills required to use the technology, users' outcome expectations, and the perceived support to assist them in achieving success (deVeer et al., 2011). For instance, nurses are more likely to adapt to CAI if they developed adequate self-efficacy in that area and perceived it to be user friendly (deVeer et al., 2011).

Determinants of organizational success in the use of technology include staff capacity, staff turnover rate, and resource allocation. For instance, the availability of

resources and time has a positive influence on CAI (de Veer et al., 2011). If professional nurses perceive CAI as a tool to retain their job or increase job satisfaction, they will be more open to learning through this method. Determinants of sociopolitical contexts include rules, regulations, and patient satisfaction. For example, the amount of funding and equipment used for CAI can positively influence nurses' perception of CAI as a learning tool. If nurses develop the perception that their institution has provided them with the best tool to acquire knowledge, they will adapt better to a CAI modality (deVeer et al., 2011).

Perception plays a crucial role in the conceptual framework of TAM (deVeer et al., 2011). If a nurse believes the time required to complete CAI is a constraint, it will be identified as a deterrent to using this mode of instruction. To create a change in behavior or adaptation, it is crucial to understand drivers of behavior. Popovici and Mironov's (2015) study reflected that students' perception of e-learning, or CAI, is influenced by factors such as experience with technology usage, gender, individual learning styles, social influence, training, and support.

Similar studies that used TAM concluded that there is a direct correlation between work environment factors and employees' motivation to use e-learning or CAI (Cheng, Wang, Moormann, Olaniran, & Chen, 2012). The essential elements that have been identified include managerial support, organization support, perceived usefulness, and peer influence (Cheng et al., 2012). It is important to take these factors into consideration if organizations expect their employees to be compliant and engage in CAI courses as part of their professional development requirements.

The aim of TAM is to help predict the acceptance of technology innovations and anticipate problems before users experience them (Morris & Dillon, 1996). The model has been used in a variety of fields. Tsai and Wu (2014) utilized TAM to analyze the effects of social factors and self-efficacy while dealing with patients who are asked to use a program to share medical information via computer. Researchers concluded that social capital factors such as social trust toward the institution, participation, and community positively influence the use of the technology (Tsai & Wu, 2014).

Durodolu's (2016) rationale for using TAM as a conceptual framework for his research was to highlight the impact of external factors such as personal abilities and beliefs, attitude, and the mindset of participants in the attainment of information skills. Authors of this study established that participants' confidence in the use of technology could result in flexibility and the competent use of information (Durodolu, 2016). After an extensive review of the existing literature, Cheng, Wang, Morch, Chen, & Spector (2014) reported that CAI is useful as a learning tool if factors such as feasibility, competence (applicability), learners' attitude, demand, the ability to grow in knowledge and or skills, life-long learning, and professional development are addressed.

Knowles's Adult Learning Theory

Adults engage in learning experiences to develop different skills, behavior, and knowledge, and this point should inform the educational strategies for adults (McDonough, 2014). Knowles's (1970) viewed adults as "persons with a self-concept of being self-directed and being responsible for their life" (p. 56). Knowles identified several unique characteristics of adult learners that can affect their experience and the

effectiveness of learning, including the preference for problem-based learning, the necessity for self-regulation and internal motivation, the readiness to learn, and the value of life experience (Knowles, Holton, & Swanson, 2012). According to Knowles et al. (2012), adults prefer to learn through a problem-based approach, such as through the analysis of case studies. As a result, learning activities made available to adult learners should include the use of problem-based discussions (Ahedo, 2010). In CAI, where the learner is essentially autonomous, the problem-based approach is implemented more effectively.

Adult learners have a need for self-regulation and are largely pushed to learn if they are internally motivated, as opposed to being motivated through external factors such as higher pay and benefits (Ahedo, 2010). It is necessary for this population of learners to be stimulated to participate in learning activities as, otherwise, they might feel too settled in their social and work routines to make any change in the way they update what they know and do (Ahedo, 2010). According to Knowles (1970), adults have an inherent desire or need to be self-directed, which aligns with the idea of independent learning. Learning for this population is much more effective when they feel responsible for their own learning experiences, and CAI can serve as an opportunity for adults to enhance their computer literacy, beside the knowledge, and skills computer-assisted learning programs focus on.

Readiness to learn has an impact on adult learning experiences, and according to Knowles et al. (2012), adults only learn if they experience the need to do so. If their life circumstances dissuade them from experiencing or addressing this need, it is unlikely for

effective learning to happen. The content of instructional programs must be applicable to adults' circumstances. Apart from relevant content, adult learners need time, and opportunity to reflect on the information presented. Knowles et al. (2012) emphasized the importance of having the appropriate learning climate, both physical and psychological, for adult learners. This implies that if computer-assisted learning activities are relevant to the working environment of the nurses, and if they are given enough time and opportunity to reflect on the prospect of CAI, they are more likely to consider CAI as an effective learning tool.

For adult learners, life experiences are valuable. Unlike traditional-age learners, adults bring a tremendous amount of life experience to the learning environment. At the same time, they often attach different significance to what they learn, depending on their experiences (Knowles et al., 2012). They prefer to learn under a condition where the one providing instruction is guiding them. As computer-assisted learning comprises limited or even no human interaction, it has been suggested that this can have a negative impact on adult learners who need to feel what they are learning is relevant to their lives (Knowles et al., 2012).

The nursing field is at the forefront of the developments taking place regarding computer-assisted learning. According to Koch, Rankin, and Stewart (2016), the first recorded computer-assisted learning module in nursing dates to 1969. Advancements in information technology across workplaces of different industries have resulted in employers harboring the expectation that employees will use technologies effectively in the workplace (Koch et al., 2016). Nurses are expected to possess information technology

skills even while they pursue continuous education and training or further professional development (Lilly, Fitzpatrick, & Madigan, 2015).

McDonough (2014) concluded that learning environments for adults need to actively engage the learners. For deep learning to occur in adults, the learning needs to be focused on the learners' social roles and be applicable to their real-life and job responsibilities (McDonough, 2014). His research findings concluded that adult learners need an environment that supports these principles to be engaged. For learning to take place, educational programs for professionals should be organized in a way that involves the participants in the learning process. Continuing education courses provide individuals with lifelong learning opportunities and foster the acquisition of knowledge (Karaman, Kucuk, & Aydemir, 2014). However, CAI may not result in the same outcome for all learners.

Nurses are encouraged when they receive immediate feedback and orientation to the task at hand. Bindon (2017) reported that nurses participated in the learning process when the learning outcomes could immediately be applied to their practice. Knowles' andragogy, although developed in 1970, aligns with CAI to create a more significant learning experience for adults (Pappas, 2013). According to Pappas (2013), the application of Knowles' principles facilitates a range of benefits, including improved comprehension and boosts of knowledge (Pappas, 2013).

Review of the Broader Problem

Importance of continuous professional development. Due to changing environments, organizations are pressured to develop new innovative and competitive

learning tools that help their employees adapt to these changes (Carnoy, 2016). Due to the demands imposed by economic development and globalization, organizations are required to discover ways to strengthen their competitive advantages (Cheng et al., 2014). To have sustainable development, it is necessary for organizations such as hospitals to improve employee performance and learning (Cheng et al., 2014). According to Senyuva and Kaya (2014), continuing education courses are vital for nurses to maintain their training and career initiatives, and to improve professional competencies. To make sure that professional development initiatives meet the needs of nurses, it is necessary to know their perceptions and attitudes toward CAI, such that outcome goals can be realized.

Isolation and lack of professional support is a factor that affects professionals' decisions to continue or abandon their profession (Cherniss, 2016). Technological advancements can revolutionize the way professionals participate in professional development opportunities and continuing education programs (Bates, Phalen, & Moran, 2016; Vu, Cao, Vu, & Cepero, 2014). Professional nursing organizations and accrediting bodies require nurses from various disciplines, including those in nursing education, to engage in lifelong learning for several reasons (Burke, Richardson, & Smith, 2017; Coventry, Maslini-Prothero, & Smith, 2015; Harper & Maloney, 2016). First is the assurance that they will continuously maintain and enhance their practice in the form of lifelong learning, which is now considered to be a hallmark of modern nursing practice (American Nurses Association, n.d.). Healthcare practice pertaining to nursing is constantly changing with the emergence of new knowledge, research, government policies, and regulatory codes of practice, making it necessary for nurses to be updated

with new practice guidelines and skills (Burke et al., 2017; Coventry et al., 2015; Harper & Maloney, 2016).

Some studies have shown that nurses have positive perceptions with regards to online learning. Karaman (2011) conducted a study to determine nurses' perceptions of online continuing education and whether these perceptions were shaped by computer literacy, demographic variables, work and residential settings. The researcher discovered that while, in general, nurses held positive attitudes regarding online learning, these perceptions were based on how long they had been exposed to the use of computers and whether they were using computers (Karaman, 2011). Age, work experience, and geographical area of residence had no effect on these perceptions. As the study had a quantitative approach, the findings did not reveal the way nurses perceived the online method of continuous professional development. Karaman (2011) concluded that nurses benefit from online continuous training sessions regardless of their age, working experience, and area of residence.

Computer-Assisted Instruction

Over the years, changes in technology have impacted nursing practice and education alike. Nurses must embrace new changes in the way information is shared, certifications are attained, and continuing education programs are delivered (Weston & Roberts, 2013). Research related to e-learning or CAI cuts across many disciplines such as computer science, education, sociology, management, and psychology; therefore, organizations will benefit from a systemic comprehensive overview of all the literature

concerning this topic in order to gain a better understanding of its impact on employee performance (Cheng et al., 2014).

According to Taucena and Tamasila (2014), the leading advantages of CAI are that they support educational process, the practical use of educational resources, and the facilitation of gaining knowledge through simulation. Continuing education courses via CAI create opportunities of learning for individuals of varying ages and experience levels such that they have equal and open access to various learning experiences without any restriction (Senyuva & Kaya, 2014). Learning for nurses should provide opportunities that not only transform their lives, but also improve their intellectual levels, viewpoints, and advance their practice.

Advantages and Limitations of Computer-Assisted Learning

One of the major advantages of computer-assisted learning is that both prospective and actual learners can have increased access to information sources. Since instruction is self-directed, learners have a greater sense of responsibility toward their own learning experiences and progress. As instant feedback is also provided from online assessments, learners can immediately know the state of their progress (Mbuli, 2013).

Nursing education is rapidly changing; informatics and technology have revolutionized the workplace for many professional nurses (Huston, 2013). Nurses' proficiency and ability to learn content is affected by the method they deem the most helpful (Weston & Roberts, 2013). Therefore, it is essential to investigate learning methods that will help reduce or eliminate the existing training deficiencies in continuing education programs (Taucean & Tamasila, 2014). It is crucial to gain a better

understanding of the learning methods for nursing education that result in positive outcomes for patients (Weston & Roberts, 2013). According to Oigara and Keengwe (2011), twenty-first-century students are more active learners than their predecessors. Traditional methods of learning are becoming obsolete; therefore, educators need to devise new ways to engage learners (Oigara & Keengwe, 2011).

The necessity for practical continuing education for professional healthcare workers has grown over the years (Bluestone et al., 2013). Global demand, a shortage of skilled professionals, and more informed consumers have compelled healthcare organizations to create learning opportunities that are accessible beyond the classroom (Bluestone et al., 2013). The current literature has been inconsistent in terms of the best method to promote professional education, skills, and retention of knowledge (Esche, Warren, Woods, & Iliuta, 2015). Computer-assisted learning can significantly impact the amount of content a student receives, but the effects of engagement are not known (McGowan, Balmer, & Chappell, 2014). According to Eaton-Spiva and Day (2011), computer-assistive devices are effective tools to teach professional nurses, but they recommend further investigation in order to fully comprehend the impact of professional nurses' perception of CAI as a learning tool.

The usage of CAI has increased. However, according to researchers, there is ongoing debate regarding the degree to which it is effective in improving students' achievement (Mo et al., 2015). Research on technology-supported education has fallen short in revealing the degree of its impact on students' learning, attitude, and behavior change (McGowan et al., 2014). Researchers discovered that although CAI has an impact

on students' creativity and meta-cognition, no correlation with students' performance was identified (Gambari, Gbodi, Olakanmi, & Abalaka, 2016; Reid, 2017). An integrative review of the literature revealed that CAI indeed exerts a positive impact on cognitive, attitudinal, and procedural learning; however, the data must be interpreted with caution (Hara, Aredes, & Fonseca, 2016). Hussain and Farooque (2016) agreed that a significant amount of the data available on CAI is positive, and its integration into education could result in knowledge acquisition. However, they also noted the necessity for further research.

Lahti et al. (2014) found no statistical difference between groups that were enrolled in e-learning or CAI courses and those that were enrolled in traditional learning classes. No significance in nurses' knowledge, skills, and satisfaction was noted in those using CAI (Lahti et al., 2014) in contrast to traditional instruction methods. Hubackyoa and Klimova (2013) concluded that most existing CAI courses are not designed to fulfill the needs of all types of learning styles. According to constructivism, teaching needs to be adjusted for the individual learner (Hubackyoa & Klimova, 2013) if educators want students to learn. Hubackyoa and Klimova (2013) suggested that students who benefit from CAI are independent individuals who believe in their ability to master a task, like to learn, and have a positive perspective of CAI. The lack of motivation and feedback from CAI limits its effectiveness as a tool to learn (Hubackyoa, 2013). Many limitations or barriers affect the use or adoption of CAI, such as perception of technology and past experiences. Stone, Lukaszewski, Stone-Romero, and Johnson (2013) stated that poorly designed courses could have a negative impact on students' ability to adapt to CAI;

therefore, CAI courses should be designed to be in harmony with students' values and skills.

The Institute of Medicine reported that many healthcare professionals are not appropriately trained to provide safe, quality, and comprehensive care to their patients (Windth, 2016). Windth (2016) stated that the ongoing assessment of nurses' knowledge is inadequate, and that initial licensure does not measure nurses' competency throughout the course of their career. Educational programs that ensure and validate nursing competence are of great importance for better patient outcomes (O'Connor, 2017). Nurse professional organizations and, most importantly, patients need to be reassured that a certain level of RN competence is maintained, especially since healthcare has become more globalized and multinational today. Technological advances, such as continuing online education, have created an opportunity to provide low-cost, effective learning to large groups of professional nurses. According to Windth, participants in his study recognized that CAI had promising benefits for maintaining nurses' competency. However, they cautioned that an integrative approach of computer-assisted modules, annual skills, and hands-on practice would better address the educational needs of professional nurses. Several limitations related to computer-assisted learning have been documented. One of the most apparent limitations is that technologies are not infallible. Bandwidth availability in certain areas is still unstable, which makes CAI unreliable (Deschacht & Goerman, 2015; Noesgaard & Omgreen, 2015). A slow internet connection or an outdated computer can have the same effect (Clark & Mayer, 2016; White & Shellenbarger, 2017).

For learners who are used to traditional professional development programs or instructor-led training, participating in computer-assisted learning can be challenging. If the nuances of using the technology are not immediately adapted to, the learner can fall behind or withdraw out of frustration or boredom (Clark & Mayer, 2016; White & Shellenbarger, 2017). Some learners may be frustrated that they lack support when they want to ask a question, which may, in turn, lead to feelings of isolation (Clark & Mayer, 2016; Cook & Triola, 2014). Another limitation is the difficulty in calculating the rate of investment associated with CAI. Even though the costs associated with the training can be significantly reduced once the method has been implemented, the initial costs are substantial. However, such programs can be hard to quantify by employers or professional development practitioners (Clark & Mayer, 2016; Cook & Triola, 2014). If learners lack the basic computer skills necessary to engage in CAI, they may feel discouraged from the start. This could lead to a reluctance to participate in computer-assisted learning activities or anxious to continue them (Clark & Mayer, 2016; Cook & Triola, 2014). Time constraints in the workplace can serve as another important issue (Takalani, 2008), and lack of access to computers can make the learning approach futile for some prospective learners.

Studies have been carried out with an aim to evaluate the factors related to CAI success or effectiveness, such as the presence of organizational support, human interaction, navigable program design, relevant content, and computer literacy of the users, as CAI learning in the workplace relies heavily on the existence of support afforded by organizational leaders or employers (Fleming, Becker, & Newton, 2017;

Lwoga, 2014; Noesgaard & Orngreen, 2015). Supportive employers are those who provide their employees with the time to attend CAI learning activities on workdays, as the learning experiences of the employees can benefit the organization. However, as time spent away from work can reduce employee productivity in the short term, many employers are reluctant to make investments toward CAI education (Fleming et al., 2017; Lwoga, 2014; Noesgaard & Omgreen, 2015). Some organizational leaders may opt to limit the resources they provide for successful CAI. Human interaction is a crucial factor that affects CAI. The lack of this factor can be demotivating for some learners (Fleming et al., 2017; Lwoga, 2014; Noesgaard & Omgreen, 2015).

In the nursing profession, whose philosophy is largely based on caring for others, creation of opportunities to learn may prove to be difficult (Fleming et al., 2017; Lwoga, 2014; Noesgaard & Omgreen, 2015). It is assumed that among nurses who undergo continuous professional development through CAI, some find it rewarding while some find it challenging. In conducting a correlational study to assess nurses' feelings with regards to a computer-assisted program, Cobb (2011) found that most of the nurse participants were disappointed with CAI due to the limited human interaction involved.

Program design can affect the effectiveness of learning, as it involves the content, structure, visual appearance, and usability of the program, all of which can have an impact on the learners' interest and persistence (Lwoga, 2014; Noesgaard & Orngreen, 2015). Computer literacy is a key factor that affects how CAI is accepted. Some studies have found that participants devoted too much time acquiring computer skills and did not see the value of CAI as a learning method (Lwoga, 2014; Noesgaard & Orngreen, 2015).

Positive Effects of Computer-Assisted Instruction for Nurses

Nursing education has been impacted by the rapid advancements in the domain of computer information (Button, Harrington, & Belan, 2014). The impact is not limited to teaching and learning via technology but extends to the way in which nurses are expected to complete and apply CAI learning. Montenery et al. (2013) acknowledged that the prevalent methods or strategies of delivering education are challenging. However, they stated that it is the responsibility of nurses to keep themselves up to date with evidence-based practices that affect patient care. Montenery et al. (2013) also noted the increasing focus on experiential learning in nursing education. Bluestone et al. (2013) suggested that experiential learning, by allowing healthcare professionals to be interactive and to process and apply information, tends to provide for more effective learning.

Learning outcomes have a direct relationship with educational methods (Bluestone et al., 2013). Bluestone et al. suggested that clinical simulations, case-based learning, and practice and feedback are effective educational methods. Educational strategies such as didactic lectures or reading have little impact on learning (Bluestone et al., 2013). There is limited literature available regarding the impact of CAI on improved patient outcomes or improved clinical behaviors, but many studies have supported the notion that CAI could lead to improvement in clinical skills, knowledge, and clinical behaviors (Bluestone et al., 2013).

Rubenstein and Schubert (2017) concluded that technology provides digital and information literacy, which, in turn, promotes positive outcomes for patients. Although educators are often hesitant to utilize CAI due to growing concerns involving costs,

technology support, faculty involvement, and policies, the benefits outweigh the negatives (Rubenstein & Schubert, 2017). Healthcare technologies are a critical resource for improving quality and standards in the healthcare delivery systems (Ifinedo, 2016). The success of CAI, according to Han et al. (2016), significantly depends on healthcare professionals' satisfaction with the resources available to them.

Johnston, Massa, and Burne (2013) concluded that CAI should be viewed not as a substitute for traditional learning modalities but rather as an addition that complements or enhances the learning experience for students. Button et al. (2014) reinforced this idea after several years of reviewing the literature pertaining to CAI, explaining that students are more open to the concept of blended learning, which is a combination of traditional classroom and online learning. Popovici and Mironov (2015) stated that CAI offers benefits in terms of learning if educators can understand that users' hesitance to adapt to it is related positively with expertise and perception. It is important to consider the resistance of users before planning innovative teaching methods. If planning educational courses with CAI is appropriate, the evidence shows that the perception of CAI learning will improve once students can see its benefits (Popovici & Mironov, 2015).

The importance of perceptions related to technology is crucial to learning (Powers & Candela, 2016). The authors studied the impact of online learning on critical care nurses' perception of self-confidence in families' presence during resuscitation (FPDS). The authors concluded that online learning is feasible and practical (Powers & Candela, 2016). It is crucial to gain a better understanding of the way nurses learn, interact, and engage with CAI. Button et al. (2014) stated that there is an urgent need to develop

reliable quantitative tools or instruments to measure the influence of students' perceptions and effectiveness of CAI in their learning. Once established, these tools will provide reliable data that can help develop continuing education courses in order to meet the communication technological needs of evolving healthcare systems (Button et al., 2014).

Computer-Assisted Instruction in Nursing Professional Development

Healthcare organizations and nursing professional development practitioners face challenges while delivering staff education, as they need to consider and accommodate nurses' varying schedules, different backgrounds, diverse work experiences, and unique learning objectives and requisites (White & Shellenbarger, 2017). However, the provision of continuing education or educational updates using traditional face-to-face or in-person classroom delivery is less flexible and may not fulfil the needs of the healthcare industry and nurses in a timely, cost-effective manner.

Traditional teaching methods may not allow for instant updates regarding content changes or emergence of new information. E-learning, or CAI in general, has emerged as an alternative approach to delivering updated content to professional nursing staff members in a flexible, accessible, and learner-oriented manner (White & Shellenbarger, 2017). There is a growing body of evidence that supports that the use of learning management systems (LMSs) for the delivery of professional development content cannot be effectively implemented without consideration of several factors. One of the variables related to technology-assisted learning is careful planning regarding the

selection and evaluation of the most appropriate CAI platforms for the delivery of professional development content (White & Shellenbarger, 2017)

Technology in nursing education was recognized as normal and commonplace as early as 2003 (McNeil, Robinson, & Wilson, 2017). Across the nursing curriculum, technology is widely utilized through LMSs. They are used to facilitate nursing education by allowing for a virtual method to communicate, collaborate, and deliver content (De Smet, Valcke, Schellens, DeWever, & Vanderlinide, 2016; Fathema, Shannon, & Ross, 2015; Findik-Coskuncay, Alkis & Ozkan-Yildirim, 2018; Lochner, Conrad, & Graham, 2015; Rucker, Edwards, & Frass, 2015). Some studies have shown nursing students, whether pre-service or involved in continuing nursing programs, demand flexible learning strategies throughout their careers. Nursing students believe that they can learn more through collaborative efforts that technology-assisted learning can offer, rather than simply on their own (Rucker et al., 2015).

Scott, Baur, and Barrett (2017) claimed that health professional training and professional development have begun to increasingly involve the use of educational technologies through what is broadly labeled as the technology-enhanced learning approach. Technology-enhanced learning includes the use of both hardware and software to deliver content. Hardware can be computers or mobile devices or both, while software refers to the gamut of relevant applications, LMSs, and discussion boards.

Implications

The literature review revealed a gap with regards to nurses' self-efficacy and satisfaction in using CAI for professional development. Millitello, Gance-Cleveland,

Aldrich, and Kamal's (2014) systemic review of articles and studies focused on the value of CAI for healthcare professionals, as it relates to provider learning and patient outcomes. They concluded that CAI holds promise, but further research is needed. Researchers found that clinical practice can be impacted by educational methods that are multimodal and interactive (Mitello et al., 2014), but CAI should not be the only method utilized to improve performance. Zhao (2015) suggested that although CAI is an effective method to enhance learners' performance, it should be utilized in conjunction with other traditional learning modalities. Mitello et al. (2014) indicated that the success of CAI is directly related to the reliability of the technology and the user proficiency.

Researchers suggested that for CAI to be effective administrators or educators must consider their audiences, expected behavioral outcomes, learners' knowledge, and patient goals (Mitello et al., 2014). The increased expectations to improve patient outcomes and maintain the clinical competence of practitioners have created a more significant conversation regarding what the best method to deliver continuing education programs is. Mitello et al. (2014) suggested that effective continuing education programs tend to be multifaceted, longitudinal, and interactive. Cottrell (2013) agreed that CAI should cater to the needs and various learning styles of learners. Fostering learning environments that cultivate self-directed and collaborative learning is vital to the 21st century lifelong learners (Lee, Tsai, Chai, & Koh, 2014).

Lifelong learners of the 21st century are demographically and educationally diverse. Therefore, their perceptions of education modalities have a significant impact on the degree to which they are accepted (Diep, Zhu, Struyven, & Blieck, 2017). Strudwick

(2015) concluded that acceptance of technology among nurses had a correlation not only the perceived ease of use or perceived usefulness but also with other predictors of technology acceptance such as communication openness, feedback and communication regarding errors, teamwork within the hospital unit, and management support for patient safety. Although all predictors of technology acceptance were considered vital to foster an environment of safety, nurses' perceived usefulness and perceived use had a direct impact on the aforementioned factors (Strudwick, 2015).

The Future of Nurses: Technology Trends

Nursing education continues to gain from the integration of technology. Technology has allowed for teaching strategies to move in a direction that allows learners to be more engaged and controlling and become more critical thinkers. According to Risling (2017), the National League of Nursing as issued a call for educators to develop further programs or actions, to prepare students for technological healthcare. The NLN has highlighted a requirement for programs to teach about better interventions and outcomes when technology is a part of patient care. Nurses will be expected to be competent in terms of electronic health, wearable technology, data analysis, and managed care (Risling, 2017). According to researchers, only 69% of nurses practicing today state that they feel prepared to use technology (Risling, 2017). It important for nursing educators and faculty members to be prepared to confront the challenges that learners will face. Current and future nurses need to be competent professionals who embrace technology as an integral part of patient care.

The advancement of medical technology and societal changes have led to higher expectations from those who are a part of healthcare organizations (Chong et al., 2016). Chong et al. stated that healthcare consumers are demanding that nurses be clinically competent and possess technological expertise; patient care needs to be knowledge based (Chong et al., 2016). Studies have indicated that in order to meet these expectations, well-designed CAI programs are essential. Many other countries have incorporated CAI as a mandatory learning tool to help nurses meet continuing education requirements and competency skills (Chong, 2016). Park (2009) stated that the development of computer-assisted software and programs is essential, as healthcare providers are beginning to embrace CAI as a method of learning. CAI provides learners with an interactive learning environment that allows participants to build a network and encourage self-participation and active research (Chong et al., 2016). Parai, Shenoy, and Loh (2015) indicated that CAI indeed provides a new paradigm for students to learn course content and progress at their own pace. Numerous studies have suggested that if CAI is adequately designed and implemented, it could generate better learning outcomes than the traditional classroom methods (Parai et al., 2015). However, CAI or e-learning for nurses still requires an assessment of nurses' interests, preferences, attitudes, needs, and perspectives if administrator or educators alike want a successful continuing education program (Chong et al., 2016).

Summary

The review of the literature highlighted the value of computer-based instruction in the field of professional development, both for nursing and non-nursing fields. The

review also showed that CAI has both advantages and disadvantages. As many of these studies did not focus on nursing professional development, an existing gap was identified. While much of the research pertaining to CAI relates to its effectiveness as an education tool, there is a gap in the literature involving the way students perceive CAI in meeting their learning needs (Tolbert, 2015).

Section 2: The Methodology

The goal of this study was to gain a better understanding of hospital nurses' perceptions of their ability to learn content while utilizing CAI. This section will present the research design, the setting of the study, sample, population, technique, data collections and instruments, and data analysis.

Research Design and Approach

Creswell (2014) stated that qualitative research transforms the world through methods such as field notes, interviews, conversations, photographs, memos, and recordings to collect data. Such methods facilitate a better understanding of not only a social or cultural phenomenon but also its meaning (Robert Wood Johnson Foundation, 2015). Qualitative research designs employ a naturalistic, interpretive manner that helps make sense of the world (Creswell, 2014). Researchers use qualitative research to help them explore a problem or find an approach to the problem when they do not know what to expect (LoBiondo-Wood & Haber, 2014). They explore the factors that affect the problem. A qualitative research design was considered appropriate for this study because this design facilitated insight into nurses' opinions regarding CAI (Hammarberg Kikman, & de Lacey, 2016). The results of the study helped to fill the gap in practice related to why a high number of nurses do not engage in CAI. The findings from the study informed a project to affect positive social change through a professional development program focused on how nurses prefer to learn.

Although quantitative methods could have been used to investigate the research problem, determining the relationships between variables would not have provided the

insight needed to best address the problem. In a quantitative study, the nurses' point of view is lost. The aim of this research study was not to produce a systematic comparison of information but rather to illuminate the feelings or behaviors of professional nurses who are required to engage with CAI for learning purposes. The study helped gain a broader understanding of nurses' perceptions of CAI and highlight factors that contribute to their failure to complete their annual competencies. Informed from the research findings, positive change will occur if educators adjust their learning approach to meet the learners' preferences.

The chosen methodology and design for my study was a qualitative basic case study using a researcher-constructed protocol to conduct open-ended interviews with a selection of information-rich participants related to the phenomenon of interest. I interviewed 10 purposely selected nurses who represented various work environments to include the emergency room, home care, critical care, and medical-surgical units. I also interviewed eight purposely selected educators from the hospital who had oversight for areas such as critical care, the emergency department, and medical surgical units. This design is in accordance with the study problem and the research question, which asked "how," a fundamentally qualitative question (Creswell, 2014; Yin, 2017). The problem statement refers to an effect that is a consequence of the behavior and perceptions of the population studied, which also lent itself to the qualitative case study approach (Yin, 2017).

Study Design

A basic case study design was used because it facilitated a better understanding of CAI as a method for professional development and nursing education. A qualitative case study is descriptive in nature and allows readers to feel connected to the study. The basic case study facilitated an investigation into the way nurses interpret their experiences using CAI and the personal significance of that experience. A basic case study mode is best suited for a small group of individuals who use CAI. This study helped narrow the practice gap between how registered nurses perceive CAI as a method to provide them with professional development and inform interventions to meet nurses' educational needs.

Researchers who embark on qualitative studies use various methods such as case study, grounded theory, program evaluation, narrative inquiry, ethnography, and phenomenology as approaches to conducting inquiry into a problem (Lodico, Spaulding, & Voegtle, 2010; Merriam, 2009). Case studies are focused on understanding a phenomenon, problem, or concern within its contextual setting (Lodico et al., 2010; Yin, 2017) and are used by researchers to gain in-depth information about participants' behavior and cognitive thinking (Merriam, 2009). The main foundation of a case study is its subject and relevance (Shuttleworth, 2008). In a case study, the researchers deliberately isolate a small group, a population, or an individual to investigate a specific problem. In this study, the isolated groups were nurses and educators that worked at MMC. I wanted to understand their lived experiences with CAI and how that translated to their engagement of required annual reviews. A case study would allow the opportunity

to pursue changes in professional development modalities, but also to shed light on education challenges at MMC.

Semistructured interviews generated detailed accounts of nurses' and educators' individual experiences, which were used to identify common themes in order to inform the research questions. The case study addressed the way nurses interpreted their experiences involving CAI and the personal significance of those experiences. An explanatory case study design was best suited for a small group consisting of individuals who have similar experiences with CAI. It provided an opportunity for in-depth analysis and general understanding of the nature of the topic. An explanatory case study design allowed the participants and me to consider alternative and relevant aspects of the research topic.

Setting and Sample

The setting of this study was a hospital in the Northeastern part of the United States. The hospital has multiple campuses, but I purposely selected study participants from a single clinical site.

Participants

Researchers employing qualitative studies are sometimes conflicted about the number of participants necessary to achieve saturation. Creswell (2014) suggested that 15-20 participants comprise the smallest acceptable sample for studies employing a qualitative design, whereas other researchers have different recommendations. Marshall, Cardon, and Roddan (2013) suggested that 15-20 participants for single case study research is sufficient to evoke saturation. In studies using qualitative research, the

inclusion of a greater number of participants, such as 30 or more, does not improve the results of the study. Guetterman, Fetters, & Creswell (2015) stated that sampling is important in qualitative research because it involves the selection of the most critical participants who will present the most vital information and create the greatest impact on the development of knowledge.

I used a purposeful sampling method to recruit information rich cases. According to Palinkas et al. (2016), purposeful sampling is a technique used in qualitative research for the selection and identification of information rich participants. Purposeful sampling allows researchers to identify groups or individuals that have experience or knowledge on the research topic. These participants can communicate their experiences in a reflective, expressive, and articulate manner (Palinkas et al., 2016), thus creating an environment of trust. Communication is fundamental to understanding, and if participants are not allowed to communicate effectively and freely, the opportunity to secure information related to the research topic is missed.

I interviewed 10 nurses from a staff of 3,000 from various disciplines and eight nurse educators from a population of 100. All participants were full-time nurses that were required to complete annual education competencies via CAI. All nurses who participated possessed bachelor's degrees in their discipline as this is an employment requirement at MMC. Participants had at least one year of employment with MMC. Full-time employees have more experience with CAI as a result of orientation, continuing education courses, and innovation classes. Annual competencies are not required upon hire but are required after six months of employment.

Nurse educators who participated in this study were required to have one year of teaching experience and include working with CAI as a learning tool. They had a minimum of a bachelor's degree in nursing and earned specialized credentials in their area of professional practice. As part of MMC's, employment requirements, clinical educators had at least five years of nursing experience and earned a teaching certificate. This was important because educators with one year of experience or more had knowledge and experience with the ongoing challenges with CAI, and participated in creating learning modalities for professional continuing courses. According to the Daily Nurse (2017), nurse educators can help identify opportunities to improve processes, mitigate risks, and mistakes. However, before an educator can inform positive changes to a problem, he or she must have the requisite clinical experiences to understand all facets of the problem under exploration.

Nurses and nurse educators with varied ethnic and racial backgrounds were selected to reflect the diversity of the staff. The participating nurses and clinical educators represented different departments such as the emergency room, home care, critical care, and medical-surgical units. By interviewing staff from different departments, I was able to gain a better understanding of whether incomplete CAI learning was a systemic problem within the hospital. The participants were all over the age of 18 with no disclosed emotional, physical, or psychological disability. All employees were required to be fluent in English; therefore, all participants were able to read and write in English.

In qualitative studies, saturation is a goal of data collection (van Rijnsoever, 2017). This occurs when the researcher hears similar responses during interviews from

participants and no new information emerges (Creswell, 2014). Ritchie, Lewis, and Elam (2003) stated that, in qualitative studies, excessive data will not always lead to more meaningful information. One occurrence of data or a code is all that is necessary for it to become a part of the analysis (Rijnsoever, 2017) and helps create a better understanding of the research problem. It is important to sample until the researchers feel that new insights or information are not being offered. Qualitative studies focus on not only the topic but also the transferability of findings (Mason, 2010). Samples for qualitative research must be large enough to ensure that all perceptions are accounted for but are not repetitive (Mason, 2010).

The selection of participants occurred after Institutional Review Board (IRB) approval was obtained from Walden University and MMC (08-26-19-0518130). The Walden University IRB is an administrative body that protects the welfare of recruited participants in any research making sure researchers follow specific guidelines. Unit managers and educators were informed about the research study including its purpose, the 1:1 semistructured interviews, and planned reports of the findings, and administrators were assured that participation in the study would not negatively impact patient care. As per the preference of the participants, interviews were conducted either during the lunch break or after work hours.

Gaining Access to Participants

Flyers recruiting participants (see Appendix B) were approved by the hospital administration before being posted in the nurses' lounge, patient units, break rooms, conference halls, hospital cafeteria, and administrators' offices. Kondowe and Booyens

(2014) stated that communication is key to the collection of data, and to build rapport, and create a relationship of trust. The nurses interested in participating in my study were asked to email me and let me know of their availability to be interviewed. Participants were contacted within two business days of receiving their email, and I followed up with a phone call to answer any questions posed and to ascertain that they were full-time employees and enrolled in a CAI annual education competency. Qualified RNs were asked to participate in the study voluntarily. An appointment was made to schedule a 1:1 face-to-face interview that was mutually convenient.

I reached out to all nurse educators from MMC by sending them an email. The email contained my name, contact information, the purpose, and the intent of my study. The email clearly stated that their participation was confidential, and it was on a volunteer basis. The interview took place where clinical educators felt comfortable and at ease. Interviews could take place on or off campus.

Researcher–Participant Working Relationship

To build relationships with the participants of the study, it was important to be flexible and ready to adapt to any new situation (Kondowe & Booyens, 2014). According to Buckley and Doyle (2017), flexibility provides an opportunity of awareness to every participant's concerns, styles, and needs. Researchers who cannot be flexible and lack the ability to adapt to situations risk losing valuable information from the participants who may feel pressured or uncomfortable expanding on responses to interview questions.

Participants were assigned numbers at the beginning of data collection. They were made aware of their rights to elect to terminate their participation at any time without fear

of reprisal. I disclosed to the participants that I am a full-time employee of the hospital and a doctoral student at Walden University. Educators were informed of my name and place of work. If a potential participant was a former colleague of mine, he or she was excluded as a participant to minimize researcher bias. MMC has several campuses and my research was conducted at the main campus where I am not employed. I had no supervisory role or influence in the creation of educational programs. The participants were told that no extra credit, compensation, or gift would be given for participation. Their participation was strictly voluntarily.

Protection of Participants' Rights

Participants were made aware that each interview would be coded in such a way that it is not possible to trace information back to any specific individuals, thereby protecting their identity. The data is only available to me and my doctoral committee. No data affecting participants' financial status, employment, or reputation was collected. The participants were given information about the research purpose, description of procedures, and the length of participation. Interviews were private, face-to-face, confidential, 60 minutes long, and held in a private, closed setting of the participant's choice. The participants were notified that participation in this study would not result in any risk or discomfort. They were informed that their participation will help improve educational modalities of the institution and not the individual.

It was important for me to develop a relationship with the participants during the interview process. According to Smith (2009), it is vital for the researcher conducting a qualitative study to draw specific descriptions of the participant's experiences as it relates

to the research. I have been a nurse at this institution for twenty years, and there was a slight possibility I may have been acquainted with some of the nurses. To minimize researcher bias, former colleagues were excluded from participation in the study. For participants who were selected to participate, I did not have any role in their continuing education programs or prior knowledge of their experiences with CAI.

At the time of the interview, the participant was reminded of the purpose of my research and were provided time to ask any questions desired. I had all materials needed and in ready working order prior to the arrival of the participant. Before the interview began, I asked participants for their permission to record the interviews and explained that a transcript of the completed interview would be provided for their review. Participants were told that upon receiving the transcript, they were free to make any additions or deletions to the document.

In qualitative studies, the researcher becomes the "human instrument" for the collection of data (Bahrami, Mohammad, Ameneh & Ranjibar, 2016, p. 1). I paid attention to details and interpreted the significance of the nurses' experiences. It was important to be attentive to the uniqueness of each participant's experience as he/she was more likely to divulge personal and intimate experiences if he/she trusted me.

Data Collection

Quantitative research methods include questionnaires, surveys, or experiments; however, in qualitative studies, the primary tool is the researcher (Merriam, 2009). According to Sutton and Austin (2015), qualitative studies generate a significant amount of information regardless of the purpose of the study or the researcher's point of view.

The researcher collects the necessary data from semistructured interviews, observations, and documents collected from participants (Sutton & Austin, 2015).

Interviews-Staff

Interviews were conducted face to face to collect the most valuable data. The dialogue between the researcher and participant is relevant to the study (Merriam, 2009). My first step to gathering data was to interview 10 nurse participants and 8 nurse educators of the hospital. Before the interview, I obtained permission from the division nursing director and the unit managers. Prior to interviews, I provided them with the information regarding the intent and purpose of the study

Nurse Educators

Clinical nurse educators were informed about the purpose of the study and intent.

Emails were sent to confirm the time and place of the meeting. Nurse educators were given a different set of interview questions from nurse participants (see Appendix C).

Interview Questions

Two experienced doctoral professors from Walden University who serve on my committee reviewed the questions and provided suggestions in order to facilitate clarity. According to Creswell (2014), the questions used during the interviews should be validated by experienced researchers to obtain the feedback necessary for the study. Birt, Scott, Cavers, Campbell, and Walter (2016) advised member validations are justified by wisdom and the experience they have for verifying the information. Table 1 illustrates the interview questions that were aligned with the research study.

Table 1

Interview questions aligned with research study questions

Research question	Interview question
Research Question 1: How do registered nurses describe their experience with CAI as a method for professional development?	1. What is your opinion on computer-assisted instruction? 2. Do you think past your past experience with computer assisted learning is a factor in you engaging in CAI? 3. What do you perceive to be the purpose of computer-assisted instruction? 4. What do you perceive to be some benefits of computer assisted instruction?
Research Question 2: How do registered nurses perceive CAI as a method for meeting their professional development and continuing education requirements?	5. Do you think that nurses are able to learn content effectively with computer-assisted instruction? 6. What do you perceive to be some limitations of computer assisted instruction? 7. In your opinion, what are some of the best methods of learning for nurses in a professional setting? 8. How does computer assisted instruction help you achieve learning?
Research Question 3: How do nurse educators perceive CAI as a method for meeting professional development and continuing education requirements of the nursing staff?	9. Why do you think nurses are not completing their annual reviews? 10. Do you think that nurses are able to learn content effectively with computer-assisted instruction?

Interview Questions 1-4 aligned with research question 1 and were asked to gain a better understanding of how experience with CAI affects the annual completion rates or to elicit any limitations participants had with engagement in CAI. Interview questions 5-8 were posed to align with Research Question 2 to understand how perception of CAI as a tool of learning impacts a nurse's ability engage in learning with CAI and to elicit suggestions to improve compliance. Interview Questions 9-10 are directed towards nurse educators' perception of challenges of CAI to discover why nurses are not completing annual reviews. The purpose of Research Question 3 was to gain a better of

understanding of educational challenges and to elicit other teaching methods that could be used for professional development.

Interviews

Creswell (2014) stated that the researcher needs to take control of the interview by providing participants with an interview protocol detailing the introduction, the length of the interview, and a review of the questions. The participants agreed with the location and time of the interview. The interviews were 45 minutes to an hour long and were audio-recorded. I began the interview with a familiar question to help the participants feel comfortable and then transitioned to more detailed questions. The following research questions guided the interview:

- R1: How do registered nurses describe their experience with CAI as a method for professional development?
- R2: How do registered nurses perceive CAI as a method for meeting their professional development and continuing education requirements?
- R3: How do nurse educators perceive CAI as a method for meeting professional development and continuing education requirements of the nursing staff?

I audio-recorded all interviews and later verified them with the handwritten notes taken during the interviews. All interviews were conducted in a private room or office within the hospital.

Data Collection Instrument

The data was collected from the field notes, and transcribed audio-recordings. Field notes allow the researcher to track comments or impressions of the participants' behaviors, non-verbal cues, and environmental factors that cannot be captured through audio-recordings (Sutton & Austin, 2015). These field notes were written in an informal manner in a small notebook at the time of the interview (Sutton & Austin, 2015). The notebook I used to write information that aided in the data analysis was secured in a similar manner as the other information collected through transcripts or audiotapes.

The data collected during the initial phase is protected using both numerical and fingerprint passwords. The data was stored on my personal computer and will be kept there for five years and deleted after that time. Transcribed documents have no identifiers that pose the risk of revealing the identity of any participant either to the researcher or the hospital. The members of my doctoral committee and I will have access to the data, which was reviewed by Walden faculty to check for accuracy.

Data was collected through semistructured interviews and note-taking during the interviews. Semistructured interviews provided the flexibility to probe or explore the pre-established questions. Interview questions ensured that the time allotted was used productively and semistructured questions facilitated a systematic and compressive interaction with the researcher. It kept the interviews focused. If the participants went off track, I rephrased the question and confirmed with them whether I understood what they stated and posed another question for clarification if necessary.

Data Analysis Plan

Qualitative research is inductive in nature. Themes tend to emerge from the data collected. It is important to be creative and accept the challenge of placing the data in meaningful and logical categories. Emerging themes are coded and organized accordingly. Data should be examined in a holistic way and presented in a comprehensible manner (Elliot, 2018). According to Elliot (2018), coding allows the researcher to analyze the data by taking it apart before putting it together in a meaningful way.

I transcribed the audiotapes of all the interviews conducted with nurses, and nurse educators. During the interviews, I kept notes to help increase the accuracy of the transcriptions. Field notes help the researcher keep record of the things he or she hears, sees, experiences, and thinks (Phillipi & Lauderdale, 2018). These notes proved to be a valuable source of information as I analyzed all data collected.

Creswell (2014) suggested that qualitative computer analysis programs are useful for organizing, identifying, and storing all the data collected. I transcribed all the data obtained during audio-recordings into a written layout. According to Jacobs (2019), transcribing the data has several benefits to include keeping a written record of interviews, saving time with data analysis, keeping accurate research accurate, and making it easier to share information with others. A time slot of 6–7 hours immediately following an interview was set aside to transcribe audio-recordings into a written format. Information transcribed into a written format was reviewed for emerging themes or codes.

Coding Procedures

The data analysis for this study began by coding each interview line by line. I wrote short phrases on the margins that described the participant's' comments or responses. Creswell (2014) suggested that formulating codes prior to interviews is the first step to analyzing data. After coding the data, I then began to develop a categorization scheme to combine similar codes to reduce redundancy.

Accuracy and Credibility

In qualitative research, it is important for the researcher to review the process and the end product. It is important to achieve consistency while working with qualitative data. The credibility of the study was enhanced through member checking. This allowed for participants to clarify any information, and correct errors or provide me with any additional information pertinent to the study. Participants did not change any of their data. Data was collected from nurses and nurse educators. It is important to make the data available to other researchers for analysis, to conduct member checks, and to corroborate the findings (Lincoln & Guba, 1985). This technique allows for the data interpretation, and conclusions to be shared with participants.

Limitations

Limitations of this study included my novice level of experience in conducting interviews and analyzing and reporting the data obtained. The nature of a convenience study limits data collection to one site and therefore, it is important to use caution when generalizing the study findings to other sites. Another limitation of the study is that it relied on the assumption that all participants were honest with their answers.

Data Analysis Results

Annual education reviews through CAI are hospital mandated and although 100% completion by staff is expected at MMC, completion rates were below 50%. It was unclear why the completion rates were so low because, and until my research was conducted, no qualitative investigation was done to explore this low compliance issue. A lack of research created a problem for MMC because there was no information available to answer the "why" question concerning the low compliance rate. The purpose of this study was to gain a better understanding of nurses' perceptions of CAI and how it impacted not only their annual completion rates, but also their learning.

Semistructured Interviews

The studies criteria for nurses were (a) employed at MMC for more than a year, (b) baccalaureate prepared, and (c) had previous experienced with CAI. The nurse educators who were accepted to participate met the criteria of: (a) 1 year of teaching experience, (b) had specialized credentials, and (c) earned a teaching certificate.

I used a self-developed questionnaire for both staff nurses and educators (see Appendix C and D). The questionnaire allowed me to ask open ended questions to elicit participant feelings, experiences, and challenges of learning with CAI. I transcribed all interviews from audio recordings and field notes to assist with data analysis. There are many approaches for qualitative study data analysis, but all are thorough and seek to demonstrate rigor in the study design (Maher, Hadfield, Hutchings, & de Eyto, 2018). Coding of the data was multifaceted. First, I assigned open codes to patterns of data regarding perceptions of CAI. The data was organized by emerging themes such as time,

experience, and relevancy. I assigned labels or short phrases to words that kept recurring in each participant's response. For example, participants kept using phrases such as "I need more time", or "I have never done this before". Secondly, after a rigorous amount of proof reading, I created a system of axial coding to illustrate the relationship between those patterns and themes that emerged in the data. For example, participants reported an increase in compliance of annual reviews via CAI if they had more time, experience, or valued the subject matter.

Creswell and Poth (2018), indicated that axial coding is a crucial component of data analysis as it helps establish relationships from open codes. In Table 2, samples of open and axial codes appear along with related themes.

Table 2

Examples of Open and Axial Codes

Open codes	Axial codes	Themes
Education	Previous curriculum training and previous employment training	Experience
Time, schedule, availability of computers	Manager support, resources	Flexibility
Course materials, content, what are we learning and why	Class components/Purpose of class	Content

Development of Patterns, Relationships, and Themes

Central to qualitative analysis is the discovery of themes, relationships, and patterns of data. As per Meriam (2009), it is important to group data into themes or categories because it provides a systemic, insightful way of organizing the data.

Systematically organizing the data in this matter facilitates the disclosure of the data to preserve validity and credibility (Nowell, Norris, White & Moules, 2017).

Upon analyzing the data, five different categories emerged: (a) self-paced learning (flexibility), (b) time, (c) content, (d) importance to the job, and (e) how and what is learned. Secondly, I crossed referenced the data for relationships and patterns between categories. Thirdly, I examined the data for theoretical framework alignment to Knowles's and Davis's theories (see Table 3).

Table 3

Themes Aligned With Knowles's and Davis's Theory

Interview Question	Summarized Question	Codes/Knowles' Theory	Codes/ Davis Theory
IQ1: What is your opinion on computer-assisted instruction?	Flexible, easy to use, I could use it at any time, not my favorite	Self-concept	Perceived acceptance
IQ2: In your opinion, what are some of the best methods of learning for nurses in a professional setting?	Classrooms, 1:1 with educators, small groups, conferences	Self-concept Adult learner experience	Perceived acceptance
IQ3: Why do you think nurses are not completing their annual reviews?	"Managers don't set time aside from work to do them" Boring, "I am not interested in them"	Motivation to learn Readiness to learn	Perceived acceptance Perceived ease Perceived usefulness
IQ4: Do you think that nurses are able to learn content effectively with computer-assisted instruction?	Computers are great tool, sometimes, it depends on what we are expected to learn	Readiness to learn Adult learner experience	Perceived acceptance Perceived usefulness
IQ5: What do you perceive to be some benefits of computer assisted instruction?	I could do it on my own pace, I have privacy.	Readiness to learn Self-Concept	Perceived usefulness
IQ6: What do you perceive to be some limitations of computer assisted instruction?	Computers can't explain fully why a question is wrong, too much content in one seating	Self –concept Adult learner experience	Perceived usefulness
IQ7: What do you perceive to be the purpose of computer-assisted instruction?	To make it easier for managers or educators to give us work, cheaper for the organization	Self-Concept Adult learner experience	Perceived acceptance Perceived usefulness
IQ8: How does computer assisted instruction help you achieve learning?	All the information is at my fingertips, convenient, available at all times if I needed it	Self –Concept	Perceived usefulness Perceived ease
IQ9: Do you think past your past experience with computer assisted learning is a factor in you engaging in CAI?	I think it makes it easier, If I understand how to do it I am not scared of it.	Adult learner experience	Perceived usefulness
IQ10: As nurse educators, what is your perception of CAI in meeting professional development goals?	Expensive tool, it should not be used for everything, interactions with nurses is important to get their feedback	Adult learner experience.	Perceived usefulness Perceived acceptance

Findings From the Study

The purpose of this study was to gain a better understanding of staff and nurse educator perceptions of CAI to discover contributing factors for low completion rates of annual education reviews. Three guiding research questions were developed to explore the nurses' experiences with CAI. After reviewing the data, certain themes emerged and are listed below as it pertains for each question.

Research Question 1

Research question one asked: How do registered nurses describe their experience with CAI as a method for professional development? The interview question encouraged participants to share their experience this method of learning and explain how it affected their ability to engage in CAI educational courses.

After reviewing the data, 5 out of 10 nurse participants felt experience with CAI was key for them to be able to engage in CAI education modules. Many of the participants either had minimal or no experience in learning with CAI. As per the comment of P5, "I did not learn like this when I went to school", shows the importance of feeling at ease with computer assisting learning to increase compliance or engagement in learning. P3 stated "I love computer learning, I had many of my class assignments on the computer", and this response shows developed self-efficacy with CAI to engage in professional development courses. It is relevant that participants with past educational experiences using CAI were more likely to use or like this method of learning.

Theme for Experience: Computer Assisted Instruction

The main theme of experience was centered on how nurses were trained in school as pertained to passive learning versus CAI learning. Five of the nurses interviewed for this project study received their nursing degree via traditional methods of learning. Their educational background and training were in the classroom with face to face instructors, textbooks, colleague collaboration, and interactions. Many of the participants had to learn computer skills on the job or take additional courses in continuing education programs provided either by MMC or on their own. The other 50% of nurses were trained with CAI as part of their curriculum. Their familiarity with the objectives of CAI, the methods, benefits, and ease of it allowed them to be more comfortable. As for this group of nurses, they felt more comfortable with CAI, so their completion rate of annual reviews was 100%. I assigned the attribute of ease of use and useful to experience. P5 shared this response, “I never worked with the computer, but it would be easier to learn if it was used in college during my training”. P3 shared a similar response explaining, “I did many of my continuing education courses at my previous employment, so I feel comfortable doing it”. P2 stated, “I have worked with computers for a long time, it’s easy” therefore “I help others when I can,” which aligns with both Knowles’s and Davis’s theory of how experience is an integral part of an adult learner.

Participants taking part in the study were asked to describe how their past experience with technology affected their completion rates of annual reviews and two emerging themes were noted: (a) whether their earlier training involved computer assisted instruction, and (b) whether computer assisted instruction was new to them and if

they learned on the job. Fifty percent of nurses felt that completing their annual reviews via CAI was not challenging or difficult due their experience in school with this method of learning.

Research Question 2

In RQ2 I asked, how do registered nurses perceive CAI as a method for meeting their professional development and continuing education requirements? I was able to use questions from Appendix E to assist in gaining a better understanding of participants' perception of CAI as an effective learning tool to meet requirements and professional development. I wanted participants to share their perceptions in four areas such as (a) what professional development consists of for that individual, (b) how easy is it to meet continuing education requirements (c) what learning enabled them to be better practitioners, and (d) how helpful CAI is in learning what was needed for current practice. About 80% of nurses felt that although CAI helped them complete their annual reviews, but of that number, about 50% felt it was not the best method for professional development. Table 4 indicates some of the responses for this question.

Table 4

Responses Related to RQ2

Nurse participants	Response to Research Question 2
P2	"I don't like this method of learning; I find it boring"
P6	"CAI seems like a good tool to learn, and it is always available, but it does not give me the feedback I need to feel that I am learning"
P4	"I think part of learning is having the opportunity to ask questions for clarification, but CAI does not give me that opportunity"

Half of the nurses interviewed attributed professional development to be conferences, continuing education courses on and off college campuses paid by the hospital, or onsite training with vendors. P 10 shared this comment "I prefer to attend conferences with other nurses or organizations that focus on what the nurses' need or provide information on evidence-based practices that help me with my day to day job". P8 responded "I enjoy classroom instructions or classes they had in the past such as critical care, preceptor, or EKG classes not these computer modules we have now". P10 also shared that computer assisted instructions courses tend to be repetitive and not updated as often as some traditional courses taught in classrooms, conferences, and job site learning. P1 stated "Computer may make things easier, but I don't think I learn much from them".

Theme for Orientation to learning: Job relevance/Immediacy of application

The theme of job relevance or immediacy of application emerged as evidenced by the statement of P10, "I don't think the problem is the computer, but the material or modules they are using". This comment emphasizes that that nurses value learning that is specific to their areas of expertise. Nurses understand the importance of learning but give worth to activities that will enhance their practice. P4 commented "I am not interested in computer work; I see it as busy work", shows that perception of relevance and ease are importance aspect to consider when creating professional development programs for nurses. P8 expressed that "my managers don't ask me about what I learned using CAI, so it is not important". P2 shared this response, "I think these assignments take time away from the patient". P2's response is reflective of the perceived value of CAI not as a tool for learning, but a deterrent from patient care. Although, P10 and P8 expressed that CAI is a great tool to engage in professional development courses due to its flexibility and accessibility, they do not attribute their success to CAI alone.

Research Question 3

In question, RQ3 I asked: How do nurse educators perceive CAI as a method for meeting professional development and continuing education requirements of the nursing staff? I wanted to gain a better understanding of nurse educators' perceptions of CAI at the hospital. Nurse educators are an integral part of nurses' professional development and practices at this institution. Their responsibilities at the hospital go beyond the classroom and are vital in changing educational policies and modalities as they advocate for nursing

education. They assess key problems within the network and create solutions that not only helps the nurses improve their practices but promote optimal patient outcomes.

Although, 100% of nurse educators interviewed for this study agreed that CAI allows nurses with more flexibility, immediate access to information, and the ability to learn at their own pace, they agreed it has many challenges. Participant/Nurse Educator 1 (PN1) stated, “I think nurses would enjoy computer assisted instruction courses more if they are given the time to do it”. PN1 also stated, “I think nurses are over stretched and although they are required to complete annual reviews, it is not a priority for them at this moment, nurses are more interested in taking care of their patients”. PN8 shared similar feelings by stating, “Computer assisted instruction is useful in some instances such as mandatory yearly classes such as sexual discrimination courses, but not for all contents”. PN4 stated that “computer assisted instruction courses have provided the ability to reach more nurses across the hospital, but I am not clear if the nurses learned anything”.

Nurse Educators Emerging Theme: Time

Nurse educators talked about the importance of allowing the nurses time to participate in mandated annual education. The simple task of assigning time slots by managers for nurses to complete annual reviews sends a strong message that their professional development is important. Pertaining to low compliance, PN5 stated, “it is not the nurses’ fault, they don’t have the time”. PN1 stated that “nurses complain that managers should schedule a time slot during the shift for nurses to complete their annual reviews, if not it is very difficult”. Similar sentiments were shared by PN3 who shared, “nurses are too busy and patient care comes first, if nurses are not given time or paid for

their time the annual competency rates will never go up". Time is a key component of adult learnings. Although, computer assisted instruction promotes self-paced learning and self-orientation, if staff are not given time to completed mandated training, learning does not take place.

Conclusion

The purpose of this study was to gain a better understanding of nurse's perception of CAI and professional development. I interviewed 10 nurses and 8 educators at this hospital to learn about their perceived experience with CAI. Findings from my study will provide nurses educators and administrators at MMC with meaningful information that could help not only increase completion of annual reviews, but also inform educational policies and or educational modalities that are be suited for professional development.

This study sought to elicit a better understanding of nurses' perception regarding the best method for engaging staff RNs in continuing education. Although hospitals are focused on providing nurses with the resources, they need to offer more informed and comprehensive care to their patients, the methods employed need to be evaluated for their efficiency. Cheap and faster methods such as CAI are beneficial to this end; however, it is important to discuss other methods of education that can enhance nurses' continuing education experiences. Perceptions significantly impact the way educational tools are accepted and require further investigation. Educational tool or methods are vital to learning to capture the user's past experiences or perceptions. Though CAI has been praised as an excellent tool to learning in various settings of education, it is important to understand its impact on nursing education. As nurses advance their presence as integral

members of interdisciplinary health care teams that impact patient care, it is important that educators assess the best method of learning for professional development. This study promotes positive social change by using the results of the data analysis to inform stakeholders regarding the best methods of learning for nurses.

According to the AACN (2017), a nurse's knowledge and competencies is directly impacted by their level of education. Throughout the years, AACN has encouraged employers to create learning environments that embrace different learning styles, professional development, and lifelong learning. Professional nurses are valued for their leadership, critical thinking skills, knowledge, and competencies. Cho et al. (2015) stated that there is a correlation between patient's mortality rate and the level of the nurses' education. More studies are required to support this theory. My study provides additional information on perceived challenges of CAI and help change policies and procedures on how annual competencies are administered.

Section 3: The Project

Introduction

This section includes discussion of the purpose, learning, scope, and sequence of events for the professional workshop that was informed by the study findings. I designed a 3-day workshop to help nurses, educators, managers, and administrators better understand nurses' perceived challenges of CAI and how this affects not only annual review compliance rates but learning in general. In addition, the workshop sessions and group activities may provide resources that will help nurses, educators, managers, and administrators work collaboratively on changing how professional development courses are administered at the hospital. The target audience for this workshop will include nurses, educators, managers, and administrators. The goal of the workshop was to empower participants with a better understanding of the importance of how time, experience, and content are relevant to learning when using CAI. The workshop will be hosted by the learning network at MMC, and I will act as facilitator of the 3-day event. The purpose of the workshop is to help nurses, educators, managers, and administrators restructure teaching modalities at MMC to promote learning. I will include the budget, materials, objectives, evaluation, and implementation plans, and PowerPoint presentations as well as the daily schedule of the workshop (see Appendix A).

I interviewed 10 nurses and eight educators, asking them to share their experience with CAI to address the questions about the low completion rate. After conducting semistructured interviews and analyzing the collected data, I created a 3-day professional workshop to share the study's findings with nurses, educators, managers, and

administrators, and to actively discuss better ways to administer CAI courses at the hospital to increase annual competency rates. Positive social change is accomplished by promoting self-knowledge, social justice, equality, collaboration, and service among key stakeholders through life-long learning.

Rationale

The results of the study provided insights into why there is a low CAI completion rate of required education modules. A professional workshop focuses on the collaboration between participants to create change within the learning network. Due to the current complexity of healthcare, interprofessional collaboration is essential for improving patient care (Wojciechowski, Pearsall, Murphy, & French, 2016). According to Paguio and Yu (2019), it is important to establish measures to improve nurses' work environment to address poor outcomes. A sustainable or favorable nurse work environment leads to positive outcomes.

Workshop participants will include the president of the hospital, managers, director of the learning network, nurse educators, and nurses with varied experiences in CAI. Using Lippitt's seven-step change theory (1958) as a guide, I examine how members of this organization could collaboratively implement the seven steps. I also aligned the project with the research questions, Knowles's theory of andragogy, and Davis's TAM.

The results of the study clarified that additional information, collaboration, and support needs to be shared with the hospital staff not only to address the learners'

preferred methods of knowledge acquisition but also to discuss evidence-based practices to restructure or facilitate learning.

Review of the Literature

The findings of the data analysis indicated that administrators, educators, and managers need to collaborate in order to affect positive changes and assist nurses meet learning objectives. The literature review was conducted using database from Walden University, which included CINAHL, ERIC, ProQuest, and Google Scholar. The key used terms used across all databases were *computer assisted instruction, learning, nurses, nurse educators, collaboration, theory, technology,* and *professional development*. The literature review provides critical analysis of how conceptual frameworks and research support the project. I discuss how each step of Lippitt's seven-step change theory (1958) applies to this professional workshop through the literature.

Step One: Diagnose the Problem

The nursing profession embraces profoundly challenging work, and in order to successfully meet the demands of the profession, nurses require more than monetary compensations, but also tools to meet the demands of their profession (Malloy, Fahey-McCarthy, Murakami, Choi, & Hirose, 2015). Clendon and Walker (2015) stated that over the last decade the profession of nursing is rapidly evolving. The nursing profession has new scopes of practices, professional practice models, and roles of responsibility in professional practice (Walker et al., 2015). Professional practice expectations and educational needs for evidence-based practices led to a need for change. Organizations such as the American Nurses Association (n.d.) encourage nurses to be the voices of

change by speaking up about the reasons for their limitations or challenges to ensure that they can effectively do their job. Nurses need to convey that low rates on annual reviews reflects management's inability to value the importance of time, experience, and content. According to Conventry, Maslin-Prothero, and Smith (2015), the inability to complete or effectively take part in professional development courses negatively impacts competence to practice, quality patient care, patient safety, satisfaction, retention, and recruitment.

It is important for decision-makers and administrators to be involved in all discussions of change to capture participants' feedback about their experiences, challenges, and perceptions of the task at hand (Harris et al., 2015). This is an investment in the future of nurses (Conventry et al., 2015). It is vital for managers and administrators to ensure the success of their nurses. Adult learners learn best when they are motivated, when the quality of the curriculum is high, when instructions are clear, relevance is evident, and progressive assessment and feedback are taken into account (Songurro, 2015).

According to Lippitt's seven-step change theory (1958), members of the committee responsible for changes need to (a) initiate plans, (b) create a supportive environment, (c) select key stakeholders to support change, (d) value participants' input, and, (e) ensure that the appropriate team is selected and has the authority to act. Hence, the members invited to the 3-day professional course will be nurses, educators, managers, administrators.

According to Brewster, Aveling, Graham, Tarrant, and Dixon-Woods (2015) improvements in healthcare are only effective when leaders understand how and why

they work. Evaluation of the problem, low compliance rates of annual reviews at MMC, could arise from lack of understanding about the learners' needs. Brewster et al. (2015) suggested that employees' negative behaviors cause tensions between managers and their staff. Negative behaviors are a result of a lack of shared understanding of goals, relationships, responsibilities, and confusion about roles (Brewster et al., 2015). It is important to establish trust, dialogue, and understanding. Participants in the study shared their experiences that management or educators were not always present to clarify content or guide them when required during the CAI instruction courses. This lack of support left them feeling frustrated and undervalued. Gardner and Valentine (2015) indicated that supportive environments are essential to increase confidence and job satisfaction. These are also factors contributing to low annual review compliance rates. As part of the professional development workshop, nurses, educators, managers, and administrators will listen to and reflect on nurses' experiences with CAI and actively participate in a discussion on evidence-based practices that could lead to restructuring of learning or facilitate learning at the hospital.

Step 2: Evaluate Motivation and Capability

Wellings, Gendek, and Gallagher (2017) stated that continued education of nurses and their ability to apply that knowledge greatly affects patient care. The nurses' ability to transfer skills, knowledge, and attitudes help decrease mortality rates and patient injuries. Evaluating learners' feedback is crucial for improving the quality of educational activities. As stated by Husain and Khan (2016), evaluation is an integral part of the education process.

Evaluating existing learning modalities assists in understanding if nurses are meeting their learning objectives. Intention needs to be understood before developing a proposal for change. Intention is defined as "a predictor of changed behavior" (Cummings, Bridgman, & Brown, 2015, p. 33) and significantly affects healthcare workers' decisions to take on any new behaviors. Appleby, Roskell, and Daly (2015) explained that an individual's intention may be directly affected by his or her perception of control and outcomes. Intention is considered a precursor of behavior. Sinclair et al. (2016) determined that successful educational courses relied on practice settings, while Ignatavicius and Chung (2016) identified the challenging factors as lack of resources such as time and finances, the workload, and co-workers' abilities. Participants in the study indicated that not having time, experience with CAI, and content relevance were major deterrents for engaging in CAI. Willmer, Chein, and Sherman (2017) supported in their research findings that nurses do not use information technology for various reasons. Reasons highlighted as deterrents were skills or experience, and perception of the relevance of the content or irrelevance to patient care. Other reasons were inadequate supplies or hardware, a limited budget, and lack of financial retribution for participating in the course.

Nurses, educators, managers, and administrators need to evaluate these deterrents before proposing any change if they desire success or sustainability for the change. A proposed program or change has more sustainability if the appropriate, specific provisions of the study are considered. Success is more likely if (a) experts are involved in the change, (b) the data or information is being disseminated by a credible source, (c)

benefits for improvement are clear and transparent, (d) the complexity is low, (e) there are significant changes for all stakeholders, (f) the implication is user-friendly, and (g) financial support is available (Harris et al., 2015).

It is important to note that research has a great impact beyond academia or learning organizations around the world, to include various areas of society, culture, economy, public policy, health, and quality of life (Greenhalgh, Raftery, Hanney, & Glover, 2016). Nurse educators, administrators, and management need to value the study's result and support initiatives to proceed with the changes required to the learning network.

Step 3: Implement the Change

Change is essential to progress and meeting the needs of the growing professional body of nurses. Harris et al. (2015) stated that barriers and enablers need to be identified before implementing any new changes to facilitate success in any organization. In my study, barriers were identified as time, experience with CAI, and content (relevance). After identifying the barriers, implantation strategies will be developed to minimize barriers and build on the feedback received by the participants. Strategies for implementing change will include: (a) changes to the structure, (b) change to the process, (c) provision of resources and support, and (d) activities to communicate and disseminate information (Kohlechner, Latzke, Guitter, & Hofferer, 2018).

Restructuring learning modalities at this organization is sustainable if professional continuing courses are aligned to the study findings. Altman and Brinker (2016) stated that adult learners are given an authentic learning experience through autonomy, real-

world focus, and interactivity. With adult learners it is important to take experience into account when creating new learning modalities, and to allow time, flexibility, and sharing of experiences with colleagues.

Step 4: Select Progressive Change Objectives and Develop Action Plans

The professional development of nurses is a requirement to affect optimal patient outcomes. Nurses must be empowered by their education. According to Chaghari et al. (2017), empowering nurses to have input in their education leads to more self-directed and practical learning. Empowered learning only happens if nurses participate more actively in designing and implementing change. Adults are self-assessors, need clearly defined learning objectives, and researchers found that the success of any educational program requires alignment to adult learning principles (Chaghari et al., 2017). Thus, it is important to consider the emerging themes of this study in order to guide the prospective changes at the hosptial. Professional development courses or educational opportunities should be based on the need of the nurses. Future annual reviews should be unit based or specialty. Blended learning opportunities should be offered for nurses who require further explanation. On campus traditional lectures and instructions would allow for greater opportunities for nurses to share their challenges, experiences, and feedback on the relevancy of the content.

Step 5: The Role of the Change Agent

This project's change agent are the nurses, nurse educators, managers, and administrators. Altman and Brinker (2016) described a change agent as someone, or group of individuals, able to recognize what is not working and actively pursue

innovative solutions. Participants of the 3-day workshop are change agents because they are able to share experiences, work collaboratively, and discuss best evidence, and best practices in order to change or restructure learning at this organization. These stakeholders are part of interdisciplinary teams that work together to create positive patient outcomes. As nurses bring awareness to their challenges, managers, and administrators need to work to change policy or assist in restructuring learning this hospital.

Step 6: Maintain Change to Facilitate Feedback and Communication

Kennedy and McCathy (2015) suggested that feedback helps learners maximize their potential. It identifies and increases awareness of their strengths, and areas for improvements. Performance is directly correlated to feedback and could enrich self-knowledge. Feedback can either be informal such as between students, or formal such as a written assessment. Conferences or professional courses have the advantage of allowing for professional and safe feedback. At the 3-day professional course, all members will have the opportunity to discuss their past experiences, challenges, benefits, and limitations with CAI. Participants will be assigned to small groups to discuss their personal experiences with CAI, compose a list of benefits, and limitations with CAI. Malcolm Knowles (1970) emphasized the importance of communication between peers. The ability to share among peers cultivates knowledge.

Participants will have the opportunity to discuss ways to increase compliance rates of annual reviews. All the participants will be given a course evaluation at the end

of each day to assess if the learning objectives were met and to identify the areas for improvement.

Step 7: Gradually Terminating the Helping Relationship

Change takes time. Fisher-Yoshlinda (2018) stated that investing time and energy in any working relationship will lead to mutual benefits. It is important that after the 3-day workshop, nurses, educators, managers, and administrators continue to work together and reassess any changes or have crucial conversations regarding the restructuring of the learning modalities or how they are administered at this institution. According to Schwantes (2020) it is important for any organization seeking change that everyone involved is moving in the same direction. Leaders and managers need to foster an agile system that encourages employees to think and act like individuals. Schwantes (2020) encourages the ability of staff members, such as nurses, to act, embrace risk, and help make decisions that will impact their learning.

Knowles's Theory of Andragogy

According to Knowles (1980), a facilitator creates an environment or climate for learning that respects the adult learner's physical and psychological needs. Knowles emphasized the importance of adult learners being involved in the planning, delivery, and evaluation of their learning (McNeil-Cook, Robinson & Wilson, 2017). Professional development courses should be developed in consideration of the learners' needs to develop their educational or intellectual process. Knowles (1970) highlighted the following needs as pertains to adult learners: (a) adult education should be focused on solving a specific problem (low annual competency rates/challenges with CAI), (b)) it

should consider and rely on the experience of the students (nurses with over a year's experience), (c) the experience and knowledge gained during training should be significant or relevant (it affects patient care), (d) it should employ content experts to check teaching materials (reviewed with doctoral committee), and (e) it needs to obtain feedback concerning progress (evaluation of learning objectives and goals).This project is grounded in andragogical principles.

According to Kraut (2014), the first step to any successful professional course or training program is identifying the audience. The developer needs to account for the varying degree of the audience's experience to maintain credibility in a professional development course. The subject matter needs to be relevant and specific to the audience. Kraut (2014) stated that the technique used to create any successful training or professional program should be grounded in adult principles of learning. For the workshop, the audience has been identified as the president of the hospital, the director of the learning network, nurse educators, and nurses. Their vast shared experience in the healthcare field and computer assisted instruction will keep them engaged. The professional development course should provide relevant information to improve the methods of acquisition of knowledge and patient care.

According to Brenner (2018), knowing or connecting with your audience is a key element to engage them in the topic of discussion. Knowing your audience is a way of showing your audience respect for their presence, time, needs, and challenges (Brenner, 2018). Malcolm Knowles (1998) suggested that the andragogical process of teaching could help better foster learners' needs, ability, and desire to be responsible for their own

learning. The following steps discuss and explain how they helped shape the 3-day professional course.

Step 1: Preparing the learners. This step helps adults understand their own learning styles and share learning experiences while collaborating on activities. After a welcoming introduction, each participant will be asked to write down his/her definition of CAI, to include the perceived challenges and benefits. The workshop facilitator will ask for a volunteer to share answers and experiences. Janchai, Siddoo, and Sawattawee (2019) stated that in adult education, outlining learners' objectives develops learner enthusiasm and helps realize learning outcomes.

On the first day, participants will be informed about the purpose of the study, the objectives of each day of the 3-day professional course and will review an outline of the findings and the implications of the study. Participants will be given a copy of the PowerPoint slides with areas titled "parking lot" where questions will be written for later discussion.

Mcray (2016) stated that professional courses should shift from a content centered focus to a learning-centered approach. This does not mean that they should not focus on the content but that the information should be transferred in a way that supports adult learning. Adult learners are more willing to learn if they can relate socially and professionally. The 3-day workshop will include various adult learning methods such as group discussion, dialogue, small groups, reflection, lecture, self-evaluation, evaluation of objectives, and opportunity to share life experiences.

Researchers suggested that adult learners in conference settings or training programs meet their goals when the participants are asked to engage in an activity or dialogue (Mcray, 2016). On the first day of the workshop participants will be given a case study and asked to identify learning modalities and discuss which one, in their opinion, worked best for the scenario in a given time frame. Participants will also be asked to answer the following question, "How do you learn best", and then discuss and share their answer. Later, the facilitator will ask a representative of each group to share their list. It is important for adult learners to share their experiences.

On the second day a video will be shown on adult learning. After the video, participants will be asked to express how the video made them feel or if they agree with what they saw on the video. On the last day, participants will be asked to reflect on what they learned and how the new knowledge will impact their professional development. The facilitator will ask for volunteers and encourage a discussion on some steps that are needed to make a change at this hospital.

Step 2: Climate. In this step, the instructor prepares the learners' environment to account for their physical and mental needs. Physical environment includes the chairs, temperature of the room, classroom setting, and the learning resources. The mental environment includes the people present and interpersonal connections. Participation and cooperation from different members of the hospital is important for the success of this event. On day 1 the manager of the learning network will be a guest speaker to discuss the challenges of CAI, low completion of annual reviews, and the future of learning at MMC. On day 2, several keynote speakers such as the president of the hospital and

nurses will discuss their experiences as it relates to the topic.

The 3-day workshop will be held in a conference room with adequate lighting, comfortable chairs, tables, temperature control, bathroom accessibility, meals, and snacks throughout the day. On day 2 a video will be presented on adult learning and a projector will be needed. Participants will be encouraged to sit randomly.

Step 3: Planning. This step involves planning a professional development course to involve the learners. Participation is essential for increasing learners' engagement (Janchai et al., 2019). The 3-day workshop is an opportunity for participants to engage with guest speakers and collaborate on improving learners' preferred method of knowledge acquisition.

Step 4: Diagnosing needs. In this step, participants will focus on the three emerging themes of the study. On day one, each participant will be asked to write, in order of importance, how experience, time, and content (relevancy) to learning with CAI impacts their ability to engage in annual reviews. On each day of the 3-day workshop, participants will have the opportunity to discuss each theme in small groups and discuss ways to improve these perceived challenges of CAI.

Step 5: Setting objectives. The learner's target is defined in this step. Janchai et al. (2019) stated that the learner's goals should be practical and based on individual needs. The 3-day workshop objectives will be formulated based on my research findings and the feedback of participants. The objectives will be clearly defined, written, and handed out in the day's outline.

Step 6: Designing the learning plan. This step draws on the learner's needs and

aspirations. The problem being addressed should be relevant to the learner's interest. The learning methods should encourage the learners to achieve their goals. The 3-day workshop will be created to align with the study findings. Guest speakers will include volunteer nurses who want to share their experience with CAI and their hopes for future education delivery methods. It is essential to share experiences and draw from them to create effective opportunities for learning.

Step 7: Learning activities. In this step, the instructor should facilitate learning by stimulating the learner to solve problems. Participants will take part in case studies, lectures, discussion, and reflection.

Step 8: Evaluation.

How well the learning outcome was met is assessed in this step. Evaluations of the day's learning objectives will be obtained from participants at the end of each day.

Application of Technology Acceptance Model to a 3-day Professional Course

Weng, Yang, and Ho (2018) indicated that multimedia teachings include data, pictures, images, texts, videos, special effects, and slides. Digital learning facilitates the teaching quality and influences learning outcomes. This 3-day workshop will use various forms of technology to stimulate learning and the learners' interest.

Project Description

A 3-day professional development workshop was developed after critically analyzing the study's findings. The goal of the program is to promote collaboration between nurses, educators, managers, and administrators to create awareness about the perceived challenges for CAI and ways to increase compliance rates of required annual

reviews. The goal of the workshop is to discuss evidence base practices that could lead to, or facilitate, the restructuring of how learning is approached at this hospital.

Regan, Laschinger, and Wong (2016) stated that enhanced interprofessional collaborations is one of the agents for transforming health care systems. Concerns about educational initiatives, nursing shortages, safety, and work-related issues could be addressed in this manner. Professional development creates opportunities to collaborate through networking, collaborating, and engaging in activities that promote change (Markham, Gentile, & Graham, 2018). The workshop includes preparing guidelines and materials to assist facilitators, informal sessions to share experiences and presentations, and evaluations to determine if learning objectives are met.

Day 1

The goal of the first day of the professional workshop is to (1) explain the importance of the findings and their impact to patient care, (2) discuss the implications of the study, (3) assess and list learning needs, and (4) conduct small and large group discussions.

The results of my study will promote opportunities for discussion and collaboration between participants. Each workshop session is scheduled for eight hours with planned breaks during the day. Participants will have a one-hour lunch meal and two 15-minute breaks. At the beginning of each workshop day, participants will be given a handout outlining the day's learning objectives, daily schedule, activity sheets, and power point presentation. At the top right-hand corner, a number from one to three will be assigned indicating the group number the participant will be assigned to for the day.

After introductions, participants will be asked to write down their definition of CAI and list their perceived challenges and benefits of this method of education. This will facilitate an opportunity for learners to assess their knowledge and experiences about CAI. Participants then will be asked to answer this question, "How do you learn best" and will share their experiences with the members of their groups and the facilitator. Each day, a different theme from the data analysis of my research will be the focus of the workshop. On Day 1, a case study will be disseminated to the participating groups to work collaboratively on answering questions aligned with the study. Participants will be asked to identify five different learning modalities and discuss which one, in their opinion, worked best for the scenario. Participants will be given ten minutes to complete this task. Following the small group activity, participants will have the opportunity to reflect and discuss as one group if time was a factor in completing the task. The goal of this activity is for members to discuss the effect of time as a factor impacting learning.

The director of the learning network will be an invited guest on day one. She will discuss the mission of the learning network, identified challenges, and the key steps for positive change. Participants will be given an opportunity to ask questions to the director to engage in discussion. At the end of Day 1, participants will evaluate the day's objectives, activities, and speakers.

Day 2

The objectives of Day 2 include the following: (1) identify the importance of experience in learning, (2) verbalise the importance of nurses' feedback when developing professional courses, (3) identify ways to incorporate learners' feedback into existing and

future professional development programs, and (4) identify strategies to improve annual reviews.

The second day of the workshop will begin with an overview of Day 1. Participants will have the opportunity to ask question placed on the parking lot section of their power point slides. A list of the day's objectives will be included on the daily handout. On Day 2, the focus is experience. Participants will be asked to rate their experience with computer assisted instruction. Any participants with less than five years of experience with CAI will rate 1, 5-10 is 2 and more than 10 will rate a 3. The facilitator then will ask participants to break into small groups assigned on their handouts. Participants will then average the amount of experience with CAI in the group. They will be asked to reflect and discuss on how experience is a factor in completing annual reviews.

Speakers such as the president of the hospital, nurse educator, and two nurse presenters will discuss their experiences with CAI. The facilitator will ask one representative of each group to share their findings in order to compare and contrast with the rest of the participant groups. The facilitator will keep the discussion focused on how to incorporate the learners' feedback on experience when developing professional courses. Participants will be asked to discuss ways to improve annual competency rates at their hospital.

A video on adult learning will be shown. Participants will be asked "how does this video make you feel?" and asked to reflect if anything they saw in the video is

relatable to them as adult learners. An evaluation will be given for participants to evaluate objectives, activities, and speakers of the day.

Day 3

Participants will be encouraged to ask questions placed on their parking lot section of Day 2. Day 3 of the professional workshop will be focus on content. Participants will break into small groups assigned on their handouts and engage in an activity called "Content Mapping". Each member of the group will be given a worksheet (see Appendix E) with a circle in the middle that will be titled content. Participants will be asked to write down topics that they consider relevant to their job and indicate with a yes or no if those topics have been part of their past CAI instruction. The facilitator then will ask one member of each group to summarize their findings and discuss the impact it has on their professional development.

The facilitator will pose a question, "What are the benefits and pitfalls of CAI? The goal of this activity is to encourage a healthy debate among members and encourage a conversation about learning modalities that are best suited for professional development at this hospital.

On Day 3, a second video will be shown on the impact of technology in healthcare and how it impacts on future educational offerings. The facilitator will ask participants to discuss ways to improve CAI compliance. Finally, each participant will be given an evaluation tool to evaluate the learning objectives of the program. They will have an opportunity to ask the facilitator questions and address any concerns they may have about the implications of the study.

Project Evaluation Plan

The professional seminar will conclude after three days of presentations, discussions learning activities, and collaborations. The members of the seminar will include the president of the hospital, the director of the learning network, nurse educators, and nurses. A survey will be given to each participant at the end of each day of the workshop. The feedback will be anonymous. Each survey will have an area where participants can give written feedback.

Project Implications

Nurse Education

This project aims to create awareness among members of this hospital about the challenges faced by nurses when using CAI to complete annual reviews. Administrators, managers, nurse educators, and nurses will collaborate on creating changes to the learning modalities. Although, computer assisted instruction has many benefits, such as flexibility and independence, it is important for educators to incorporate other educational modalities in order to meet the needs of all learners. By educators developing professional courses that are not centered through CAI will open more opportunities for interaction, collaboration, and feedback. These changes will affect positive social change by increasing the rates of annual competencies, job satisfaction, and the promotion of a more supportive work environment.

Long-Term Outcomes

The results of this study cannot be generalized to other institutions as a convenience sample at the local setting was used and findings are intended to inform

positive change at this site. However, the information from my study could be used to help the organization make future changes to policies and procedures. Long term outcomes could result in the organization giving nurses time away from the bedside to complete their annual reviews or may result in a policy change to pay them for the time spent on mandated education requirements. Professional development courses could be created based on individual nursing unit needs and changed as evidence practices evolved. Offering more inter-disciplinary professional courses will be offered and encouraged as part of continuing education initiative. Nurses will be able to take part in at least one nursing conference of their choice each year and prepare of presentation to their staff of what they learned so information can be shared. The ability to share their experience would allow for other nurses to benefit and increase their knowledge.

Conclusion

This section provided a description for a 3-day professional course based on the results of my study. The course is geared towards hospital stakeholders to include administrators, managers, nurse educators, and nurses. I aligned the workshop to Lippitts' theory of changes and Malcolm Knowles' andragogy theory. The goal of the 3-day professional program is to bring these members together and work collaboratively on ways to increase annual reviews and improve educational modalities. It is important to have different point of views and experiences to move forward with changes. For any change to occur, it is vital for managers and leaders to be aware of the challenges their staff are experiencing. This will create a foundation on how to create professional development courses that are not only relevant, but specific to learners' needs.

Section 4: Reflections and Conclusions

The project developed for this study is a 3-day professional development program. The purpose of this professional development workshop is to inform managers, nurse's educators, and nurses, of the hospital about the research findings and its relationship to how nurses' perceptions of computer-based learning impacts the completion of annual competency rates. The 3-day program promotes the collaboration of stakeholders to discuss ways for improving professional development programs using CAI across the hospital. Positive social change will occur when course participants gain a better understanding of nurses' challenges with CAI and use the information to inform future professional development courses. This section provides a description of the project's strengths, limitations, and recommendations for professional development programs at MMC.

Project Strengths and Limitations

The project was informed by the evidence of the problems and the research findings, which indicated that 70% of the nurses did not complete their CAI learning modules and failed to meet continuing educational requirements (MMC Completion Report, 2017). Study participants expressed the need for changes in professional development courses to address some of their challenges.

A primary strength of the professional 3-day program is that it aligns to the tenets of adult learning and focuses on the research findings and the participants' needs. The program was developed to increase awareness about nurses' challenges with CAI and its impact on patient care. Second, the course provides a safe environment for managers,

educators, and nurses to discuss ways to change future professional development courses to reflect the nurses' needs at this hospital. Third, the shared experiences of the study participants enabled me to prepare a course relevant to the topic. Although, this 3-day course has several benefits, it is important to acknowledge its limitations. It is expensive to conduct a 3-day course for nurses at this institution. As per union laws, nurses must be paid for their time if they participate in any programs hosted by the hospital. Nurses participating in the 3-day program must be remunerated for their hours of participation and their shift has to be covered with per diem or overtime nurses. This would cost the hospital thousands of dollars. Additionally, organizing the event with speakers such as the president of MMC and the director of the learning network is challenging due to their schedules. As a result, the 3-day professional development course will be treated as a pilot and will be limited to one location and not branched out to the other three campuses. Participants will not include the staff from the other units or clinics.

Recommendations for Alternative Approaches

Due to the high cost of a 3-day professional development course or workshop, alternatives could be considered to positively address the findings of my research. A white paper or a summative evaluation detailing the study findings could be generated along with a proposal for policy change on how annual reviews or other professional development courses are administered at this hospital. Meetings with key stakeholders and decision-makers could be held to gain feedback and discuss ways to integrate the feedback into interventions to affect positive changes in CAI educational offerings.

Alternative Definitions of the Problem

It is important to explore alternative influences and aspects of the identified research problem. Alternative perspectives could yield different answers or approaches to the problem or may serve to reinforce my findings. One approach to exploring the problem would be changing the focus from only CAI learning modalities to professional development courses in general. Another approach would be to conduct a quantitative study and explore other variables to the problem.

Alternative Solutions to the Local Problem

An alternative solution to the local problem could be a needs assessment or intake survey by the learning network to address the low completion rates. During monthly meetings, managers from every unit could address their completion rates and discuss ways to improve it with the staff. Feedback, concerns, or issues could be addressed in the learning network on an ongoing basis. Openly communicating with nurses, nurse educators, and administrators about nurses' perceived challenges with completing their annual competencies could inform new polices.

Scholarship, Project Development and Evaluation, and Leadership and Change

In life, we embark on many journeys either to explore, learn, grow, or challenge ourselves. I was not prepared for my doctoral journey and although I have completed this project study, I continue to second-guess myself. This has been the most difficult, challenging, and selfish thing I have ever done in my life. I say selfish because a doctoral degree was my dream and no one else's. The attainment of this degree was not a professional requirement but rather, a personal one. It has taken time from my children

and family and yet they found it in their hearts to support me. Many people including professors, colleagues, friends, family, and even strangers have assisted me to the finish line. As my wonderful advisor reminds me, learning is lifelong, and I have a responsibility to share with others to help them grow in their profession.

Although scholarly writing is not my strongest asset, this experience allowed me to grow as a researcher, a writer, and a scholar. I would be foolish to think I have mastered it or that it is a task that I excel at. But, this process has allowed me to be a more of a critical thinker and better listener. It has taught me patience and self-confidence.

As a nurse and educator, I like to believe that I am an advocate for nurses. I chose this topic because of my commitment to life-long learning and because I obtained evidence of RN barriers to completing continuing education requirements. Nurses are always looking for ways to improve or grow professionally not only because of professional requirements, but also because it ultimately positively affects patient outcomes. It is important for a leader to be aware of staff, colleagues, or students' needs and assist them to succeed. Leaders cannot ignore the challenges and struggles of health care professionals, and they have an obligation to facilitate and implement positive interventions to overcome identified barriers. In nursing, lives depend on nurses' ability to think critically and work in collaborative teams. Nursing is not a stagnant profession. Education is crucial for nurses' growth and if professional development courses do not address learning needs, knowledge acquisition is stunted, and patient care may be negatively impacted.

Project Development

As I developed this project, I wanted to focus on nurses. I value the importance of education and its impact on professional growth. It was imperative for the 3-day professional course to be collaborative in nature. This will foster administrators, nurses, and nurse educators working together towards a common goal. This course will be an opportunity to make key stakeholders aware of the complexity of the problem and work together for a solution.

I worked with my doctoral committee who guided me in this process. They helped me keep my project study aligned with the research questions and theoretical frameworks. Most importantly they guided me to represent my research findings in a matter that would represent the participants' voices.

Developing this project gave me the opportunity to work through challenges that will help me to be a great leader, educator, and researcher. As a novice researcher, I had to learn about setting my own goals, selecting a topic that I was passionate about, and creating a course to effect positive social change for stakeholders that ultimately, will positively impact on patient outcomes. Most importantly I had to listen to others about their challenges and value their experiences. One major challenge I experienced while developing this project was creating a course that was engaging, informative, and educational. As novice researcher, I learned that networking is vital. Networking allowed me to gain support on the changes that need to happen at MMC in order to improve annual review completion rates so that nurses continue to use evidence-based practices to inform their professional practice and affect optimal patient outcomes.

Leadership and Change

Reflecting on this study, I learned that nurses felt unheard and undervalued. Many shared their frustration about their administrators for not only failing to provide them with the necessary tools to compete their annual competencies, but also not giving them the time to. This research project taught me that leaders need to invest time in their employees to learn what their staff need to succeed. As I a future leader, I want to ensure that I give my students or staff the time to voice their concerns and work together to create an environment of inquiry, growth, and life-long learning.

To create positive social change, it is important that leaders understand the challenges of those they supervise who needs guidance, leadership, and support. My project highlighted the perceived challenges of nurses with CAI and its impact on their professional development. The 3-day course allows for nurses, nurse managers, and administrator to work collaboratively with a common goal to improve professional development courses for nurses at this hospital, which in turn would lead to a more comprehensive care. Patients will benefit from nurses that are caring for them with evidence- based practices and knowledge.

Analysis of the Scholar

Self as a scholar. As I reflect on this journey, I realized how innocent and uninformed I was at the beginning of this process. I believe that if someone had taken the time to break down every step of this process or helped me gain a better understanding of the many sacrifices required to attain a doctorate degree, I would have walked away. However, because I chose to stick with it, evolve, and grow, I have a gained a greater

respect for research. Last year, I accepted an employment contract to teach research to a group of nontraditional students whose first language was not English. Although it was challenging, it gave me an opportunity to teach research in a way that was exciting, informative, and less intimidating than when it was taught to me many years ago. I have become a better writer, critical thinker, and researcher. Throughout my doctoral journey, I learned that my scholarly voice and experience matters. I learned to appreciate and respect other points of view. Preparing to earn a doctoral degree taught me to be open minded and accept difference not as negative, but as an opportunity or a new place to start.

Self as a developer. As a nurse, I have learned a great deal not only about prioritizing tasks but also about multitasking. This is crucial for taking on the challenge of developing a 3-day professional workshop. It taught me the importance of details, facts, and relevance. I learned that there are three main factors for capturing any audience's attention to include why they should learn new knowledge, relevancy of the learning to their problem, and interactive learning methods. I learned that I was not well informed about conducting a research study or professional course for that matter. It was important for me to ask questions of other leaders who are not in the field of nursing about their practices and incorporate what I learned into my pedagogy. I learned to ask questions and not feel embarrassed. I also learned to ask for help and accept it. Most importantly, I understood that accepting help was not a sign of weakness but of strength.

Self as practitioner. As an emergency room nurse in one of the busiest hospitals in New York City, being assertive and confident in my professional role is not difficult

for me. However, this doctoral journey has taught me that there is so much more for me to learn and give. I learned that feeling burned out and stagnant stems from me not asserting my needs for professional development. Even though many of my colleagues are in awe of me almost finishing my doctoral degree, I keep emphasizing that I do not know everything and that I, too, have a lot to learn. I have also learned not to be ashamed of or be embarrassed by my accomplishment. This is a feeling I struggle with every day as a practitioner and educator. I learned that communication is a vital part of any process and that if I do not voice my concerns and needs, no positive change can occur.

Reflection on Importance of the Work

In a world where technology plays a role in how one learns, takes care of patients, pays bills, or communicates with another, it is important not to lose focus on human contact. Varied generations learn differently. As educators, it is important to value those differences and create learning environments and teaching methods suited for all types of learners. I learned that the culture of each unit, group, or participant varies and that greatly impacts how I teach.

Nurses are navigators, educators, patient and family advocates, supporters, and more, and their professional development should be valued. It should be an integral part of any union contract or labor negotiations in any institution. Nurses professional development courses leads to evidence-based practices that result in better patient outcomes. Increasing nurses' knowledge could lead to justification of their actions, improve safe practices, and provide appropriate care.

Implications, Applications, and Directions for Future Research

Hattick, Meiland, Van der Roest, Abiuso, Duca, Sanders, Basnett, Nugent, and Droes (2015) acknowledge that health educators face challenges in designing technology-based learning experiences and achieving outcomes because this method of knowledge acquisition may not align with the learners' needs. An educational theory provides "an illuminating perspective" (Hattick et al., 2015 p. 241.) and guides the study. After reflecting on the results of this study and using the theoretical frameworks of Knowles's and Davis's theories, the creation of a 3-day program aligns with a learning environment that values experience, time, and content. My research findings reflected nurses' and nurse educator's opinions about why the completion of annual competency reviews was poor. Components of perception as it applies to Davis's theory were addressed. These perceived factors were identified as time, experience (perceived ease), and content (usefulness). Potential changes within the learning network would be reflective of these findings. Some changes that would be welcomed is creating time slots to engage in CAI, offering different learning options, and addressing relevancy of courses specific to nurses' areas of practice.

The overall goal of this study was to create awareness about nurses' perceived challenges with CAI and how this affects their completion of annual competencies. The findings of the study suggest that low completion rates at MMC are due to (1) lack of experience with CAI, (2) content of the material, and (3) time to engage in these activities. Informing leaders of perceived challenges with CAI and their effects on low completion rates could lead to small, social changes within the organization, learning

networks, or units. These changes could foster a more competent staff, improved professional courses, and evidence-based comprehensive patient care. The more nurses engage with their learning modalities, the more they are empowered and equipped to safely take care of their patients.

There is an opportunity for further research in this area. In qualitative research, the groups are small and focused on gaining a better understanding of their experiences. For this study, I interviewed 10 nurses and 8 educators from one campus. If the study were conducted using a quantitative or a mixed method design, the data analysis may have yielded different information and the 3-day project would have taken a different direction.

Conclusion

This study sought to gain a better understanding of nurses' perception of computer assisted instruction and its impact on them completing their annual competency rates. Knowles's and Davis's theories formed the theoretical frameworks for the study. I created a 3-day professional day program using Lippitts' theory of collaborating to create awareness about the problem and interventions to positively address this problem. It was difficult to evoke the emotions, experiences, and thought processes of each participant of this study because their feedback was unique.

It was important to acknowledge and value the nurses' experience and relates it to their learning. I believe this area of professional development is ignored and not appropriately addressed. This data could provide administrators a more detailed account of experiences and feelings about learning at this hospital. More than ever communities

are becoming aware of the important role of the nurse. Nurses are integral part of our healthcare system and without them our country could not move forward in healing. Professional development course are tools to help nurses increase their knowledge and improve their practice. In turn, this will reduce suffering, medical errors, improve patient outcomes, and increase professional accountability. The social impact of nurses' increased knowledge and professional development is immeasurable.

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Appendix A: The Project

Computer Assisted Learning Professional Development Project

This three-day professional workshop was developed from the research findings at one hospital in the northeast region of the United States that reported low completion rates of nurses' required learning modules. The study focused on how hospital nurses' perceptions of computer-assisted instruction for professional development impacted their engagement in this method of learning. The workshop includes a schedule, power point slides, outline, handouts, and evaluations.

Purpose: The purpose of this professional development workshop is to inform nurses, educators, managers, and administrators at MMC of the research findings related to how nurse's perception has impacted completion of annual competency rates. The 3-day program is designed to discuss ways to improve professional development programs using CAI throughout the hospital.

Development: The program will discuss challenges and or benefits of existing programs and discuss ways to improve learning modalities considering the research findings. The program will highlight the importance of integrated and collaborative learning initiatives in order to improve completion of annual reviews, which will positively affect patient outcomes. Each day participants will be able to hear from different nurses, leaders, educators, and administrators about their experiences with CAI and how it has impacted them with professional development. Participants will be able to work collaboratively on ideas on how to improve annual competency rates and computer assisted instruction courses.

Goals: The goals for this program are as follow:

1. Discuss the challenges and or benefits current professional development programs
2. Provide administrators, managers, nurses educators and nurses with research findings.
3. Provide nurse educators with techniques and tools to promote learning
4. Discuss ways to improve completion rates of annual reviews.
5. Both small and large group discussions

Learning Objectives

Day One:

- Participants will be able to verbalize the importance of the findings, and it impact of patient care
- Participants will be able identify the implications of the study
- Participants will be able to describe theoretical components of the study and how it relates to the current problem

Day Two:

- Participants will identify factors that attribute to decrease compliance
- Participants will be able to verbalize the importance of experience in learning
- Participants will identify ways to incorporate learner's feedback into existing professional development programs and future ones
- Participants will identify strategies to improve annual reviews and create

Day Three

- Participants will be able to identify benefits and non-advantageous components of CAI
- Participants will discuss the different learning modalities and its impact on today's society

- Participants will list ways technology to embrace technology
- Participants will be able to identify future studies needed and list reasons on why this is important.
- Participants will do an evaluation of the program and discuss ways to improve

Course Components: The following materials were developed for the 3-day program

- Power Point Slides
- Outlines
- Handouts
- Evaluations

Improvement of nurse's professional competency and completion of annual reviews workshop budget:

Items	Price Per Day	Number of Days	Final Cost
Continental Breakfast: muffins, croissants, hard boil eggs, bagels, assorted cheese and cold cuts, cream cheese, butter, coffee, tea, orange juice and water	**$200**	**3**	**$600**
Lunch **Assorted sandwiches, cold pasta, pizza, cookies, cake, soda (diet and regular), water, coffee and tea.**	**$ 300**	**3**	**$900**
Snacks **Chips, cookies, nuts, vegetable platter, water, soda, coffee and teach**	**$100**	**3**	**$300**
Facility	**0**	**0**	**0**
Facilitator	**0**	**0**	**0**
Materials	**$250**	**0**	**$250**
Cocktail Celebration **Wine, Beer, appetizers**	**$400**	**1**	**$400**
Total Cost			**2,450**

Computer Assisted Instruction: How could we improve annual reviews and professional developments programs at MMC?

Schedule: Day One

Time	Activity	Length of Time
8:00am -8:30 am	Register-Obtain name tags	30 minutes
8:45 am-9:00 am	Welcome Meet and Greet/Introductions	15 minutes
9:00am to 9:15am	Discuss objectives of workshop Please write down: What is your definition of CAI? What are your perceived challenges and benefits?	15 minutes
9:15 am to 10:15 am	Discuss the purpose of the study and its implications to practice.	60 minutes
10:15 am to 10:30 am	**Break**	15 minutes
10:30 am to 12:00 pm	Guest speaker: Director of Learning Network Discuss current professional development practices and its challenges How we could improve?	90 minutes
12:00 pm to 1:00 pm	**Lunch**	60 minutes
1:00 pm to 1:30 pm	**How do you learn best?** Small group: Case Study	60 minutes
2:00 pm to 2: 15 pm	Break	15 minutes
2:15 pm to 3:15 pm	Making sense of theoretical components and how they help professional development courses	60 minutes
3:15 pm to 4:15 pm	Group Discussion: Reflection	60 minutes
4:15 pm to 5:00 pm	Wrap Up	30 minutes

Day One Facilitator's Outline

8:00am to 8:30 am

Register all participants

8:45 am to 9:00am

Welcome/Introduction of participants. It is important to identify stakeholders and their roles in professional development.

9:00 am to 9:15 am

The objectives of the 3-day program will be discussed with participants. The objectives for day one include:

- Participants will be able to verbalize the importance of the findings, and it impact of patient care
- Participants will be able identify the implications of the study
- Participants will be able to describe theoretical components of the study and how it relates to the current problem

Participants will be asked to write down the answer for the following question: "What is your definition of CAI? What are your perceived challenges and benefits?

9:15 am to 10:15 am

Speaker will discuss the purpose of the workshop and reasons for the study. Participants will have a greater understanding of implications to practice if nurses are not meeting annual competencies and its impact on patient care.

10:15 am to 10:30 am

Break

10:30 am to 12 noon

Guest speaker from Learning Network will discuss current professional development courses. She will highlight annual competencies rates and what are documented challenges with CAI. Keynote speaker will outline correction plans to improve professional development programs and reflect on the direction of the learning network.

12:00 – 1:00 pm

Lunch Break

1:00 pm to 1:30 pm

Small groups: A number has been assigned to your handout; please find you group according to your given number.

How do you learn best? Participants will be given a case study. Please identify 5 different learning modalities and discuss which one worked best for the scenario.

2:00 pm to 2: 15 pm

Break

2:00 15 to 3:15 pm

Keynote speaker will discuss the results of the study and how they will help improve competency compliance and patient outcomes. Participants will have a greater understanding of the implications of the study and how they could help promote better CAI programs.

2:15 pm to 3:15 pm

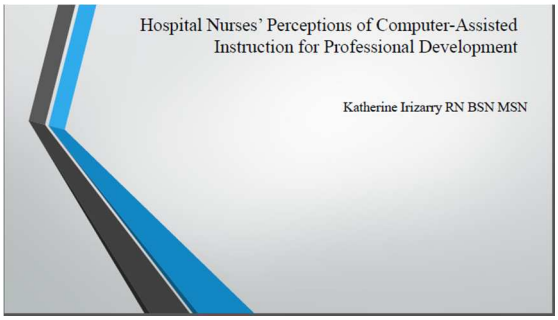
Facilitator will discuss theoretical components that guided the study and their relevance to professional development.

3:15 pm to 4:15 pm

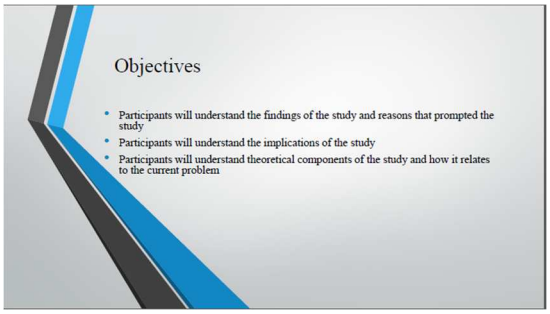
Participants will have the opportunity to share their experiences with CAI, annual competencies, and how to improve future CAI courses.

4:15 pm to 5:00 pm

Wrap Up! Participants will be able to ask questions and clarification if needed.



Slide 1/Day 1



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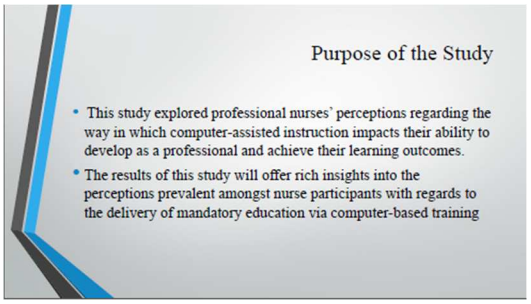
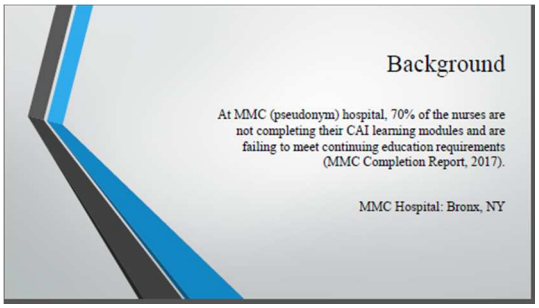
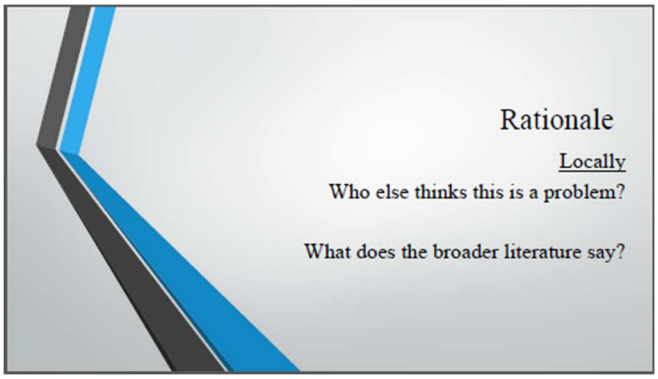


Slide 3/Day 1



Slide 4/Day 1



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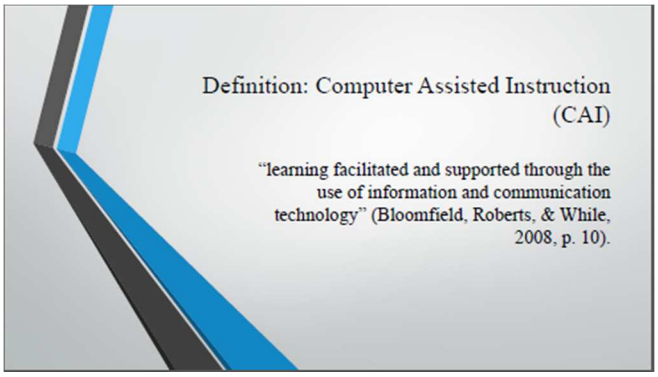
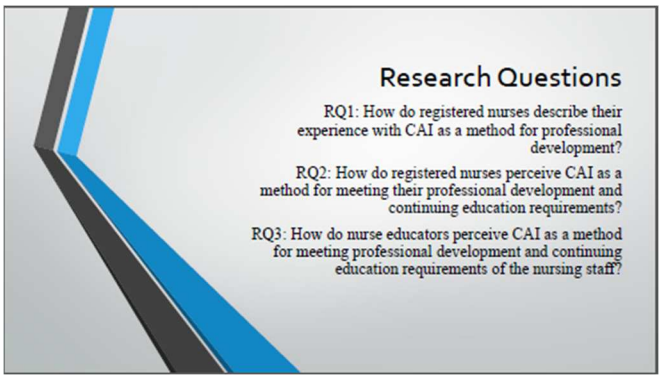


Slide 6/Day 1



Slide 7/Day 1

Schedule: Day Two

Time	Activity	Length of Time
8:00am -8:30 am	Breakfast	30 minutes
8:45 am-9:00 am	Welcome Back-Day Two	15 minutes
9:00am to 9:15am	Review: Parking lot questions	15 minutes
9:15 am to 10:15 am	President: Discussion on professional development and goals	60 minutes
10:15 am to 10:30 am	**Break**	15 minutes
10:30 am to 11:30 pm	Nurse Guest Speaker: #1 Nurse Guest Speaker: # 2	90 minutes
11:30 am to 12:00 pm	Video	30 minutes
12:00 pm to 1:00 pm	Lunch	60 minutes
1:00 pm to 2:00 pm	Nurse Educator: Discuss ways to improve annual competency rates? How do we get there?	60 minutes
2:00 pm to 2: 15 pm	Break	15 minutes
2:15 pm to 3:15 pm	Small Group Activity: Compare and Contrast: "Create a list of common share experiences with speakers	60 minutes
3:15 pm to 4:15 pm	Group Discussion: How do we keep learner's feedback on experience when developing professional courses?	60 minutes
4:15 pm to 5:00 pm	Reflect and discuss how experience is a factor in completing annual reviews	30 minutes

Day Two Facilitator's Outline

8:00 am – 8:30 am

Breakfast! Time to reconnect and refuel for the day

8:45 am -9:00 am

Welcome Back Remarks!

9:00 am-9:15 am

Review: Participants will have the opportunity to ask any questions for clarity of previous presentation. A quick overview of subjects discussed will be presented during this time frame. Discuss today's objectives:

- Participants will identify factors that attribute to decrease compliance
- Participants will be able to verbalize the importance of nurse's feedback, perceptions.
- Participants will identify ways to incorporate learner's feedback into existing professional development programs and future ones
- Participants will identify strategies to improve annual reviews and create

9:15 am -10:15 am

Keynote speaker President of MMC will discuss the vision of professional development at MMC and its impact on nursing, patient care and organization.

10:15 am-10:30 am

Break! Stretch our legs and minds!

10:30 am -11:30 am

Keynote speakers: Two nurses (volunteers) will present their past and present experiences with CAI. They will also discuss their hopes for future educational courses at MMC.

11:30 am-12:00 pm

Video: How experience is a major component in adult learning?

12:00 pm -1:00 pm

Lunch

1:00 pm to 2:00 pm

Keynote speaker: Nurse educator will discuss ways to improve annual competency rates? What are some challenges? How do address those challenges

and implement new policies to assist nurse's complete annual reviews?

2:00 pm -2:15 pm

Break

2:15-3:15 pm

Small groups: Compare and Contrast your experiences with keynote speakers.

3:15 pm-4:15 pm

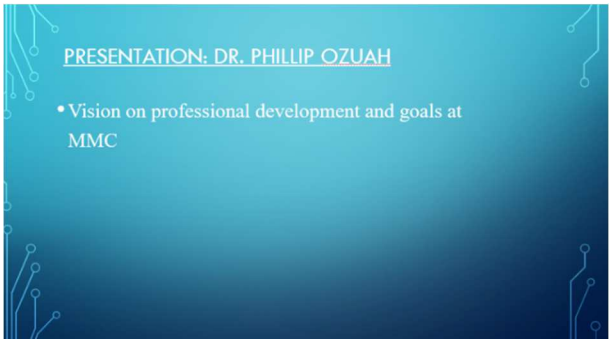
Group Discussion: Participants will have the opportunity to discuss ways get involved within the organization to be catalyst of change.

4:15 pm to 5 pm

Wrap Up: Reflect and discuss how experience is a factor in completing annual reviews

Day 2/Slide 1

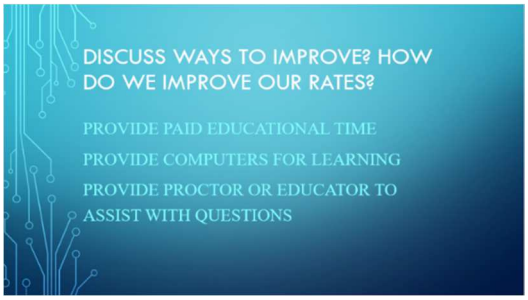
Day 2/Slide 2



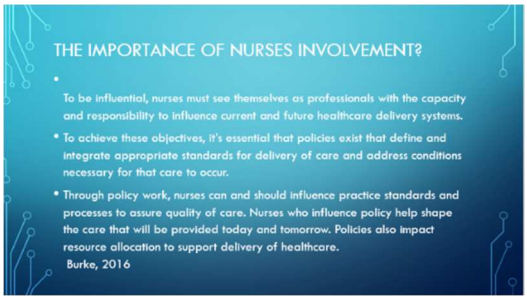
Day 2/Slide 3

Day 2/Slide 4

Day 2/Slide 5



Day 2/Slide 6



Day 2/Slide 7

Day 2/Slide 8

Schedule: Day Three

Time	Activity	Length of Time
8:00am -8:30 am	Breakfast	30 minutes
8:45 am-9:00 am	Welcome Back-Day Three	15 minutes
9:00am to 9:15am	Review: Any new questions?	15 minutes
9:15 am to 10:15 am	Computer Assisted Instruction: Is that all? What are the pros, and cons	60 minutes
10:15 am to 10:30 am	**Break**	15 minutes
10:30 am to 12:00 pm	Discuss the traditional and non-traditional ways of learning and its impact on today's society? How do we adapt?	90 minutes
12:00 pm to 1:00 pm	**Lunch**	60 minutes
1:00 pm to 2:00 pm	Technology: How to embrace it?	60 minutes
2:00 pm to 2: 15 pm	**Break**	15 minutes
2:15 pm to 3:15 pm	Group Activity	60 minutes
3:15 pm to 4:15 pm	Evaluation	60 minutes
4:15 pm to 5:00 pm	Social: Drinks and Appetizers	30 minutes

Day Three Facilitator's Outline

8:00am- 8:30 am

Breakfast

8:45 am-9:00 am

Review/Questions

9:00am-9:15 am

Discuss today's objectives:

- Participants will identify factors that attribute to decrease compliance
- Participants will be able to verbalize the importance of nurse's feedback, perceptions.
- Participants will identify ways to incorporate learner's feedback into existing professional development programs and future ones
- Participants will identify strategies to improve annual reviews and create

9:15am-10:15 am

What are the pros and cons of computer assisted instruction? Are there any other options? Let us create a list and identify them!

10:15 am to 10:30 am

Break

10:30 am- 12:00 pm

Discuss the traditional and non-traditional ways of learning and its impact on today's society? How do we adapt? List the ways you learn the best? Does anyone else want toshares your thoughts?

12:00 pm to 1:00 pm

Lunch

1:00 pm to 2:00 pm

Technology: How to embrace it?

2:15 pm-3:15 pm

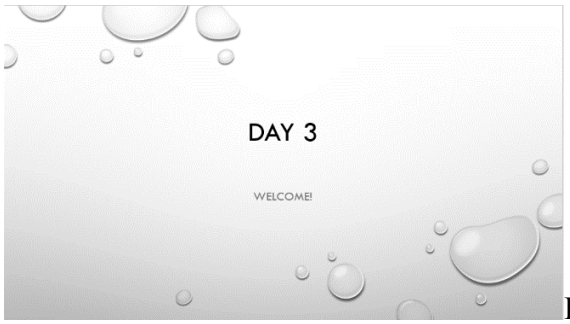
Group Activity

3:15 pm to 4:15 pm

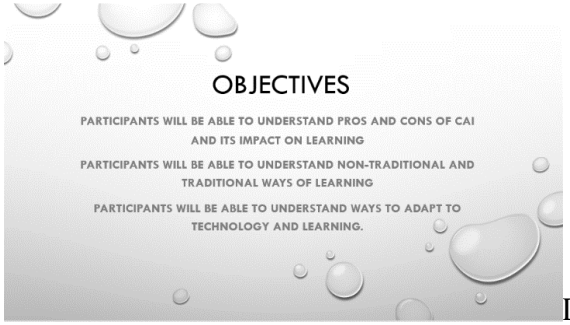
Evaluation

4:15 pm to 5:00 pm

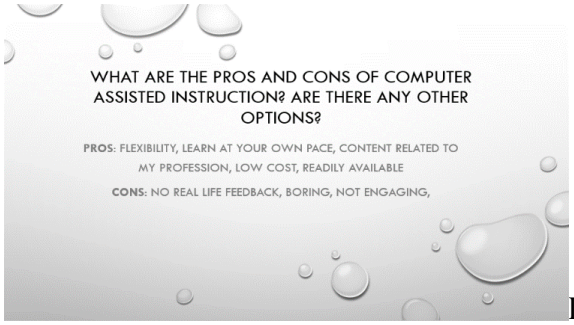
Social gathering



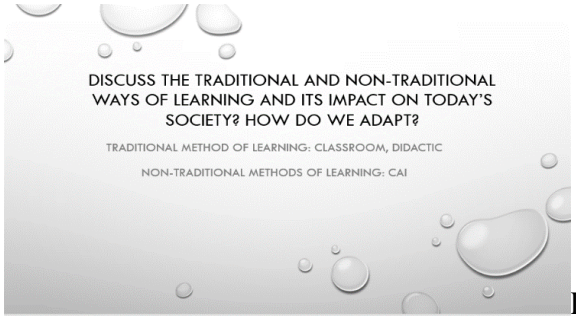
Day 3/Slide 1



Day 3/Slide 2



Day 3/Slide 3



Day 3/Slide 4

Day 3/Slide 5

Day 3/Slide 6

Evaluation Tool

1. Please fill in the following fields:

Course:

Facilitator:

Date:

2. What overall rating would you give the course? Please circle one:

Day One

Excellent Very Good Good Fair Poor

Day Two

Excellent Very Good Good Fair Poor

Day Three

Excellent Very Good Good Fair Poor

3. Course Objectives: How well overall were the objectives met? Please circle one

Day One

Excellent Very Good Good Fair Poor

Day Two

Excellent Very Good Good Fair Poor

Day Three

Excellent Very Good Good Fair Poor

4. Course Materials: How well were the content and materials of the overall presentations? Please circle one

Day One

Excellent Very Good Good Fair Poor

Day Two

Excellent Very Good Good Fair Poor

Day Three

Excellent Very Good Good Fair Poor

5. What overall rating would you give facilitator? Please circle one

Day One

Excellent Very Good Good Fair Poor

Day Two

Excellent Very Good Good Fair Poor

Day Three

Excellent Very Good Good Fair Poor

6. Presenters: What overall rating would you give presenters? Please circle one

Day One

Excellent Very Good Good Fair Poor

Day Two

Excellent Very Good Good Fair Poor

Day Three

Excellent Very Good Good Fair Poor

Additional comments:

Appendix B: Flyer

Professional Development and Nursing Continuing Education

Hospital Nurses' Perceptions of Computer-Assisted Instruction for Professional Development

Purpose: My name is Katherine Irizarry and I am also a nurse at MMC. I am a doctoral student at Walden University, and I am conducting a study for my graduate degree.

I am looking for participants to discuss professional development at MMC.

Requirements: Registered nurse employed at the hospital.

How: A hospital wide email will be sent to all registered nurses at MMC requesting for your participation. Please respond with "I will participate" and your contact information. I will reach out to you at your convenience and schedule the interview time. Interviews will approximately take 60 minutes and will be recorded to transcribe them later. Please be aware all information collected during these interviews are confidential. No supervisors, managers, or colleagues will be notified of your participation. Your participation is voluntary, and you may elect to withdraw from the study at any time.

Appendix C: Interview Questions for Nurses

1. What is your opinion on computer-assisted instruction?
2. In your opinion, what are some of the best methods of learning for nurses in a professional setting?
3. Why do you think nurses are not completing their annual reviews?
4. Do you think that nurses are able to learn content effectively with computer-assisted instruction?
5. What do you perceive to be some benefits of computer assisted instruction?
6. What do you perceive to be some limitations of computer assisted instruction?
7. What do you perceive to be the purpose of computer-assisted instruction?
8. How does computer assisted instruction help you achieve learning?
9. Do you think past your past experience with computer assisted learning is a factor in you engaging in CAI?
10. As nurse educators, what is your perception of CAI in meeting professional development goals?

Appendix D: Interview Questions for Nurse Educators

1. What is your opinion on computer-assisted instruction?
2. In your opinion, what are some of the best methods of learning for nurses in a professional setting?
3. Why do you think nurses are not completing their annual reviews?
4. Do you think that nurses are able to learn content effectively with computer-assisted instruction?
5. In your opinion, why are nurses struggling with CAI?
6. What is your perception of CAI? Do you think that impacts how you create your classes or instruction?
7. In your experience, what has been your most successful tools for teaching and why?

Appendix E: Content Mapping