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Facilitating Provider Education: The Role and Impact of Healthcare Educators

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Facilitating Provider Education: The Role and Impact of Healthcare Educators

By

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A dissertation submitted to the faculty of

Hamline University

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Doctor of Education

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Abstract

A qualitative research design was utilized to inform two primary research questions: “How do healthcare educators describe their role[s] and experiences educating providers in a healthcare setting?” and “What adult learning principles, determined by Malcolm Knowles, can be identified in provider education materials utilized in a healthcare setting?” Ten participants, who self-identified as healthcare educators utilizing an electronic medical record as a tool for teaching medical providers, participated in semi-structured interviews. Interview participants also submitted education materials they utilize to train medical providers at six healthcare organizations. From the ten interviews, seven categories were determined: research interview participant descriptions, role of a healthcare educator, memorable experiences while educating providers, healthcare educator in a learning organization, Malcolm Knowles and adult learning, technology and innovation, and additional insights gleaned from the participants. Participants describe their role as healthcare educators, the importance of their role in a healthcare organization, and their beliefs regarding provider education. Overall, participants believe that their role is important and impactful to the individual providers and the healthcare organizations they work with. Six healthcare organizations from the upper Midwest submitted two provider education documents for review. These materials included provider education manuals, clinician tip sheets, provider education assessments, and facilitator guides. The provider education materials were reviewed to determine if Malcolm Knowles’ six learning principles could be identified. The main principle identified in the documents was the orientation to learning, which emphasizes
the adult learners’ preference to learn items that will help them perform or solve real-life tasks and problems. Principle six, motivation, is the second-most utilized principle, and addresses internal and external motivation in adult learners. Adult learning principles, similar to Knowles’, should be embedded in provider education within healthcare.

*Keywords*: healthcare, healthcare education, provider education, organizational learning, workplace education, Malcolm Knowles, adult learning
“Education should foster a love for learning. It should teach students to think analytically and creatively. Learning should feed our curiosity and understanding of the world around us” (Kevin Goddu, 2012, p. 171).
Dedication

To the healthcare professionals that spend their days and nights taking care of loved ones, specifically to all the healthcare educators. Our role is unique, challenging, and very rewarding. Please continue to have passion for what you do, knowing that you are making a difference in people’s lives.

To my sweet twin girls, Amelia Rose and Eleanor Avery. My main dream in life was to be a mother, and I am beyond grateful that I get to be yours. Your curiosity, independence, intelligence, love of life, and love for each other is more than I could have ever dreamed. I hope that the time spent away from you to pursue this secondary dream will make you proud. I love you more than I can ever say.
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Chapter One

Introduction

This chapter provides an introduction to this research study, a rationale for the study, a purpose statement, the importance of the study for the audience. It discusses deficiencies in current studies related to this topic, and identifies research problems. The chapter will also provide a brief theoretical and philosophical explanation of the framework for this study. Finally, this chapter includes definitions of terms used in this research, study limitations, and a summary of the chapter.

Overview of the Study

Organizations have often required their employees to work at increasing their knowledge and skillsets to maintain or move forward in the workplace. “The changing nature of the work place may require workers to have a different set of skills” (Lawler, 1985, p. 1). Lawler (1985) further states that a paradigm shift has taken place in organizations which included a more participative approach and calls for changing ideas about education and organizational learning. This shift continues in today’s organizations and healthcare is no exception. In the current healthcare world, clinician roles are expanding with the increase in technological advancements. “The practice of medicine has changed dramatically in the past decade because of forces demanding a new way to envisage health care” (Bennet et al., 2000, p. 1167). The authors, further suggest that medical knowledge and its application to current medical practice, expectations of physicians to work in teams, communicate effectively, and have an awareness of current disease prevention and health trends has drastically shifted the way medical providers practice medicine. Mansouri and Lockyer (2007) suggest that education given to
providers needs to go beyond the goal of increasing knowledge and skills and work to improve physician competence and performance in their clinical practices, thus improving patient outcomes. Healthcare educators work to bridge the gap between clinical and technical knowledge expected of providers to utilize the electronic medical record system. A healthcare educator is tasked with a unique challenge to balance the expectations of the healthcare organization and meet the changing and growing educational needs of adult medical practitioners who are increasingly more informed and self-directed as learners. Finding this balance and maintaining a sense of connection to the clinical and information technology (IT) worlds, and addressing competing priorities within the organization is a dynamic role.

This chapter provides the research questions, a rationale for this study through an introduction to the role of a healthcare educator, and a discussion of the current challenges experienced in the field of healthcare education. These challenges have led to the primary research question: How do healthcare educators describe their role[s] and experiences educating providers in a healthcare setting? The secondary research question was: What adult learning principles, determined by Malcolm Knowles, can be identified in provider education materials utilized in a healthcare setting? Utilizing Creswell’s (2003) deficiency model, this chapter will also describe the research problems, any studies that have addressed these problems, deficiencies in the studies, the importance of the study for the targeted audience, and a statement of purpose for the research. Definitions of terms used throughout the research will be provided and study limitations will be explored. Finally, a concise summary of the first chapter provides the background of the study and an introduction to literature about the concerns being addressed.
Rationale for the Study

This section describes the rationale which led me to this research topic and the importance of better understanding the role of healthcare educators. Education and healthcare held great interest for me growing up. I felt like I grew up in the hospital where both of my parents worked. I knew secret doors that let you move around the hospital quickly and what the different codes called out over the loud speaker meant. I knew exactly where my favorite art pieces were located and what day the cafeteria had the best meal options. During summer breaks, I was often at the hospital, first as a volunteer and then as a paid employee, and research intern once I was older. Helping in several departments within the hospital I was able to understand the workings of a healthcare setting from many perspectives. Through these experiences I gained a deep appreciation for all healthcare workers and knew that I wanted to be involved in the controlled chaos of a healthcare setting. In school, I was also fascinated by the role of an educator. The good ones have the ability to assist an individual in transforming their understanding of a particular topic and facilitate the growth of that individual’s perspectives. I felt like a worthy goal would be to emulate these great teachers who helped others understand things from different perspectives. The goal of merging these two passions led me to my current position as a healthcare educator in a large healthcare organization.

As a healthcare educator, I develop, implement, and support new software system functionality and upgrades related to the electronic medical record or EMR. I also construct workflow processes, and learning materials for medical providers, such as doctors, physician assistants, and nurse practitioners. My current role focuses on
educating clinical providers in an outpatient setting and assisting them in utilizing the organization’s electronic medical record. My role also incorporates project management, where I oversee and participate in creating new workflows and curriculum to increase daily efficiencies within the computer system and helping providers document clearly and effectively to allow for proper clinical decision making. The aim is for providers to navigate the software system with ease and utilize the EMR as a resource tool when making healthcare decisions for patients, with the ultimate objective of providing excellent care to ensure patient health and wellbeing. Farrell (2004) defines my current profession as a discourse technologist. An expert that strives to “challenge local work practices, and perhaps, the values that underpin them, by researching the discursive practice of institutions, designing or promoting textual practices in line with institutional aims and strategies, and training people in their use” (p. 480).

Workplace educators play a vital role in the creation, production, and interpretation of educational materials in the workplace (Farrell, 2004). Working as a healthcare educator has provided me the opportunity to achieve my goal of merging my passions of education and healthcare. I am helping healthcare professionals become more successful in their work by designing, teaching, and reinforcing curriculum to meet the needs of a variety of individuals on constantly changing technology and software functionality. I can see my impact on others and can maintain my thirst for knowledge and creativity while helping others achieve their goals. As a healthcare educator, I have a small impact on the healthcare professionals’ who work to help patients and their families through vital life moments. I am interested in impacting the lives of healthcare professionals by better defining and understanding the role of a healthcare educator and
how the adult learning principles found in education can align with my current practice and the future of in healthcare education.

**Purpose Statement**

This section describes the purpose of this research and explains its importance within healthcare and for healthcare educators. The goal of this research is to gain insight into current healthcare education practices, specifically through understanding the role of a healthcare educator. This study examines which guiding adult learning principles are currently being utilized in the practice of healthcare education and explores what the future of healthcare education and the role of a healthcare educator will look like. This qualitative research focused on identifying the perspectives of a set of healthcare educators’ work and ideas about the future of the field. Through interviews I hoped to gain further understanding of the role and experiences of healthcare educators teaching and engaging adults in the workplace. Through content analysis I examined current provider education materials at six healthcare organizations in the Midwest to identify if the adult learning principles guided by Knowles, Holton, and Swanson’s (1998) work are present. The purpose of this research was to illuminate the importance of the role of healthcare educators in healthcare organizations and to suggest that these organizations work to increase the value placed on their role.

**Importance of the Study**

This study focused on providing information to healthcare organizations regarding the importance of healthcare educators working to educate their provider population. Supervisors, managers, and directors of the healthcare educators, training teams or healthcare education departments might find the results of particular interest.
**Deficiencies in Current Studies**

This section describes deficiencies in the current, limited studies related to the topic of healthcare education, indicating the need for this research. Creswell (2003) recommends that a research problem within a qualitative study come from a topic where the research regarding it is still in infancy. Although there is a journal devoted to the study of continuing education for providers, little research has been done on the topic of provider education in a workplace setting, specifically healthcare education. Continuing Medical Education (CME) can take place in a healthcare setting, but may not always be curriculum determined and delivered by the healthcare organization in which the provider works, which is the type of education this research focuses on. However, many of the principles of Continuing Medical Education can be found in healthcare education.

Bennett, Davis, Easterling, Friedmann, Green, Koeppen, Mazmanian, and Waxman (2000) promote CME by discussing the changing landscape of provider education.

Medical knowledge and its application in medicine is the goal of CME for providers. Recently, growing expectations have been placed on providers requiring additional background understanding and knowledge. Physicians need to be effective communicators to their patients, co-workers, and leadership. Clinicians must understand the latest information on disease prevention and incorporate all of their learnings into their evidence-based practice. Although medical providers attend CME to assist them with increasing their medical knowledge or utilization of a new medical device, many providers do not utilize an Electronic Medical Record (EMR) as a tool in their CME training. This specific difference provides a gap in current research and understanding.
Workplace education and organizational learning help workers to understand some current concerns about education in an organizational workplace, but there remains a gap between workplace education and healthcare education. The field of healthcare education, although growing, needs more research and discussion. More research also needs to be done to better understand the role of a healthcare educator, individually and as part of a larger organization. One goal of the research interviews for this study currently missing from studies to date, is for healthcare educators to share the strategic importance of their role and its impact on the organization. Another unique feature of this study is the analysis of provider education materials from an adult-learning theory perspective. This research focuses on the utilization of Knowles, Holton, and Swanson’s (1998) adult learning principles. Furthermore, the content analysis reviewed educational materials developed by the interview participants, another element missing from current studies.

**Research Problem**

This section discusses the obstacles in educating adult learners who practice medicine and identifies the role of the individuals who educate them. Mansouri and Lockyer (2007) point out that between 30-40% of patients do not receive medical care, according to current statistics. The authors state that up to 25% of care given to patients is unnecessary or potentially harmful. Medical providers must remain knowledgeable about the ever-changing practice of medicine. Part of my role is to help providers learn new materials, implement the changes into their practice, and be accountable to the latest healthcare needs. One research problem I have identified in current healthcare education is the difficulty in educating providers with competing priorities, such as utilizing the
EMR to do their work and being accountable to organizational and national healthcare standards to meet required measurements. The second identified problem is that healthcare organizations seem not to understand fully the impact of healthcare educators on the providers and the organizations they serve. Finally, there is an underutilization of adult learning theories and principles in educating providers in a healthcare setting. The research questions for this study focused on these concerns:

- How do healthcare educators describe their role[s] and experiences educating providers in a healthcare setting?
- What adult learning principles, determined by Malcolm Knowles, can be identified in provider education materials utilized in a healthcare setting?

**Limitations Healthcare Educators Face**

This section discusses some limitations healthcare educators must overcome when working with medical providers. Providers have many responsibilities, the biggest being to provide appropriate medical care to their patients. Providers or clinicians must utilize the electronic medical record system (EMR) as a tool to aid them in their decision making, and then document these decisions in that same EMR. The majority of providers’ time is spent seeing or treating their patients, which lessens the time to receive education or reinforce previous education. Mansouri and Lockyer (2007) suggest that on average, health professionals spend about one to three weeks a year at educational-related meetings. Mansouri and Lockyer state that most of the time identified by is for continuing medical education conferences or other educational opportunities that providers can attend for credit to maintain their licenses. According to Mansouri and Lockyer, the majority of education given by healthcare educators in this study does not
count for CME credits. Even with this amount of time devoted to education, there are still large gaps between appropriate professional knowledge and the actual practice of treating patients and impacting their outcomes.

Healthcare educators have to help providers take the medical knowledge they received in their continuing medical education courses and other educational avenues that discuss the changing needs or best practices in medicine and translate that into their everyday practice, often utilizing an EMR to do the work. An example is when there is a change to a Minnesota Community Health Measurement, such as measuring statins instead of a diabetic patient’s Low-density Lipoprotein. A healthcare educator has to make sure the change has been made in the EMR software, design curriculum to support the change, and then teach the providers the change, and then audit their usage and understanding of the change. Mansouri and Lockyer (2007) found that “new behaviors may need reinforcement for sustainability. It may also suggest that there is an optimal and realistic length of time to assess an intervention” (p. 12). The authors’ meta-analysis indicated that the length of time a provider participated in continuing education was not a significant factor, indicating that additional time is needed to reinforce any new medical interventions learned. Mansouri and Lockyer pointed out that when a provider was in contact with an educational intervention, the longer the contact, the larger effect it had on retention. This means that when a change in the practice of medicine or a change to the EMR system happens, providers need prolonged, repetitive exposure to the change for it to gain traction.
Competing Priorities for Providers

This section discusses competing priorities that providers have to manage in their practice. Besides seeing patients and keeping apprised of changes in medical practice or the EMR, clinicians are also tasked with achieving certain organizational, state-wide and national standards of care. Healthcare personnel must know how to utilize the electronic medical record system as mandated by the government for their healthcare organization to be considered an Accountable Care Organization. According to the Centers for Medicare and Medicaid Services or CMS (2014), the goal of an Accountable Care Organization (ACO), is to coordinate care for patients who have chronic illnesses and to ensure that patients receive the right care at the right time. It is intended to reduce medical errors, increase quality of care and utilize money towards healthcare more efficiently. To achieve these goals, healthcare workers must meet quality metrics which are tracked through an EMR system. CMS (2014) also indicates that to receive financial incentives and compensation of care from Medicare and Medicaid, healthcare organizations must demonstrate that they are utilizing their electronic health record system effectively. CMS (2014) details that these incentives are part of a larger program called Meaningful Use, where providers and healthcare organizations have to meet certain regulations and metrics to be eligible. The pursuit of these metrics and standards has the potential to interfere with the medical care being given if a provider is struggling to use the EMR efficiently. Healthcare educators work with providers to increase their efficiencies with the EMR, which in turn assists the healthcare organization in achieving the standards set forth.
Competing Priorities for Healthcare Educators

Besides concerns that providers must deal with, there is also the issue of competing priorities for healthcare educators. In addition to finding time to educate providers in their busy schedules, workplace educators find that their work continues to become more segmented, yet interrelated. Farrell (2004) stated that workplace educators are uniquely positioned within an organization. They mediate several work practices, teach people to engage with new materials, and process change. New functionality or workflow updates are constantly evolving. Knowledge and skills of the workplace educator are outdates quickly.

This is especially true for healthcare educators, as changes to medicine and technology are perpetual. Similar to the competing priorities for practitioners, healthcare educators must follow specific organizational guidelines within their practice. Farrell (2004) indicates that healthcare educators “must reconcile the tension between the corporate requirement for creativity (or innovation, or knowledge production) with the corporate requirement for some form of centralized control” (p. 486). An example from my current practice involves the organization’s influence over provider education curriculum. Recently, while working to create an education program for newly hired providers, I was given specific guidelines and objectives that had to be taught. The organization wanted to make sure that certain information about required measurements were discussed, leading to additional hours of education for practitioners. Due to the additional educational materials the amount of time spent, adult teaching strategies such as hands-on, scenario-based education and individualized learning were reduced, which decreased provider engagement and retention of the information.
Farrell (2004) stated that the role of the workplace educator is one built on relationships of trust between co-workers, students, and the corporate administration: “The workplace educator is tacitly positioned as an agent of the industry or corporation, although, on the face of it, they still seem to be doing the same educational work” (p. 486). This is a concern for the providers because many individuals bring their agendas into their learning environment and this can create friction and impact their ability to learn and the ability of the healthcare educator to provide helpful and timely education. For example, one provider might be interested in treating obesity in his or her patients, but an organizational mandate may force a healthcare educator to focus training on workflows related to patients with asthma. These competing priorities make the role of a healthcare educator unique and challenging as they work with a variety of individuals with differing opinions and with changing institutional priorities.

**Challenges for Healthcare Learners**

One challenge of educating adult learners in a healthcare setting is that you are teaching to a varied population. Healthcare professionals come from a variety of backgrounds and experiences. Specifically, providers may receive training at other institutions or countries that do not have access to an EMR or to an advanced EMR like the one utilized at my organization. Merriam, Caffarella, and Baumgartner (2007) indicate that almost 50 percent of all skills learned by employees are outdated in three to five years. They also specify that “because skills learned in preparation for a job or career cannot keep pace with the demands of the world of work, the ability to learn becomes a valuable skill in and of itself” (p. 15). Healthcare educators have to teach
healthcare professionals new skills and materials, and engage them in new learning techniques, oftentimes utilizing technology as the teaching tool.

The changing dynamics of the workforce requires an appreciation on the part of the educator to recognize past experiences, and teaching and learning differences in a variety of cultures. Race, ethnicity, and sex all play a role in educating adults in the workforce. Merriam et al. (2007) indicate that “significant changes in the composition of the workforce are also occurring along racial and ethnic lines” (p. 16). The authors suggests that women make up almost 50 percent of the current workforce, indicating that as the workforce changes so should the education and the learning taking place. Harris, Novalis-Marine, and Harris (2003) argue that younger physicians and women in particular are adapting to technology based continuing education more readily than older and male providers. This shows that the make-up of healthcare professional learners is changing and healthcare educators must adjust their teaching accordingly.

For example, recently I worked with a female provider who emigrated from Peru. She started her career in the United States at a clinic that provided free- and reduced-cost services to anyone who needed them. This clinic did not have the resources to purchase or support a sophisticated electronic medical record system (EMR). When she started as a provider in one of the clinics, I helped to support she was a fantastic physician, but completely overwhelmed with the idea of an EMR. Although she was comfortable with using technology and computers, the sophistication of the EMR was daunting. She struggled to comprehend many of the predictive coding models used to write the software and make suggestions to the healthcare workers regarding which tests or immunizations a patient was due for. Many of her questions were about trying to
understand how the EMR software worked and how it assisted her in making medical decisions to do her job by providing predictive information about the patient. An example of this is that the EMR can let a provider know that a patient is due for a particular exam, such as a colonoscopy or mammogram. The technological advancement did not restrict her practice as a doctor, but did slow her ability to document a patient’s chart efficiently and utilize the EMR to its fullest capacity.

As the person educating her, I had to adjust how I taught her to use the EMR. I described the reasons for how and why the EMR operated as it did and taught her how use the software program. The inequities between providers whom healthcare educators teach and their backgrounds with an EMR system can increase the role’s complexity. This puts the healthcare educator in the middle of competing organizational and employee needs.

**Reluctance to Change**

As mentioned, providers often have their own interests about increasing their medical knowledge or focusing on a specific epidemic and can be reluctant to any change that may interfere with their interests. An additional challenge for healthcare educators is to utilize creative and innovative solutions to deliver education to a work population that has its own interests and priorities. Healthcare educators often employ a specific skillset to assist providers in understanding and managing change or innovation. In general, healthcare education has to change to meet the needs of the organization and its employees. However, even as medical advancements surround providers in their daily work, they struggle to assimilate to technological, systemic, and process innovations. As a healthcare educator who works with adult clinicians, I often struggle with provider
hesitancy to innovation and change. Although this reluctance with change is lessening with younger providers who are more accustomed to technology and constant change, Rogers (2003) suggests that only about 16 percent of individuals who are presented with a new innovation will readily adopt the change with little skepticism. An additional 68 percent of people tend to fall into two categories making up the Early and Late Majority. These individuals tend to deliberate longer about an innovation and enjoy consulting with their colleagues before completely committing to a change. In my experience, medical providers often fall into either the early or late majority regarding changes as they prefer to consult their associates and discuss all the implications of a change before adopting it. Providers are seen as leaders within their organizations and are required to make the best care decisions for their patients. Due to the nature of their role, and the aforementioned constraints providers often find themselves under healthcare educators working with the providers often receive resistance to new ideas or changes. In my practice, many clinicians find traditional lecture style education preferable to more innovative approaches to education, because they are familiar with this teaching methodology from medical school. However, once entrenched in their clinical work, this teaching methodology is an insufficient avenue for facilitating education due to many of the challenges mentioned previously. Merriam et al. (2007) discuss the difference between resistance and barriers. They state that resistance for adult learners is an active choice to not participate in adult learning, while many of the challenges previously mentioned should be considered barriers. Barriers can be linked to a variety of reasons, including those external to the workplace.
Thus, there is a variety of barriers that challenge education of providers in a healthcare setting. The goal of this research was not to resolve or necessarily change those barriers, but to assist healthcare organizations in understanding the challenges that healthcare educators face and how to make the most impact with the limited time to educate clinicians.

**Theoretical Framework**

The theoretical framework section discusses the adult learning principles identified by Knowles, Holton, and Swanson (1998) and how these ideas are related to my research. Although there are many challenges in the world of healthcare education, my primary research question seeks to understand if applying adult learning principles to healthcare education may be a way to advance the role of a healthcare educator and improve provider education by better engaging providers in a healthcare setting. Adult learning, or andragogy, is a theory of understanding the adult as a learner, including the learner’s past experiences and educational needs. Andragogy is meant to facilitate the interests of the learner instead of the educator’s. Knowles et al. (1998) elaborated on the traditional understanding of andragogy, the art and science of helping adults learn, by defining six principles: The need to know, the learners’ self-concept, the role of the learners’ experiences, readiness to learn, orientation to learning, and motivation.

These six principles are the guideposts for the continued study of adult learning. These principles suggest that adult learners have an interest in gaining knowledge and have an increased readiness to learn as they progress in their lives. These principles have identified that adults prefer to take an active role in their learning process, which helps to create a stronger self-concept, focusing their learning to real-life situations increasing
their motivation to learn. These concepts are explored in subsequent chapters. I utilized these principles when evaluating provider education materials from six healthcare institutions in the Upper Midwest. Boyer (1990) suggests that knowledge is not a linear enterprise and traditional scholarship should be reconsidered. He reminds us that knowledge and theory can come from practice, but that practice can also initiate and shape research. Boyer (1990) indicates that to be a true scholar, one must step back from just the role of a researcher and look for connections between theory and practice. He further indicates that there is scholarship in the integration between fields of discipline. “Making connections across disciplines, placing specialties in larger context, illuminating data in a revealing way, often educating non-specialist” (Boyer, 1990, p.18). Boyer suggests that moving beyond traditional disciplinary boundaries to discover new and emerging patterns is the best way to connect fields and create scholarship. This study crosses disciplinary boundaries to an integration between the two fields of education and healthcare.

**Summary**

This study explored the importance of the role of healthcare educators and their utilization of adult learning principles within their practice of educating providers. A personal goal for this project is to merge two passions, education and healthcare. The quest to learn and continuously and facilitate education for healthcare employees has helped me on my road to achieving my dreams. My current role as a healthcare educator allows me to pursue my own learning through facilitating the learning of others. A main goal of healthcare educators is to assist providers in translating their medical knowledge into usable materials to improve their clinical decision making. A large component of
my practice as a healthcare educator also involves teaching providers how to best utilize an electronic medical record system (EMR) to support their work.

Healthcare educators often develop, maintain, and implement educational materials to achieve this goal. This study seeks to understand the role of the healthcare educator in several healthcare organizations in the Midwest through interviews focused on the perspectives of healthcare educators, the importance the educators and their organizations place on their role, and what the future of healthcare education and the role of a healthcare educator will look like. By analyzing the educational materials healthcare educators employ when working with medical providers, I sought to determine if Malcolm Knowles’ traditional adult learning principles described in Knowles, Holton, and Swanson (1998) are guiding their providers’ educational practices: The need to know, the learners’ self-concept, the role of the learners’ experiences, readiness to learn, orientation to learning, and motivation. Senge (2006) states that “true proactivity comes from seeing how we contribute to our own problems” (p. 21). As a healthcare educator, I would like to contribute to how the role of a healthcare educator is perceived and valued within healthcare organizations.

In determining what the current and future state of healthcare education might be, I hoped to make recommendations for future practice and assist in overcoming previously mentioned barriers to educating medical practitioners in a healthcare setting. This topic research is important to the field because little research has been done to clarify the role of a workplace educator in the context of a healthcare setting. This study has the potential to impact and reach a wide audience within the education and healthcare fields. The convergence of these two disciplines warrants appreciation and a better
understanding of the individuals who practice in the role of a healthcare educator. The next chapter will examine various authors, their ideas, and accompanying literature regarding the topics of workplace, and provider education.
Chapter Two

Literature Review

Introduction

Work and education are embedded in the lives of individuals living in the United States. In working life, individuals often pursue the goals of being knowledgeable, effective, and successful in their professions and workplaces. Education plays a large role in achieving these aspirations as it equips individuals with the appropriate knowledge and skills to achieve these goals. Work is a driving force in the United States and has dominated much of its cultural identity. Shumacher (1979) states:

After all, it is work which occupies most of the energies of the human race, and what people actually do is normally more important, for understanding them, than what they say, or what they spend their money on, or what they own, or how they vote. A person’s work is undoubtedly one of the most decisive formative influences on his character and personality. (pp. 2-3)

To understand people, to know who that person is, we need to know about the work they do (Schumacher, 1979). Another piece of the United States’ cultural identity can be found through the various aspects of education. Watkins (1995) stated that training and education can be traced back to early cave paintings depicting hunting lessons. Watkins noted that the origins of the modern formal education processes were initiated in the 1700s, where apprenticeships were a common way to attain advanced skills. Rury (2009) agreed, suggesting that education and work in the United States have always had a reciprocal influence relationship.
This study explored modern aspects of this relationship, specifically of education in a work setting that educates medical providers in a healthcare setting, such as a hospital or clinic, and the people who facilitate this education. This chapter sets the framework for this study through discussion of pertinent literature for two research questions:

- “How do healthcare educators describe their role[s] and experiences educating providers in a healthcare setting?” will help to understand the role of a healthcare educator, their lived experiences in that role, and their place within their healthcare organization.

- “What adult learning principles, determined by Malcolm Knowles, can be identified in provider education materials utilized in a healthcare setting?” will ascertain if adult learning principles are being utilized to educate providers.

The first part of this chapter identifies some historical links between education and work in the United States and the theoretical foundation for this study, utilizing the adult learning principles defined by Knowles, Holton, and Swanson (1998). The next section explains my philosophical beliefs about education and workplace education. This is followed by discussions of organizational learning and education within the workplace and descriptions of healthcare education, healthcare educators, and their roles. The literature review provides an understanding of the dynamic topic of healthcare education and the influential components comprising the field.

**Historical Framework of Education and Work in the United States**

The first section surveys the reciprocal relationship between education and work in the United States from a historical perspective. The aim is to provide a historical
context regarding work and education and to demonstrate examples of how the two have intertwined historically. Schumacher (1979) wrote that the three purposes of human work are to provide necessary and useful goods and services, to enable every one of us to use and thereby perfect our gifts like good stewards, and finally, to do so in service to, and in cooperation with others, so as to liberate ourselves from our inborn egocentricity. Schumacher suggested that “work is so central to human life that it is truly impossible to conceive of life at the human level without work” (p. 4). In colonial times “labor quickly became the most critical element of the colonial economy” (Rury, 2009, p. 40). A continuous process of education and training was the norm in colonial households. This time period also saw significant curricular differentiation in school and workplace settings. Rury (2009) indicated that receiving education within a workplace setting was a common practice. Wealthy children were educated at home with private tutors, while others were taught through apprenticeships and on-the-job training. The author also specified that education in the form of apprenticeships gradually disappeared during the 19th century as industrialization rose (Rury, 2009). The goal of education at this time was structured and practical in nature, it was education for citizenship, work, and life. Watkins (1995) stated that the early 19th century saw a call for school reform away from the mechanical ideals that were present during the industrial revolution. Rury (2009) wrote that with the advent of free, public schooling, the purpose of education slowly became for the sake of education and highly desirable, not specifically associated with a vocation. Education became an avenue for social change, influenced by society and the needs of the citizens.
As societal needs changed, the differentiation of job roles in the cities led to a drastic increase in professional positions (Rury, 2009). The importance of schooling to align with children’s interests and the importance of their schooling experiences were at the forefront of this next wave of educational change. Dewey (1938) advocated that children needed to have a variety of experiences and interact with the curriculum to be better engaged citizens with the world around them. Employee assistance programs were started, which included career development and increased skills training (Watkins, 1995). Watkins stated that in the 1980s, the use of technology in the workplace increased, as did the role of instructional technologists, a synonym of that time for a workplace educator. The 1990s saw a movement towards standardization and testing, known as systemic reform. The idea was that school curriculum should align with systems of assessment (Rury, 2009). Now in the 21st century, we can call on Dewey’s (1938) ideals from the earlier part of the previous century when he indicated that the goal of the educational system is to transmit information and skills to new generations and should prepare individuals for future responsibilities and success in life. This should be a goal of the current education system and can be directly related to the continued aim of integrating education in the workplace.

Andragogy or Adult Learning

This section explains the theoretical foundation of the study: adult learning or andragogy. It describes andragogy as a theory, the difference between education and learning, and the social context of adult learning. The goal of this section is to provide an understanding of the foundational thinking regarding adult learning that is fundamental to the development, research, and analysis of this study. Henschke (2011) suggested that
the term “andragogy” was first authored by Alexander Knapp in 1833, sat dormant for many years, and then was utilized by several teachers until Knowles acquired it in 1966. Knowles, Holton, and Swanson (1998) stated that the modern understanding of adult learning in the United States started in the early 1970s. Malcolm Knowles is the theorist who identified six guidelines that make up this more modern understanding of adult learning in the United States. Knowles’s work in adult learning theory has influenced many other adult learning theorists. Merriam, Caffarella, and Baumgartner (2007) suggested that although Knowles’s concept of andragogy is understood as a foundational set of principles that guide adult learning, it actually demonstrates the characteristics of adult learners and not the nature of learning itself. Knowles, Holton, and Swanson (1998) posited that andragogy is a model or system of elements where an ideology can be adopted or adapted in whole or in part. Flexibility is a main feature of andragogy. Although there is disagreement within the adult learning field if these principles can be considered a theory rather than just guidelines or a description of adult learners themselves and not adult learning as a whole, for the purpose of this study I refer to Knowles, Holton, and Swanson’s principles and guidelines.

Knowles, Holton, and Swanson (1998) advocated for an understanding of adult education and adult learners. Adult education is an attempt to discover a new method for learning and the authors indicate that adult learners are individuals that have intellectual aspirations, are aware of significant experiences, and have a goal to find meaning from and within experiences. Henschke wrote, “The strength of Knowles’ approach was its position advocating an adult learning program that is respectful, trusting, supportive, and collaborative” (2011, p. 35). This study utilized Knowles et al.’s principles as a
theoretical framework and showed the value of including adult learning in provider education.

**Andragogy and Six Adult Learning Principles**

This section defines andragogy and Knowles, Holton, and Swanson’s (1998) six adult learning principles, which are the foundation for this study. With heavy influences of psychology and the social sciences, adult learning theory has had several individuals attempt to identify a comprehensive understanding. Henschke (2011) defined andragogy as the art and science of helping adults learn. Knowles, Holton, and Swanson (1998) stated that adult learning or andragogy is derived from the Greek term “pedagogy,” which is the art and science of teaching children. Pedagogy, which literally translates to leader of child, was the foundation of the educational system in the United States and led to the formation of understanding adult education. Pedagogy typically gives the teacher the responsibility to determine what is learned and in what manner (Knowles, Holton, & Swanson, 1998). O’Toole and Essex (2012) support Knowles et al.’s idea that there is a continuum from teacher-led instruction to self-directed learning and that children and adults can gain valuable experiences from different learning styles. The six adult learning principles defined by Knowles, Holton, and Swanson (1998) are learner’s need to know, self-concept of the learner, prior experience of the learner, readiness to learn, orientation to learning, and motivation to learn.

The first adult learning principle, the need to know, explains that adults prefer to understand the reason or value in the learning. Adults need to raise their level of awareness so they can discover the gaps between what they know now and what they want to know (Knowles, Holton, & Swanson, 1998). Barnett (2009) furthered this
discussion by stating that students should take an active role in the curriculum process, making it their own. He pointed out a distinction between knowing and coming to know, stating that knowledge encompasses a collective set of understandings about the world, whereas, knowing is an individual’s personal view of the world. The process of coming to know something is what actually forms us as humans and invites further implications on us as beings. There is an increase in awareness just by coming to know something and being in the world (Barnett, 2009). Barnett indicated that humans find importance and meaning in the process of learning something, as it increases their awareness of themselves and the world.

Knowles, Holton, and Swanson defined the second principle, the learners’ self-concept, as adults being responsible for their own decisions and lives. Once adult learners have an understanding of their self-concept, they can become self-directed and determine what they would like to learn and subsequently do with that learning. Merriam, Caffarella, and Baumgartner (2007) further Knowles, Holton, and Swanson’s idea of self-direction by stating that there are four variables that influence if an individual exhibits autonomy and self-direction in learning situations. The first is their technical skills related to the learning process, next is their familiarity with the subject matter. This is followed by their sense of personal competence as learners, and finally, their commitment to the learning.

The third principle of andragogy specifies that adults come to a learning situation with previous experiences from a variety of situations and backgrounds. Differences in experiences lead to an emphasis on individualization in adult teaching and learning strategies. Knowles et al. emphasize that the main resource of learning materials is
actually the adult students and their experiences. Any rejection or devaluation of the adult learners’ experiences can feel like a personal rejection (Knowles, Holton, & Swanson). Knowles et al. (1998) clarify that the defining difference from the role of experience found in pedagogy is the role of the learners’ experiences found in andragogy. The authors further caution that although having a variety of experiences can illuminate learning, adult learners need to be aware of their own presuppositions. Senge (2006) uses the term mental models to describe the lens through which all individuals view the world.

Mental models are deeply ingrained assumptions, generalizations, or even pictures or images that influence how we understand the world and how we take action. Very often, we are not consciously aware of our mental models or the effects they have on our behavior. (p. 8)

Overcoming our personal mental models or the lens with which we see everything relies on an openness to understand how we currently see the world and the ability to identify any limitations within our current perspectives. If those limitations are not considered, then it may restrict an individual’s ability to learn new things.

The fourth adult learning principle that Knowles, Holton, and Swanson describe is the readiness to learn. The authors stated that adults become ready to learn based on the developmental stage they are in or in moving from one life stage to the next. Merriam, Caffarella, and Baumgartner (2007) consider the readiness to learn as a psychological state consisting of complex attitudes, values, and abilities. A balance must be found in this principle. Educators cannot push individuals too quickly into this phase of learning, but waiting for students to be ready may be detrimental to their learning and personal
development as they are not progressing and ready to understand things from another perspective.

Knowles, Holton, and Swanson (1998) indicate that the fifth principle of adult learning is the orientation to learning. Adults are life-, task-, or problem-centered, meaning that the learning they are doing is specifically to help them perform a task or solve a problem. Additionally, adults find learning to be the most impactful when applied to real-life situations. Levin (1994) considers a shift in work organizations, which are now requiring more high-performing skillsets in their employees. Education is the avenue to achieving these advanced skills as employees are interested in learning the skills that will impact their work.

The final andragogical principle that Knowles, Holton, and Swanson describe is motivation. While adults respond to a variety of external motivators such as a promotion, the most prominent motivation comes from internal sources, such as increased job satisfaction and quality of life. The authors identified the main barriers to adult motivation as negative self-concepts, inaccessibility to opportunities and resources, time constraints, and any educational programs that forgo the core adult learning principles. Hancock (2002) furthered the idea of adult learner motivation by suggesting that “the strength of each students’ motivation toward learning depended on the strength of that student’s expectation that learning was accomplishable and that learning would result in a valued outcome” (p. 64). This indicates real-life situations that will lead to an intended and expected outcome are the most motivating factors for adult learners.

These six principles were utilized in two ways in this study. First, interview participants were asked if they utilized Knowles, Holton, and Swanson’s adult learning
principles in their practice and if they thought that their organizations find value in using adult learning theory to educate providers now and if adult learning theory might utilized in the future when educating adult providers. Second, research participants submitted provider education materials to be assessed to determine if Knowles, Holton, and Swanson’s principles were utilized. Analysis of interview and documents assisted in answering the research questions for this study.

**Education and Learning**

This section delineates the differences between education and learning to frame the lens for this study. Knowles, Holton, and Swanson (1998) defined education as “an activity undertaken or initiated by one or more agents that is designed to effect changes in the knowledge, skill, and attitudes of individuals, groups, or communities” (p. 10). Harrison (2004) defined education as “formal curricula and learning activities planned by an expert operating within a system that provides formal education activities” (p. S57). Knowles, Holton, and Swanson (1998) proposed that the term “learning” is different from that of education. To them, learning is “an act or process that results in a change of knowledge, skills, or attitude” (p. 11). Put another way, learning is the acquisition and mastery of what is already known, the clarification of meaning of one’s experience, and an intentional testing of ideas (Knowles, Holton, & Swanson, 1998). Learning is a process whereby some form of change occurs in the individual. Harrison (2004) suggested that learning occurs within the individual and includes knowledge and skills from a variety of sources, with educational activities as only one source. Adult learning is defined as “the process of adults gaining knowledge and expertise” (Knowles, Holton,
& Swanson, 1998, p. 124). They further stated that adult education is a process of finding meaning, significance, and value in experience.

**Context of Adult Learning**

A discussion the changing needs of adult learning related to societal influences helps to frame the importance of the changing landscape of adult learning, the individuals who provide this type of learning, and how their role assists in altering the future of adult learning. Learning is a personal process shaped by society and the context of a learner’s life. Learning is an interactive process between the learner and the social context.

Merriam, Caffarella, and Baumgartner wrote that society is always evolving and the emphasis on adult learning changes with the social need (2007). Preindustrial societies required less sophisticated knowledge. Once the pace of society changed, so did the rate of change and need for growth in adult education. Merriam, et al. (2007) are concerned with how society today is managing the increasingly diverse populations and exponential growth in technological advancements. The authors maintain that because adults outnumber young people, the population of the United States is better educated than ever before, and because the United States’ society is more culturally and ethnically diverse, there needs to be an understanding that learning should be learner and societal focused. They stated, “Educators, employers, and society at large are focusing attention on developing the skills needed to be productive and informed members of a fast-changing and highly technical society” (p. 25). The authors suggested that a new term, “the learning society,” focused on humans rather than educational institutions, should be used when discussing learning. They wrote, “Adult education both reflects and responds to the forces prevalent in the sociocultural context” (p. 26).
Of the many theories and theorists that have been influential in the field of adult learning from many perspectives, this study focused on Knowles, Holton, and Swanson’s (1998) work as the foundational principles of adult learning. Investigation of adult learners and their cognitive or developmental needs and growth associated with learning were not part this literature review and study. Because the focus of this literature review and the research was adult learners within the context of a workplace setting, topics such as aging, memory, intelligence, and the brain related to adults or adult learning were not included.

**Philosophical Framework**

This section explains my beliefs about the goal of education, educators, healthcare, and healthcare education. These beliefs are ideals that I hope can be found within a society where everyone has the ability and desire to learn and receive education, and where education is a priority. Similar to the previously mentioned goal for individuals to find meaning through their work, I believe the ideal purpose of education is to assist learners in finding and making their own meaning. By constructing meaning in whatever context and altering their perceptions, students or learners can become more engaged with the learning material and gain a new understanding, which in turn assists them in finding personal meaning through their work. Mezirow (1991) insisted that “meaning exists within ourselves rather than in external forms” (p. xiv). Making meaning is more than adapting to changing circumstances and applying to old ways of knowing (Mezirow, 1991). He wrote that individuals should acquire new perspectives to gain a better understanding of changing events and increase control of their lives. Senge (2006) stated:
Real learning gets to the heart of what it means to be human. Through learning we re-create ourselves. Through learning we become able to do something we never were able to do. Through learning we perceive the world and our relationship to it. Through learning we extend our capacity to create, to be part of the generative process of life. (pp. 13-14)

We all have the capacity to learn and educate ourselves and each other, sharing our experiences and helping to create and recreate new perspectives is foundational to my beliefs.

The goal of an educator should be to facilitate learning experiences for learners, not force them down a particular path to reach a specific end goal. Merriam (2001) analyzed the continuum found in learning that starts as teacher-directed learning for children and moves to student-directed learning when working with adults. Adult learners are typically self-engaged, motivated individuals seeking out understanding and knowledge. Knowles, Holton, and Swanson (1998) indicated that adults’ prior learning experience is important because it allows for a variety of individuals to be resources for others, creating the ability to shape new learning and help ground adults’ self-identity.

Adult learning should be “a process of mental inquiry, not passive reception of transmitted content” (Knowles, Holton, & Swanson, 1998, p. 35). Educators should be able to facilitate the process in which perspectives are altered and not dictate outcomes or learnings for students. “So it should come as no surprise that the unhealthiness of our world today is in direct proportion to our inability to see it as a whole” (Senge, 2006, p. 68).
I defined the goal of healthcare as providing care for patients from a holistic perspective and assisting them in being their healthiest selves. In pursuit of this goal, healthcare professionals need to learn how they can help patients medically. In recent times, the healthcare industry has changed in many ways. For example, as mentioned in the introductory chapter, to be considered an Accountable Care Organization or ACO, healthcare organizations are required to utilize an electronic medical record (EMR) to store and retrieve medical information. An EMR is a systematized tool that assists teams of medical staff to store and retrieve medical information. An EMR also assists providers in determining the correct care for a patient through informed decision making.

Healthcare providers must understand how to care for and treat a patient medically. They must also learn how to function within the EMR, such as determining and ordering appropriate procedures or tests and documenting their work. According to Moore, Green, and Gallis (2009), healthcare education targeted at providers must offer the ability to develop new understandings, skills, and capabilities. I believe that healthcare education must assist providers in taking any prior knowledge and combining it with current education to better inform their practice and clinical decision making. The proper and creative utilization of an EMR is the key to furthering the practice of healthcare education. The next piece of the philosophical framework for this study is interdisciplinary learning, another aspect of adult learning that assists in individuals finding meaning.

**Interdisciplinary Learning**

This section discusses the importance of learners’ breadth and depth of knowledge procurement and its interdisciplinary nature. Barnett (2009) maintained that
the future of knowledge acquisition is interdisciplinary. This means that all aspects of
knowledge can be found in the integration of educational methods and understandings
and in various situations or experiences. I believe that work-related knowledge can be
obtained from a variety of sources, historical or personal experiences, literature,
educators, colleagues, and on-the-job learning or informal learning, where learning
occurs naturally, and is embedded in every-day experiences. To encourage adult learners
in their learning experience, I believe in variety of activity from many sources in several
contexts. Having an assortment of activities and teaching strategies will allow adult
learners to explore and adjust their perspectives. According to Senge (2006), individuals
must learn to overcome any mental model or to look outside of their current perspective
to seek to understand themselves, others, and the world. Watkins (1995) suggests
curriculum differentiation can be found back in the early 1900s when employees were
thought of as whole persons, teaching to their senses and learning abilities. Watkins
(1995) discusses that at this time, teaching was to train all of the senses and use a variety
of instructional strategies. Gilbreth believed that viewing the entire work system helped
employees to understand their role and organization as a whole. I believe that
differentiation is vital in workplace education as it naturally assists and impacts students
in ways that are meaningful to them.

**Prior Knowledge and Experiences**

The research shows that adults find interdisciplinary and differentiated learning
helpful to achieving their educational and workplace goals and that they also possess an
array of experiences and knowledge that they can use to inform their learning experience.
This section examines the importance of those prior experiences and the knowledge
gained from them. The knowledge obtained from these prior experiences is often unrealized. Through interdisciplinary teaching adult learners can better discover and understand the meaning in those experiences. Dewey (1938) stated that all genuine education comes through experiences. Lessons that have been lived through are able to teach us the most. In my experience, individuals may be reluctant at times, but enjoy sharing personal experiences, achievements, and enlightenments with others, thus increasing experiential learning for each individual and creating community. To help elicit the change in perspective, an educator should encourage active and collaborative processes that increase the potential for learning and assists students in having an impactful learning experience. Everyday learning or informal learning can be the most powerful form of learning for many students. Experiential or informal learning is often found in a workplace setting. Specifically, adult learners in a work environment are better equipped to share experiences with each other through their everyday work situations. Adults in a work environment are able to share knowledge and alter each other’s way of thinking in an organic way. According to O’Toole and Essex (2012),

> Placing the learning within or close to the workplace setting means the learning experience can be coupled with the learner’s work role, heightening the likelihood that the learning transfers into practice and increasing the motivation and meaning which attach to it. (p.185)

This concept I have referred to as “convenience learning,” where students gain knowledge because of their situation or environment. They may not be cognizant that they are learning new things just by interacting and sharing experiences with their coworkers. This type of learning is invaluable in the adult learning process because it is
self-determined. Adults in the workforce are able to synthesize various aspects of their job, from a variety of sources to form new understandings, many of which can be found through sharing and understanding prior learning experiences.

**Learning Environment, Community, and Shared Vision**

The importance of a learning community building a shared vision within a safe environment is discussed in this section. To share their perspectives and previous work experiences, adults need to find comfort and safety in their environment. I believe that encouraging engagement in adult learners and providing the opportunity for learning requires that students feel safe and have a sense of community. Adults are more willing to share and explore new ideas if they can do so in a welcoming environment. Block (2009) suggested that fostering community can build relationships that will inspire new and shared experiences, helping to increase engagement in the learning process. Beltzer (2004) noted that learning experiences tend to build on each other. I think it is imperative that adult learners have a safe environment where individuals feel welcomed to share their learning journey, meaningful conversations, and explorations. Finally, utilizing shared experiences across learning contexts helps to promote this sense of community by encouraging the shifting in perspectives of adult learners. Merriam, Caffarella, and Baumgartner (2007) agreed that adult education is losing its focus towards social action as life demands and economic hardships consume individuals with their survival. Life-long learning is a valuable goal for our society as it impacts continued learning through adulthood.
Active Citizenry

A key element to education and learning is the goal of active citizenry. Interdisciplinary learning of a variety of subjects combines with learners previous experiences in an informal setting to shift the original perspective of the learner. These assist in the creation of adults realizing their potential as learners and as active citizens.

Dewey (2011) suggested that:

As a society becomes more enlightened, it realizes that it is responsible not to transmit and conserve the whole of its existing achievements, but only such as make for a better future society. The school is its chief agency for the accomplishment of this end. (p. 15)

Dewey stated that we should not forget about the past, instead focus on the learnings from the past that move us forward as a society. Education helps to make better citizens and provide individuals an avenue to experience deep, reflective, and creative thinking.

Gardner (2008) stated that “the survival and thriving of our species will depend on our nurturing of potentials that are distinctly human” (p. 167). I believe that the overall goal of education inside and outside of the workplace is to foster active citizens who contribute in whatever way they can to society and the betterment of the planet.

Although many adult learners may already be active members of society and making impactful contributions, the inherent positive aspects of education can further elicit greater potential in these same individuals. Allowing individuals to find their own paths to knowledge is essential to the continued creation of actively engaged citizens.

The previous sections presented my philosophical beliefs about education, educators, healthcare, and healthcare education. Specifically, how interdisciplinary
learning should be integrated into adult teaching practices, with an emphasis on the learners’ prior experiences and the knowledge they obtained through these experiences. This type of interdisciplinary learning and teaching can only be accomplished in a setting that is comfortable and where the individuals participating in the learning feel safe, allowing for a sense of community to flourish. Finally, the philosophical section describes that the ideal role of a learner is to be an active citizen willing to learn new things and shift their perspectives to benefit the greater good. These sections focused on adult learners finding meaning within their educational experiences, the next part of this literature review indicates that adult learning can be accomplished in a variety of settings, emphasizing the workplace as a learning organization, and the meaning that individuals prescribe to and gain from their work.

Organizational Learning

Organizational learning is vital to the framework for this study and will be explored next. Dewey (1938) suggested that to become and remain active citizens, individuals must constantly evolve and learn new things. Continued learning in adulthood is vital to achieving the goal of being an engaged citizen. Adult learning takes place in various contexts, often in a large setting such as an individual’s place of employment. This section reviews organizational learning as a framework for understanding the field of workplace education. Senge (2006) argued that individuals within a learning organization, such as healthcare, must have specific skills to maintain growth. Learning, information processing, and problem-solving skills are crucial to the survival of individuals and the learning organizations they are members of. In addition to maintaining and increasing the skills of employees, organizations must understand that all
individuals are learners who possess their own wealth of knowledge. Senge (2006) states that “the organizations that will truly excel in the future will be the organizations that discover how to tap people’s commitment and capacity to learn at all levels in an organization” (p. 4). Understanding this directly relates to the first research question “How do healthcare educators describe their role[s] and experiences educating providers in a healthcare setting?” This research question seeks to understand the commitment of a healthcare educator, their role, and their place within the larger learning organization in which they work. Workplace education and learning are reviewed in the subsequent section further addressing the first research question by emphasizing the importance of workplace education and its necessity within a learning organization.

**Workplace Education**

This section depicts the organizational importance of workplace learning and education. It also suggests how workplace education can assist organizations in achieving their objectives and providing employees with the opportunity to learn new information and skills, making the employees more effective, active members of the organization. This section also relates directly to the second research question “What adult learning principles, determined by Knowles, Holton, and Swanson (1998), can be identified in provider education materials utilized in a healthcare setting?” because it demonstrates the importance of creating appropriate provider education materials that encourage workplace and self-directed learning. Call for papers (2012) indicated that although workplace learning is an emergent topic, currently little has been theorized about its application. Watkins (1995) proposed that workplace education is the biggest adult education venture and is experiencing exponential change and growth. Folinsbee
agreed, stating that “changing technology, increased employee decision making, quality initiatives, and new government regulations have made workplace education a priority” (p. 63). Spikes (1995) stated that more adults are engaged in workplace-based learning activities than ever before and that workplace learning is a multibillion-dollar enterprise where employees learn new skills to help their organizations remain competitive. Spikes continued this idea by suggesting that “learning in the workplace is now viewed by most modern, globally competitive organizations as a key strategy in achieving core business objectives” (p. 1). Spikes also identified workplace learning and education as assets to a company and essential business needs. Workplace education takes place at all levels within the organization and plays a “pivotal role in transforming traditional employer and employee relationships, business practices, and organizations into today’s reengineered, team-oriented, learning-oriented entities” (Spikes, 1995, p. 1). Watkins (1995) indicated that the future of workplace education will see employees learning individually and in self-directed learning projects. Employees’ work has become diffused with an increasing variety of tasks.

Workplace education is also known as practice-based learning. Call for papers (2012) defined practice-based learning as that which occurs in the workplace, often in an informal or incidental, non-intentional, learner-centered environment, and embedded in work activities. Sixty-three percent of adults reported participating in informal workplace learning (Merriam, Caffarella, & Baumgartner, 2007). Merriam, Caffarella, and Baumgartner defined informal learning as spontaneous and unstructured in nature, often embedded into the daily lives of workers. Most often, this type of learning is self-directed. This means that the individual employees are initiating and engaging in
learning that matches their educational needs. Billett (2006) suggested that the more individuals are engaged in their practice, the more refined their learning becomes. Directly relating to the second research question which focused on whether specific adult learning principles can be found in provider education materials, Billet wrote that organizations must create new educational strategies and materials to sustain progress in today’s society. My study research sought to discover if any innovative strategies are currently being employed to educate providers that assist with organizational growth and opportunities for the future.

Hartley (2007) stated that “in order to be competitive, businesses must generate their own knowledge rather than merely apply someone else’s. Knowledge is becoming a traded asset, and its acquisition becomes continuous, and necessary” (p. 195). Hartley continued this examination by pointing out that there is no foreseeable end to the lifelong learning and change that are required of organizations and their employees. With the remodeling of the workforce and the skills required to sustain employment, organizations find themselves tasked with developing, maintaining, and teaching knowledge to a variety of different learners in new ways. Billett (2006) wrote that this is important because effective curriculum can provide learners with rich learning experiences that can develop their vocational understanding and help them to achieve workplace goals. Furthermore, Rowden (2007) stated that from an organizational perspective, workers will be more effective, productive, feel happier, and more fulfilled at work if they learn while on the job. Providing education to employees in a workplace setting has been shown to be imperative to the continuation of a learning organization, the employees’ commitment,
and overall satisfaction. For workplace learning to thrive, a specific type of educator who understands the dynamic nature of teaching in a work environment is essential.

**Workplace Educator**

The previous section demonstrated the importance of workplace education for the organization and the individual employees. This section considers the individuals who educate the employees in the workplace. An important facet of understanding the role of a workplace educator is to understand the difference the terms used to refer to workplace educators. Although there are specific distinctions between the labels “trainer” and “educator” in workplace education literature, in my experience, these terms are used synonymously in healthcare organizations.

Saltiel (1995) stated that training does not directly translate to education. The goal of training is to achieve a specific organizational goal, while helping to improve employee performance in their current job. Typically systematic in nature, training aims to transmit knowledge usually determined by the organization about the essential functions of the job. Saltiel argued that education prepares employees for advanced understanding in their current jobs or for future positions in the organization. Saltiel purposed that a merging of the two disciplines would be a powerful combination for companies to utilize. Other authors have offered clarification between training and workplace learning. Watkins (1995) wrote that training is a subcategory of workplace learning and education. Training is specific to job-related instruction. Workplace education encompasses what learners do and is more informal and self-directed, at times focused on how employees learn how they do their work, and can include work processes that increase learning and work performance.
Furthering Watkins’ ideas, some educators place importance on experiential learning, seeking to facilitate critical reflection, and explore new ideas in a trusting, open environment (Merriam, Caffarella, & Baumgartner, 2007). These authors indicated that another educator role is as a catalyst, who engages students in role-playing and problem-based learning exercises where learners must use their knowledge and experience to find solutions to situations. Merriam et al. (2007) wrote that an educator’s role also includes mentor or coach. This typically involves the educator teaching a specific skill or skills to the learners and guiding them through the acquisition of said skills. The final role Merriam et al. (2007) denoted as the role of an educator is to assess the learners’ past experiences in a way that encourages them to get involved in a community of practice where the learners participate in real-life situations. The four types of educator roles referenced are found in the role of a workplace educator, specifically within a healthcare setting.

Spikes (1995) identified that workplace educators are the individuals that can leverage an individual employee’s skills and abilities in new ways. Spikes suggested that a workplace educator is “someone who is professionally adaptive and intellectually creative” (p. 60). This individual engages in a new paradigm for the job role, which emphasizes ongoing integrated learning and professional development. Continuing these ideas, Roth (1995) suggested that workplace educators are the change agents. They are individuals responsible for encouraging and facilitating change in an organization and who serve a variety of additional functions, such as trainer or instructional designer. They plan, deliver, and evaluate training and education efforts. Another aspect of being a change agent and a workplace educator is that the organization’s culture is dependent on
its ability to adapt to changes, both internal and external. Roth (1995) emphasized that workplace educators provide a competitive edge in and for organizations when they commit to learning for the entire enterprise, including individuals and teams.

Farrell (2004) stated that knowledge workers or workplace educators—individuals who are primarily concerned with the production and application of knowledge in their work settings—can be seen as the driving forces that assist organizations in negotiating working knowledge, working relationships, and work practice. Workplace educators are tasked with managing knowledge from a variety of sources, producing, teaching, promoting, and often assessing how individuals learned the new information and how this knowledge impacts the organization. Spikes summarized their roles: “Workplace learning professionals must be positioned in the organization in a way that reflects their importance for business growth and development” (1995, p. 88).

As organizations change, workplace educators must drive many processes. Spikes (1995) suggested that the importance of workplace educators should not be overlooked from an organizational standpoint. He wrote that workplace educators are central to growth and expansion of the company. They are the facilitators of learning, change, and growth in the company or organization and have the ability to enhance and improve workplace production and efficacy. Workplace educators understand tacit knowledge, how an organization actually behaves versus how it is intended to work. These knowledge workers are innovate and creative (Farrell, 2004). Workplace educators identify and encourage changes within the workplace balancing individual and organizational needs. Individuals in this role are constantly looking to increase their
knowledge and understanding of other employees’ roles so they can better understand their own.

**Healthcare Educators**

This section describes the role of a healthcare educator and directly relates to this study’s first research question about how healthcare educators describe their role(s) and experiences educating healthcare providers. The role of a healthcare educator is similar to that of a workplace educator with a few distinctive challenges. Healthcare educators work to bridge the gap between the organizational, clinical, and technological needs and expectations, all of which are competing for priority. There is often a varied gap between providers’ medical knowledge and their knowledge of the technology or work processes to do their job. For many of the providers, this is seen as a barrier to their practice. The goal of a healthcare educator is to understand each of these aspects, develop curriculum that showcases the required knowledge, and then facilitate the education process.

Greenes (2001) stated that the purpose of a healthcare educator is to facilitate improving access to appropriate medical information to assist providers with making informed medical decisions. The role of the healthcare educator is to help facilitate a provider’s learning, in ways that enhance a provider’s utilization of the organization’s electronic medical record (EMR) system.

A healthcare educator also teaches providers how to make and document their medical decisions, with the goal of positively impacting patients and their healthcare outcomes efficiently and appropriately. Spikes (1995) made predictions about the role of healthcare educators and their importance in a healthcare organization. First, Spikes insisted that tomorrow’s organizations will emphasize the importance of workplace
learning and that the current reengineered, downsized is dependent on the continued ability to develop skills that can be transferable. Second, as organizations become less hierarchical in their structure, teams and work-based groups will have increased importance. For example, in the context of a primary care medical clinic setting where a new depression initiative is being rolled out, healthcare educators must facilitate learning about the new clinical standards in a way that can be utilized throughout the clinic in various contexts and by varying roles. The providers need to know the clinical changes, whereas the nursing staff may need to learn new EMR tools to assist them in their patient outreach, and the front desk staff will need to know which forms the patients should fill out when checking in. A team-based approach to healthcare is invaluable to the role of a healthcare educator. Third, Spikes stated that the change in job roles and work patterns, including job sharing, home-based work sites, and variable hours, will become the norm. Fourth, Spikes indicated that the best way to incorporate these organizational changes will be to facilitate employee development at all levels, especially in the role of the workplace educator, because this role is seen as pivotal for continued employee and organizational growth. Fifth, Spikes maintained that for future organizational success, employee development needs to be expanded and innovative strategies to develop, promote, and engage in workplace education must take place: “Future workplace learning initiatives must be tied to the immediacy of application needed by workers in tomorrow’s just-in-time organization” (p. 88). Finally, Spikes stated that instructional mechanisms must be designed to assist employees with their desire for individualization and self-directed learning. This would allow individuals to learn in a way that maximizes their unique learning preferences and potential. Healthcare educators play a vital role in
healthcare organizations as they work to teach healthcare workers with varied educational and clinical backgrounds.

**Provider Education**

The previous sections showcased the role of providing workplace education to the organization’s employees, specifically the role of a healthcare educator. This section highlights the individuals receiving the education, the providers and the education they are receiving on-the-job, also known in this context as healthcare education. The specific problem identified for this study was how to best educate providers in their clinical, work environment, while dealing with a variety of competing priorities. This section directly relates to the research topic of provider education in a healthcare setting and assists in understanding the context for the interview question, knowing the group of individuals the healthcare educators are teaching, and helps to answer the first research question, “How do healthcare educators describe their role[s] and experiences educating providers in a healthcare setting?” Here the terms provider, practitioner, and clinician are utilized synonymously. Cervero (2003) suggested that since the 1960s, the focus on provider education has centered on trying to determine how physicians learn. Cervero argued that the real goal should be in determining where physicians learn. Cervero found that their clinical practice is the primary learning place for providers. Cervero stated that education must be integrated throughout a provider’s practice, while also allowing time for reflection with the hopes of improving quality of practice. Downey and Waters (2005) wrote that there is a:

- cultural shift from lecture-based and doctor-centered activity to practice-focused, work-based learning, using a valid educational tool. With this has come the move
to small group activities and the opportunity for all members of the team to bring their own experiences and knowledge to the learning. (p. 306)

Multidisciplinary educational activities that are found from within the practice should be used to enhance medical practices and patient outcomes. Sargeant, Curran, Jarvis-Selinguer, Ferrier, Allen, Kirby, and Ho (2004) found that the quality of educational programs was most important to physicians, followed by the degree of self-pacing or self-direction, opportunity for reflection, and educational design. Harrison (2004) described several systems of interest when translating new information into a clinician’s practice. Harrison indicated that the healthcare environment itself contains valuable information that will show both the demand and available resources. Physicians interact with a variety of systems within healthcare to gain their expertise, from medical school to their clinical experiences. New scientific discoveries occur and must be integrated into a variety of systems, such as journals, textbooks, electronic medical record systems, libraries, and databases. All of these must be understood by practitioners and the facilitation of these understandings come from the educators that can help providers understand the medical necessity of the changes and how the changes may impact various other systems, including their practice and daily workflows.

**Summary**

This chapter explored the historical relationship between work and education. Each has been embedded in a reciprocal relationship with the other and are a natural pair working in conjunction to assist individuals with their life and work goals. The theoretical framework established the foundational adult learning principles that guided my research on healthcare educators and their practice. It clarified the distinction made
between education as an activity, and learning as a process, both working to achieve a change in knowledge, skills, or attitude. The philosophical framework provided my beliefs regarding education and learning, the purposes of each, and their importance in a larger, societal context. Organizational learning plays an important role in understanding the topic of workplace education because it is the foundation from which all education in a workplace setting emerges. Workplace education is seen as vital to a company’s or organization’s growth and is an emerging field of interest. Workplace education and learning are defined by the workplace educator and the various ways in which the educators use their facilitation and expertise to increase and encourage the redefinition of new ideas and acquiring of knowledge. Healthcare education is one aspect of organizational learning where problem-based learning has been shown to be most beneficial when educating providers. Medical practitioners strive to learn new information and incorporate it their practice through the utilization of an electronic medical record (EMR), and to increase positive and healthy outcomes for their patients. The role of the healthcare educators is to facilitate learning throughout this process.
Chapter Three

Methodology

Introduction

This study utilized a qualitative research framework. Interviews were the data collection method for the primary research question about how healthcare educators describe their role[s] and experiences educating providers in a healthcare setting. Content analysis was employed for the secondary research question focused on Malcolm Knowles’ adult learning principles and whether they can be identified in provider education materials utilized in a healthcare setting. This chapter presents the use of a qualitative research framework, the setting where the research will take place, and a description of the selected participants. An explanation of the pilot study and a discussion of data collection methods and analysis follow. A brief description of validity is also addressed. The human subject review process and the role of the researcher are also presented. This is followed by assumptions of the researcher, and finally a summary of the chapter.

Qualitative Research Framework

A qualitative research framework was employed to understand the role and experiences of healthcare educators facilitating provider education in a healthcare setting. McMillan and Schumacher (2010) described qualitative research as beginning with assumptions and a theoretical lens to study social problems and find meaning. To analyze data, qualitative researchers try to identify natural patterns or themes found through participants’ voices (McMillan & Schumacher, 2010). Utilizing qualitative research design may assist in finding meaning through participant beliefs, their
experiences, and ideas about the future of healthcare education. Hatch (2002) considered qualitative research as a way to study the lived experiences of real people in real settings. This type of study encourages the researcher to try to understand individuals’ perspectives and the phenomena surrounding their experiences. Next, Hatch indicated that social contexts can be examined holistically so that connections and meaning can be made between experiences through a researcher’s interpretation. Finally, Hatch specified that qualitative research requires the researcher to be reflective and interpret the results to find connections and meaning. Creswell (2003) suggested that qualitative approaches are primarily based on constructivist thought, which suggests that there can be multiple meanings based on the unique experiences of each individual. Creswell further noted that these meanings can be historical or socially constructed and that the goal of the research is to analyze emerging data to identify themes or patterns.

**Setting**

This section describes the setting in which the research was conducted. The healthcare educators were interviewed to understand the complexities of teaching adult medical providers in healthcare settings. Four interviews were conducted in person and six were conducted over the phone at a date and time of the participants’ choosing. The arranged in-person meeting locations had limited distractions and noise to enhance the quality of the interviews. Interviews were sound recorded on a minimum of two electronic devices for transcription and analysis. Attempts were made to contact eight different healthcare organizations in Iowa, Minnesota, South Dakota, and Wisconsin. Responses were received from six organizations. The process of identifying the participants for this study is outlined in the next section.
Participants

Three sampling strategies were employed that McMillan and Schumacher (2010) describe. First, I utilized the technique of site selection, which is the process of determining the best sites to gather data. I contacted eight different healthcare organizations in the upper Midwest that provide clinician or provider education and utilize the same prominent electronic medical record (EMR) system. Second, I utilized reputational case sampling defined by McMillan and Schumacher (2010), whereby I obtained the recommendations of possible participants from the organizations contacted. These contacts suggested appropriate individuals to invite to participate in my study. Although labels for this job role vary across healthcare organizations, participants identified that they provided education to medical providers on how to utilize the EMR to advance their practice. The final sampling strategy utilized was purposeful or purposive sampling, where the researcher selects certain elements from the population that will represent and inform on the topic. The researcher often has prior knowledge of the population and is able to select the best subjects to address the purpose of the study (McMillan & Schumacher, 2010). Email exchanges took place with potential participants to clarify their roles in their healthcare organizations and assure that their participation in this study was appropriate.

Maxwell (2013) stated that a participant’s perspective is valuable to the researcher as a way to gain understanding of the topic and questions being studied. Interviewing healthcare educators offered opportunities to understand their roles, experiences, and beliefs and addressed the primary research question. McMillan and Schumacher (2010) wrote that the goal of qualitative research is to understand
participants from their own point of view. There is a greater focus on meaning of events and actions with an end result being a new understanding and depth of knowledge from the multiple perspectives of the participants.

Research subjects volunteered to participate and self-identified as healthcare educators working to educate medical providers utilizing their healthcare institution’s EMR as a tool to increase proficiency and improve medical outcomes for patients. All participants agreed that they were able to accommodate the requirements of the study. Each participant was a professional adult working to educate other professional adults in their respective work settings. These individuals have not necessarily obtained degrees within the field of education, but have a varied background, which makes them uniquely qualified for their roles and the challenging educational setting of healthcare.

Appendix N, Figure 1 codes the organizations where the interviewees were healthcare educators. It displays the labels used for each participant and organization. The significance of utilizing inpatient and outpatient healthcare educators was inconsequential to the overall results of this study. Healthcare educators have essentially the same job no matter which organization, hospital or clinic they represent. Their goal was to educate and assist the providers by providing training and tools, like manuals, tip sheets, and worksheets to improve efficiencies throughout the day, ultimately improving patient care.

All participants were coded and are referred to using that code. For example, RI1, indicated that this is an interviewee and that she or he was assigned the number 1 for transcription, coding, and analysis purposes.
Pilot Study

McMillan and Schumacher (2010) stated that pilot interviews must follow the same procedures that are implemented with the final research. Afterwards, the researcher can evaluate the questions and responses from participants to determine if any alterations need to be made to the interview questions, style, or approach (McMillan & Schumacher, 2010).

Pilot interviews were audio recorded to test the recording equipment. This pilot process helped to clarify procedures, methodology and determined that no alterations in process, and data collection methods needed to be made. Feedback from pilot interview participants was utilized to redefine the final set of interview questions. The pilot interviewees provided feedback on interview question content, structure, and organization.

Three in-person pilot interviews were conducted with the original set of interview questions (Appendix D). I interviewed a healthcare educator, a manager of the healthcare employee training team, and a manager of healthcare educators. These pilot participants provided an appropriate range of knowledge on the subject of provider education in a healthcare setting. They worked at the healthcare organization where I am a healthcare educator. Each received information about the purpose of the research, the research questions, information about the interview, including a definition of a healthcare educator (Appendix C). Each participant self-identified her or his role aligning with this description. A real-life example of the role of a healthcare educator was also included. All three pilot interviews were conducted in person at a date, time, and location that best suited the participants. All pilot interviews were recorded and audio recording equipment
was tested. Pilot interviews ranged in time from fifteen to forty-five minutes. The shorter pilot interview participant had read the participant interview materials several times and taken notes on items and examples she wanted to mention in our discussion. The longer pilot interview took place with a participant who had less time to review the materials, and had more research experience. This participant took more time in answering the interview questions and offered suggestions for revisions to the interview questions. This information was helpful when arranging the research interviews to allot for appropriate time for the participants to review the materials and scheduling the interviews.

Data Collection: Interviews

Ten individuals were identified as final research participants. They worked at six large healthcare organizations from three states in the upper Midwest. (See Appendix N, Figure 1.) All ten utilized educational materials approved by the organization in which they worked. As part of the self-identification, all ten indicated that they manage, personally develop, maintain provider educational materials, and educate medical practitioners on these materials. They agreed to have their interviews recorded, and they provided clinician education materials for content analysis and review. They also agreed to assist in any follow-up interviews or conversations for clarification. Consent forms were sent via participants’ preferred email addresses and kept confidential in a password-protected folder on the researcher’s password-protected computers. Interviews and content analysis took place in February and March of 2015. All interviews were recorded, transcribed, coded, and analyzed to assist in answering the first research question.
Interviews were conducted to gain an understanding of participants’ perspectives about their roles and experiences as healthcare educators. McMillan and Schumacher (2010) suggested that personal, in-depth interviews are typically unstructured in nature, allowing the researcher to have a conversation with the participant, garnering a more authentic understanding of the participant’s voice and experiences. Information gathered during this type of personal and unstructured interview can provide meaning for future understandings of a subject (McMillan & Schumacher, 2010). The final interviews were conducted to understand commonalities found in healthcare educators’ lived experiences, their roles, and their beliefs.

Kvale and Brinkmann (2009) indicated that a semi-structured interview is similar to an everyday conversation, but has guided questions that focus on certain themes. There were five themes for the interviews: role of the healthcare educator and learning organization, beliefs and experiences, adult learning, technology and innovation, and the future of healthcare education and educators. I identified these themes and created interview questions and the themes in an order that seemed to build logically on each other as a means of better understanding the participants, their roles, and their beliefs.

Semi-structured interview questions are open-ended, yet structured, to achieve appropriate answers and understand the individual’s specific response (McMillan & Schumacher, 2010). Hatch (2002) wrote that this type of research should sufficiently represent the voice of the participants, allowing readers to fully immerse themselves in the participants’ perspectives and for credibility and transferability of the findings.
Data Collection: Content Analysis

The content analysis of documents was used to determine what, if any, adult learning principles from Knowles, Holton, and Swanson (1998) were present in provider education materials and if any innovative teaching solutions are present in the training materials. A data collection table was used to record the instances of occurrence of Knowles, Holton, and Swanson’s (1998) principles and any innovative strategies present in the educational materials. (Appendices G and H.)

Krippendorff (2013) described content analysis as “a research technique for making replicable and valid inferences from texts (or other meaningful matter) to the contexts of their use” (p. 24). Directed content analysis that Hsieh and Shannon (2005) described was employed for this study. One goal of this type of content analysis is to validate a theoretical framework. I examined if Knowles, Holton, and Swanson’s (1998) six learning principles (the need to know, the learners’ self-concept, the role of the learners’ experiences, the readiness to learn, the orientation to learning, and motivation) could be identified in the submitted provider education materials.

Krippendorff (2013) stated the goal of content analysis is to provide new insights that increase or inform a researcher’s understanding of a phenomenon or practical actions. Content analysis is a technique that is reliable, replicable, and valid, allowing for other researchers to attempt to find the same results, using the same methods over time (Krippendorff, 2013). Content analysis is utilized to better understand the my research questions and determine what, if any, adult learning principles can be identified in the provider education materials at various healthcare organizations in the upper Midwest.
This method was also employed to determine if any innovative adult teaching strategies can be identified in the provider education materials.

**Data Analysis**

To analyze the provider education materials, I created a data-collection tool (Appendices G & H) to identify Knowles, Holton, and Swanson’s (1998) six adult learning principles in the clinician education materials. Using Max Weber’s (1904) concept that refers to an ideal type or ideal reality that individuals utilize to create meaning, I created the content-analysis data collection tool from my conceptual understanding of Knowles, Holton, and Swanson’s (1998) ideas. Stevens and Levi (2012) suggested that a rubric, or in the case of this research, a data collection tool, has four essential components. The first is a task description. The next is a scale, which indicates the levels of achievement. The third is the dimensions and breakdown of the skills or knowledge needed to complete an assignment or in this case the tool assessment. The final component is a description of each level of achievement or the criteria that must be met to receive a specific designation. See Appendices G and H for labeled examples. The tool identifies if Knowles, Holton, and Swanson’s (1998) principles can be identified in the materials. Each material received one of three designations: present, emerging, or not present for each principle. The data collection tool was utilized to determine if any innovative teaching strategies are present.

**Interview Analysis**

Kvale and Brinkmann (2009) wrote that audio recording interviews allows the researcher to fully participate in the dynamic interview process. Once recorded, the interviews were transcribed. I also took notes during the interview conversation to assist
with analysis of any contextual related details not found in the transcriptions. After the interviews were recorded and transcribed, I code the content to analyze participants’ experiences. Kvale and Brinkmann (2009) stated that coding can help to provide structure and give an overview to extensive interview text. The combination of concept- and data-driven coding techniques were utilized when analyzing the interview transcripts.

Kvale and Brinkmann (2009) stated that concept-driven coding uses codes that are predetermined by the researcher, such as the interview themes and questions previously identified. The second form of coding that Kvale and Brinkmann describe is data-driven. In this type of analysis, researchers have not established codes or categories prior to the interviews. Data-driven coding is developed through several readings of the material. To further analyze the interviews, I used hermeneutical analysis. Kvale and Brinkmann (2009) described hermeneutics as the interpretation based on the researcher’s prior knowledge of the subject matter. The authors indicated that the purpose of this type of analysis is to obtain common understandings of meaning through text and has the potential to validate foreknowledge.

**Content Analysis**

I did content analysis on the education materials healthcare educators utilized when teaching providers. This process assisted in understanding of the role and impact that healthcare educators have on the providers and healthcare organizations they work with. The ten interviewees representing six healthcare organizations in the upper Midwest shared their provider educational materials with me for review. Each provider education material was labeled per organization, and then separated into four categories. The four material categories were: provider training guides or manuals, tip sheets for
providers (Appendix J for definition), provider assessments, and facilitator guides used by the educators for training and teaching purposes.

The adult learning principles and concepts established by Knowles, Holton, and Swanson (1998) were utilized to assist in analysis of content in the provider education materials. For example, the first of Knowles, Holton, and Swanson's principles discusses the adult learner’s need to know. When analyzing the data, I determined if the provider education materials included information that informed the learners about the reason or value of the education. The process for analyzing the provider education materials closely aligned with the following ten steps of content analysis.

The ten steps of content analysis are:

1) Copy and read through the transcript - make brief notes in the margin when interesting or relevant information is found.

2) Go through the notes made in the margins and list the different types of information found.

3) Read through the list and categorize each item in a way that offers a description of what it is about.

4) Identify whether or not the categories can be linked any way and list them as major categories (or themes) and / or minor categories (or themes).

5) Compare and contrast the various major and minor categories.

6) If there is more than one transcript, repeat the first five stages again for each transcript.
7) When you have done the above with all of the transcripts, collect all of the categories or themes and examine each in detail and consider if it fits and its relevance.

8) Once all the transcript data is categorized into minor and major categories/themes, review in order to ensure that the information is categorized as it should be.

9) Review all of the categories and ascertain whether some categories can be merged or if some need to them be sub-categorized.

10) Return to the original transcripts and ensure that all the information that needs to be categorized has been so.

The process of content analysis is lengthy and may require the researcher to go over and over the data to ensure they have done a thorough job of analysis (libweb, 2015). These steps were utilized when reviewing the data collected through the content analysis of provider education materials.

Validity

This section explains the four validity design strategies utilized in this study. McMillan and Schumacher (2010) define validity as “the degree of congruence between the explanations of the phenomena and the realities of the world” (p. 330). This study utilized four data collection strategies to enhance validity design; multi-method data collection, participant language, mechanically recorded data, and member checking. The first strategy is multi-method data collection, whereby triangulation is permitted and data across inquiry techniques can be reviewed together to enhance data interpretation (McMillan & Schumacher, 2010). The next validity design strategy is participant
language, where each interview is phrased in the informant’s language (McMillan & Schumacher, 2010). Each interview participant has knowledge and understanding of the language and terms being used as part of their role, and definitions of terms utilized in the research interview questions were provided to participants prior to final content. The third validity strategy is mechanically recorded data, which provide accurate and relatively complete records of the interviews (McMillan & Schumacher, 2010). All interviews were recorded on two devices to provide accurate and complete records of the conversation. The final strategy that McMillan and Schumacher (2010) described is member checking. This strategy is a way for researchers to verify participant meaning either during or after the interview in an informal, casual conversation.

Approval to Conduct Research

In accordance with Hamline University policy, the School of Education’s Human Subject Committee approved this study prior to data collection. All participants received an emailed consent form explaining the purpose of the research study and their role in the research. Participants could decline to participate at any time.

All research study documentation, transcriptions, and information about participants were kept confidential on the researcher’s password-protected personal computers. Participants agreed that portions of the semi-structured interviews, such as quotations or coded items, might be included in the final published dissertation, either within the body of the paper or as an appendix. Anonymous participant identification was used throughout the research process to maintain privacy. The risks to the participants or their organizations were minimal. The highest sense of professionalism
was maintained during all interactions, and the confidentiality of the participants was protected.

**Role of the Researcher**

This section discusses the role of the researcher in relation to the participants and as the investigator for this study. McMillan and Schumacher (2010) indicate that the role of the researcher establishes the position of the investigator in relation to the participants. The role of the researcher for this study was to remain objective, suspending any personal knowledge about the subjects or their work during the interview and coding process to garner an accurate and authentic representation of the participants’ role and experiences. It was the role of the researcher to examine any understandings critically prior to, during, and after the data collection. McMillan and Schumacher (2010) further suggest that researchers often indicate personal or professional experiences that enable them to understand and empathize more fully with participants, allowing them to recognize subtle meanings and nuances. My role as the researcher is considered an insider/outsider or partial participation per McMillan and Schumacher (2010). These authors indicated that this dual role can shift as appropriate within the context of the study. For the pilot interviews, I was a complete insider, knowing all participants, and the organizational setting in which they work. For the research interviews the goal is to be an outsider and the participants to be unknown to me. Due to my knowledge of the role, the individuals within the role, and previous work experiences I was familiar with the organizations each participant came from. I withheld any analysis, comment, or discussion of the interview and content analysis results until data collection was complete. All research was conducted in a professional and confidential manner.
Summary

This chapter described the study’s qualitative methodology whose data collection methods were interviews and content analysis. The process for identification and explanation of participants and the settings in which the study took place were addressed. The data collection methods and their analysis were described, including audio recording, transcription, and the use of coding to help categorize and interpret interview data, as well as an account of how hermeneutical analysis was used. Please refer to appendices A-F for participant consent forms, participant handouts, and interview questions.
Chapter Four

Results

Introduction

This chapter reviews the results of the study focused on these research questions” “How do healthcare educators describe their role[s] and experiences educating providers in a healthcare setting?” and “What adult learning principles, determined by Malcolm Knowles, can be identified in provider education materials utilized in a healthcare setting?” This chapter describes the healthcare educator participants working at six healthcare organizations in the upper Midwest. An analysis of the pilot interviews and changes made for the research interviews are included. Next the research interview process is discussed and identified themes described, followed by a discussion of the interview findings. Next the data collection tool and process of the content analysis methodology are presented. A review of Knowles, Holton, and Swanson’s (1998) adult learning principles found in provider education materials is provided, followed by a brief discussion of the content analysis results. Then correlations between the two research methodologies are explored.

Pilot Interview Findings

Overall, the feedback from the pilot interviews was positive. Pilot participants enjoyed receiving information prior to the interview that included definitions and explanations about the research. One pilot interview participant suggested that additional definitions be added to the final participant interview handout to clarify the researcher’s definition of a provider and the participants of the study. These recommendations were added to the final participant interview materials. Pilot participants also found the
descriptions of Knowles, Holton, and Swanson’s (1998) six principles particularly helpful when answering the interview questions. No changes were made to the researcher’s summary of Knowles, Holton, and Swanson’s (1998) principles from the pilot study.

A few interview questions were altered, added, or removed based on feedback, and from responses to pilot interview questions. For example, the question “What importance, if any, does your healthcare organization place on utilizing adult learning theories and principles in their education of providers?” was added for the final interviews. Prior to the addition of this question, only one other section discussed the utilization of adult learning theory. A smaller change was the question order for the second question in the role of the healthcare educator and learning organization portion of the interview. The question in the pilot interview first asked how many years the participants had worked as a healthcare educator and then asked how many years they had worked at their current organizations. The order of these questions was reversed so participants could discuss how long they had been at their current organization, and then respond about their time spent as a healthcare educator.

In the adult learning section of the interview, three questions were condensed into two questions, asking the participants if they utilized any of Knowles, Holton, and Swanson’s (1998) adult learning principles in their practice, and then asking them to describe instances in which they had or had not incorporated Knowles, Holton, and Swanson’s (1998) ideas. The final two questions from the pilot interviews asked how the participants envision the future of the healthcare educator role and if adult learning theory would be utilized in those future roles. One pilot participant recommended that these two questions be combined, but I determined that these questions needed to remain separate
from each other because I wanted to make sure that I received a clear answer for both questions to use as support for the information in the literature. No further changes were made to the participant information accompaniment document or the research interview questions.

**Research Interview Categories Identified**

This section discusses the process through which categories from the interview transcripts were identified and examines the seven themes found. The method of categorization or thematic coding was utilized to chunk interview questions and participant responses. After transcribing all ten interviews and listening to each interview twice to verify transcription accuracy, I determined that all the questions and interview answers could be categorized into seven different themes. Originally, the interview protocol was broken down into the five sections: Role of healthcare educator and learning organization; beliefs and experiences; adult learning; technology and innovation, and future of healthcare education and educators. The order of the interview questions was established for ease of flow and conversation. After reviewing the interview transcripts, I determined that chunking the questions based on their thematic purpose and interviewee responses would assist in the analysis. Therefore, I categorized the fifteen interview questions into the following seven categories:

1. Research interview participant description
2. Role of a healthcare educator
3. Memorable experiences while educating providers
4. Healthcare educators in a learning organization
5. Malcolm Knowles and adult learning
6. Technology, innovation, and the future of healthcare education

7. Additional participant insights

Participant language from the transcribed interview texts is highlighted to demonstrate how each category emerged.

**Research Interview Category 1: Demographic Information**

Interviewees’ demographic information was analyzed for their current roles as a healthcare educators and their time spent at their healthcare institutions. (See Appendix K, Table 1 for interview participant demographic information.) All ten interviewees were female. They identified as healthcare educators at their respective healthcare organizations. The participants’ length of experience in the role of a healthcare educator ranged from one to twenty years. The range of time spent with their current organization ranged from three to eighteen years. Although a four-year degree is not required for all healthcare educator positions, four participants have obtained medical licensing, such as a nursing degree, prior to or during their work as a healthcare educator. The clinical level of education varied and included an associate’s degree in nursing, an LPN or Licensed Practical Nurse, an RN or registered nurse, and an NP or nurse practitioner who has also obtained her PhD in nursing. In addition to the RN with a BA in nursing, five other interviewees had a Bachelor of Arts or science degree. One participant who earned a BA was previously an elementary education teacher. One obtained a geography degree, one studied journalism, and one studied sports science and exercise physiology, and one earned two bachelor’s degrees in sociology and community health. The interviewee received a master’s degree in adult education and has additional schooling and certifications for human resource development and informatics.
Eight of the ten participants have done some form of professional development to better understand their role as healthcare educators. Several participants have obtained certification for the specific software application they support within their organizations’ electronic medical record (EMR) system. Others have completed professional development courses or skills training given internally through their organizations. Some participants also sought individual professional development outside their organizations. RI4 indicated that her work team formed a group to look at the issue of a lack of professional development for healthcare educators.

**Research Interview Category 2: Role of a Healthcare Educator**

This section discuss the role of a healthcare educator and present the results for three interview questions. The first question asked them to state their title and describe their current role. The third question asked interviewees their definition of the role of a healthcare educator. The eighth question asked them to state their beliefs about provider education in a healthcare setting. The combination of the first, third, and eighth interview questions developed naturally when reviewing the transcribed interviews because similar answers were derived from each question.

All ten interviewees identified that their professional role aligned with the description I provided to prior to their signing consent to participate in the interview. The summary of that role definition was as follows: Individuals who work to educate healthcare personnel on a variety of topics within a healthcare setting. These individuals work to bridge the gap between the organizational, clinical, and technological aspects of the healthcare professional’s role.
A definition of a healthcare educator from the literature review was also given to interviewees to affirm the researcher’s definition. That definition from Greenes (2001) stated that the purpose of a healthcare educator is to facilitate medical providers in locating and utilizing appropriate medical information to make informed medical decisions.

The title of each participant’s role were different. Five examples of participant job titles were Instructional Designer, Technical Training Specialist, Senior Learning Specialist, Informatics Specialist, and Care Delivery Manager. Although the participants’ job titles varied, the descriptions of their job roles were aligned. Participants indicated that their role was to provide new-employee training to incoming providers and that the importance of being one of the first people a provider learns from within the organization is crucial and should not be overlooked. RI1 stated that:

I wanna be a support system for users, I want to assist as a technical analyst, when applicable, and be the individual that helps them feel comfortable with the electronic medical record so they can mostly focus on patient care.

This was recurring theme in most of the interviews. Participants wanted to ensure that providers knew they were always an available resource to them for any questions they may have. The majority of participants stated that they worked to make providers feel more comfortable and efficient with the EMR system so they could spend more time focused on their work and giving proper medical care to their patients.

When asked how their organization titled and defined their role, the answers were often aligned, and participants would restate several characteristics of their official job
description. RI8’s response is an example of common language used by participants when describing their role:

So my current title is Clinical Informatics and um my role is really, I work closely with the physicians, surgeons, as well as the nursing staff to kind of make that bridge between healthcare and our electronic health record, and technology. Four participants used the language or concept of “bridging the gap” between various individuals within the organization and between the clinical knowledge of the providers, its translation to the EMR system, and then to the understanding and treatment of medical conditions resulting in appropriate patient care. RI2 said that she feels provider education is an important aspect to bridging these gaps:

It’s needed for all of them [providers], um, you know it’s the basis of their job to some extent, I mean the basis is of course to take care of the patient in front of them, but to use the electronic medical record is what’s going to make or break their day and get them to use the electronic medical record is what’s going to make or break their day and get them to move along with things that they need to do, like orders and things like that. I think it’s needed.

This focus on the various aspects of training, the environment or setting, the needs of the provider, and the ultimate goal of patient care was a common theme across the interviews. Explanations of their roles continued to go beyond the traditional 30-second elevator description of their job and instead centered on the needs of the providers. For example, RI3 discussed the importance of understanding a provider’s fear and frustration. Whether the fear and frustration come from previous experiences or an aversion to
change, she felt that understanding the provider’s insecurities allowed her to differentiate her education plans into more individualized and unique learning sessions.

Besides these aspects of the healthcare educator role, there were other beliefs that these participants had about their role and provider education in a healthcare setting. Participant RI5 indicated she believed that education and learning are always moving forward, that healthcare educators might start with educating the providers, but that what they are teaching naturally incorporates other clinical staff and even leadership within the organization. Identification of motivational factors such as the individual provider goals or federally incentivized measurements was viewed as highly important by the majority of the interview participants. Going beyond understanding a provider’s motivation and need for learning, all interviewees made it clear that they believed strongly in individualized, one-on-one elbow training, and support. This is a method of training where an educator and the learner sit elbow-to-elbow, or right next to each other, during the education or support session. RI7 believed that providers typically only retain about 20 percent of the information they learn in their new provider education courses. She felt this is why the role of healthcare educators and the work they do with providers one-on-one is vital to provider understanding and success utilizing an EMR because clinicians often “don’t know what they don’t know” (RI7) and struggle to identify gaps in their knowledge.

Healthcare educators work to identify those knowledge gaps and ascertain which educational methods are the most useful for providers with varied learning styles. RI1 pointed out that getting direct feedback from providers about what and how they want to be educated is imperative for the continued success of healthcare educators and the
providers they work with. RI4 discussed the idea that provider education needs to be comprehensive, yet comprehensible and simplified enough that the true messages from the learning come through and are useful. R14 said educating the providers is not just about making sure they succeed in the class or in the training session, it is about the providers succeeding on their own. RI6 mentioned that it is also important for providers to work with other clinicians, to assist each other in training, or when they’re on the floor or in the clinic.

Research Interview Category 3: Memorable Experiences While Educating Providers

The question about memorable experience served as a link between understanding the interviewees’ roles, beliefs, and understanding some of their previous experiences. Eight of ten suggested that positive and negative examples immediately came to mind. RI10 stated that even though a lot of the experiences that first came to mind for her were negative, that the more difficult provider education sessions served as eye-opening experiences. Next, RI10 suggested that there may be assumptions that are projected onto providers going into an education session because they have earned a high degree or a higher status within the organization, so that at times the expectations on these providers are set high as well. Finally, RI10 emphasized that even though providers have more education or a higher status in the company, they learn similarly and have similar fears as other adult learners.

Participant RI3 recalled an experience working with a provider that was impactful to her as the healthcare educator. RI3 stated that she was so moved by the provider’s explanation of the work he was doing that it led to her crying during their meeting. RI3
was working with a reproductive clinic at her organization and was able to watch a provider perform a procedure where he took a woman’s eggs and a man’s sperm and joined them to start the process of fertilization. She recalled that she stared at him wide eyed because of what he had just done and was amazed that this was his everyday life, to help women become mothers. RI3 recalled the provider saying that the best part was when the egg and the sperm defy all the odds against them and he gets to see the baby come into the clinic about a year later in a stroller. They discussed the process in more detail, and RI3 felt that since she better understood his practice and the impact of the work he was doing that she could translate that better into the tools she was making for him and his colleagues and, therefore, would be better able to train other providers coming into that clinic in the future. Additional experiences shared were about the struggles that healthcare educators often find themselves in. RI1 described that on several occasions she had to teach a class of employees who were all utilizing different workflows, and that trying to teach to a wide spectrum of individuals can be very challenging. RI2 and RI4 responded that oftentimes the experiences they remember the most are the positive ones where providers are really engaged and excited about what they are learning, allowing for a more in depth topic review and discussion.

**Research Interview Category 4: Healthcare Educators in a Learning Organization**

This section suggests the impact that healthcare educators have imparted as members of their learning organization. The responses to two interview questions are synthesized to describe participants’ answers. The fourth question asked interviewees to describe the importance their healthcare organization places on their role as a healthcare educator within the organization. The ninth question asked the participants what they
think is the impact of their role on the organization, including the impact they have on the whole institution, the providers they educate, co-workers, and other employees in the same organization. Nine participants felt that their organization places an importance on their role as a healthcare educator. RI3 did feel that there was not as much importance on provider education at her organization as she wished there would be, because training for new clinicians is not required. RI3 also stated that there is an importance placed on her role at the time of software system upgrades or when there are changes to the system.

Participant RI6 suggested that the importance at her organization was not just on her role as a training and curriculum developer, but on the impact her role has on government-incentivized metrics and standards, such as Meaningful Use. In regards to the importance her co-workers place on her role, RI6 indicated that she is a vital link between the clinical needs of the organization, the providers, and the software builders. RI9 suggested that in addition to redesigning the training curriculum, she is also the person on her team that organizes the training environments used for educating providers. She must create and monitor fake patient accounts in her organization’s software training environment for providers to utilize in training. RI9 said:

In the realm of writing objectives and creating patients it’s important that those things are meaningful, so it’s important about our job, so people are ready to work on the floor, and knowledgeable of our system after they’ve been in training with our team.

Each participant felt her role had a positive impact on their healthcare organization. The language the interviewees used when answering this question were dynamic, such as high-impact, vital, and integral. Seven participants suggested that they
are the face of the EMR, and that any time something goes wrong with it or if changes to the system are being implemented, they are responsible for managing those changes. Working as a change agent within their organization has been one of the more impactful parts to the healthcare educator role. RI9 discussed how her role was integral to her organization:

Especially as healthcare is changing and as for our team uniquely in a hospital care setting, healthcare in the United States is shifting more toward ambulatory care, we’re down, lower censuses in the inpatient setting. So I think that with training comes the need to be flexible and adapt to the needs of an organization and to branch outside of just software and training.

RI9 has realized that as the world of healthcare is changing, that the needs of the organization have to change with it, and so too her role as a healthcare educator. Increased understandings of complex healthcare systems and federally incentivized requirements have changed the role of the healthcare educator. RI9 also pointed out that healthcare educators need to remain flexible and adapt to the changing needs of the providers they educate, as well as the changing needs of their organization. One way the role of a healthcare educator can remain interdisciplinary is to focus on specific adult learning theories and principles.

**Research Interview Category 5: Malcolm Knowles and Adult Learning**

This section summarizes research interview questions five, eleven, and twelve, which all relate to adult learning and its importance within the healthcare organization that the participants were a part of, the utilization of adult learning in provider education, specifically related to Knowles, Holton, and Swanson (1998), and then a brief discussion
about other adult learning theories or principles utilized by the participants. Knowles, Holton, and Swanson (1998) posited that there are six principles of adult learning: the need to know, the learners’ self-concept, the role of the learners’ experiences, the readiness to learn, the orientation to learning, and motivation.

The fifth interview question asked participants to share if the healthcare organization that they work for places an importance on adult learning within provider education. Half of the participants stated that their organizations did not place an importance on adult learning as a fundamental piece of provider education. Participant RI10 said that things are shifting in her organization, in the last three to four years, to an improved sense of importance, since she was first with the company and everyone was first starting to utilize the electronic medical record system (EMR). At that time there was a sense of urgency to just get people through the training, and there was little emphasis on how well the providers were trained.

Eight participants described the use of adult learning and its importance in their organizations as unintentional. Specifically, RI8 stated that her organization tries to focus on problem-centered topics for their teaching, making sure the education is specific to the role or item being taught. RI6 agreed that her organization is more focused on educating providers about a specific change or item of interest, such as ICD10, a diagnostic coding project, than overall provider efficiency training. This unintentional use of Knowles, Holton, and Swanson’s (1998) adult learning principles can be found in the responses from all of the interview participants in Table 2. Identified in this table are the principles participants stated they utilized in their practice. Only three interviewees
stated that they intentionally utilized all of Knowles, Holton, and Swanson’s principles when designing and teaching providers.

Knowles, Holton, and Swanson’s fifth principle, the orientation to learning, was the principle most commonly utilized in the practice of the research participants. This principle focuses on the real-life application of learning. RI2 said:

When we do our training here, we do workflow training, we’re educating something that they’re going to be doing every day, not just educating to educate. So they can see it, you know, how it’s going to be from point A to point Z and how it’s going to benefit them.

Two of Knowles, Holton, and Swanson’s principles were represented six out of ten times in participant responses. They were principle three, the role of the learners’ experiences, and principle four, the readiness to learn. Principle three focuses on the role that the learners’ experiences had in their current understanding of new learning. RI9 indicated that all of the scenarios used in their training are built from real patient stories or situations that the providers might find themselves experiencing, and that many of their training questions come from providers to make sure the education is appropriate and applicable. Besides prior experiences, the readiness to learn principle was also stated by sixty percent of the interviewees. RI7 discussed the impact that the fourth principle, the readiness to learn, has in her practice. She indicated that she will sit in the providers’ lounge letting them know that she is available if they have any questions. RI7 emphasized that the key is in letting the providers come to her when they are ready to learn and insists that it cannot be an “us versus them” mentality. Rather it is more that we
are all working together for the same cause, so she doesn’t push the clinicians before they are ready to learn.

The next two principles utilized by fifty percent of the participants are the first and sixth of Knowles, Holton, and Swanson’s. The first principle addresses learners’ need to know and the sixth their motivation. These principles are intertwined. Often an individual’s need to know or learn about something new comes from an internal or external motivation. In the case of providers, it could be that they are new to an organization or working to learn a new skill for advancement, or possibly working to be more proficient at the EMR system to reduce their time spent working. Whatever the motivation, providers often need to understand the reason and value in what they are learning. For example, RI10 stated that providers:

Want to know the reason or the value, we explain the significance of the training right at the beginning and we explain that we’re there to help them gain more knowledge or to learn the system, and that we’re helping them to prepare for the first day that they’ll be working.

RI10 further explained that they make sure to ask about the provider’s motivation or reason for being at the training or needing help, because this helps the educators understand where the providers are coming from. RI10 also assisted providers in a one-on-one atmosphere to help them set up the EMR system for their particular use, allowing providers to get to work right away and feel confident that they have the tools they need to do their jobs.

The final of Knowles, Holton, and Swanson’s second principle, the learners’ self-concept, was utilized the least. This principle involves adult learners being responsible
for their own decisions, leading to self-direction and autonomy in their learning. RI5 suggested that it is important to understand that the providers coming to training are already self-directed, so it is really about “setting the stage” and making sure the providers are comfortable and feel confident. RI5 stated that they try to provide the opportunity for self-discovery during the four day training course, and work through scenario-based cases, where the providers have an opportunity to be self-directed, solve problems, and address their individual motivations, while also experiencing growth. Only three participants indicated that they utilized this principle in their practice. Two of them came from the same organization, O1. RI3, the other participant from O1, did not agree with this assessment, and stated that she did not feel her organization utilized this principle when educating providers.

The third question included in this theme asked participants if they utilized any additional learning theories besides Knowles, Holton, and Swanson when designing provider education materials. Five of the ten interviewees indicated that they utilized another adult learning theory when developing provider education materials. Participants RI1 and RI2 indicated that Carl Jung’s ideas on the four learning styles are utilized to assist trainers in working with providers. Participant RI5 stated that she utilized Paulo Freire’s ideas as a framework for her material development. Participant RI9 utilized Bloom’s Taxonomy and the Addie process when designing materials, and RI10 utilized the Addie and Sam processes. (See Appendix J for a description of all terms.) RI10 described the difference between the two processes explaining that the difference is that the Addie process is more linear, and the Sam process more iterative. As healthcare educators are training something new to providers they learn new information and gain
new knowledge, so they have to adapt, change, and update the original process. Table 3 in Appendix M displays participants’ answers about the importance their organization places on adult learning principles to educate providers, as well as participant utilization of adult learning theories besides Knowles, Holton, and Swanson.


Technology and innovation play a key role in the education of providers, and in healthcare educators’ work. This section reviews responses to the final three interview questions. The thirteenth question asked interviewees if they currently utilize any innovative or technologically advanced tools in their practice, and what impact the use of those technologies has on their role as a healthcare educator. The second question asked participants to envision what the role of a healthcare educator will look like in the future. The last interview question asked interviewees if they think adult learning theory will be utilized in the future practice of healthcare educators.

The goal of interview question thirteen was to determine which technologies, besides the EMR system, the participants were utilizing as part of their work. Appendix I displays a list of all the current technological tools being utilized by the six organizations represented in this research. The alphabetical list is displayed using language from the by the interviewees. To summarize, there were 22 technologies that participants discussed. Examples of the most common technologies employed by the healthcare educators to teach providers were e-learnings, share my desktop, and webinars. (See Appendix J for a definition of these technologies.) Five interviewees used e-learnings for training. Webinars, the third most popular technology, were used by three participants. RI2 spoke
in general about the use of technological training methods as a nice second option to have
beyond the traditional classroom or one-on-one training typically taking place. RI1 pointed out that webinars are a nice tool for getting content out to providers, but if they are too difficult for providers to use, if the provider has trouble logging in or there is some other technical issue and the webinar does not work properly or it cannot be accessed, then it can be more of a barrier than a help. The share-my-desktop feature allows either party to share what is on their screen. Four participants indicated that they used share-my-desktop or remote desktop technology. This technology is especially prevalent in the R15’s practice because all the providers she assists work remotely.

Question thirteen had two parts. The first part asked if the healthcare educators utilized any innovative or technologically advanced tools in their practice, and the second asked the educators to indicate the impact those technologies had on their role as a healthcare educator. Three participants answered the second portion of the question and agreed that the use of technology has vastly expanded their role. RI10 indicated that the latest technology they were testing was distance learning. She stated that this required her to rethink and reimagine how the traditional training was being delivered. For example, RI10 mainly teaches providers in a classroom or one-on-one setting, all face-to-face interactions. She suggested that through their new distance learning course, she does not have the luxury of seeing facial expressions or body language, and it was a learning for her about how much she paid attention to those bodily cues when working with someone in person. RI10 explained that this experience changed the way she was teaching the distance learning course because she realized she needs to ask the participants more questions to make sure they understand what is being taught.
The second-to-last research question asked participants to explain their vision for the future of the healthcare educator’s role. All ten participants responded that technology would be a key piece to their role going forward. RI4 and RI5 work together to support an EMR system and providers who practice remotely. They only utilize this format with their teaching. Clinicians must complete webinars, watch videos, work through online lessons, and study real-life patient cases to understand the type of patients they will be working with, and to get used to the specially built EMR system for their virtual care product. The providers then come to four days’ worth of training where they discuss the cases with the other clinicians on their virtual team, and they review the lessons they practiced. RI4 and RI5 stated that their providers are retaining more and have been more successful. RI4 emphasized that although this method will continue to be used in healthcare settings in the future, she wanted to make sure that the human factor would not be removed from the conversation. RI4 felt strongly that the one-on-one and in-person interactions and relationship building that take place between a trainer and a provider are invaluable because they establish a different type of relationship built on trust. She worries that if everything becomes virtual, this element will be lost. RI4 also indicated she thinks that as training becomes more virtual, it will also become more scripted. She thinks this will be a detriment to the clinicians and the healthcare educators because there will not be as much of an ability to alter the training, making additions based on provider questions or feedback, or skip a section because the providers already feel comfortable. RI4 finds that providers are more engaged when they can ask questions and really feel like they are getting their questions answered and their needs met. She is concerned that highly technological, virtual, scripted training is a cause for concern.
For example, RI8 suggested that having everything virtual will make it easier to pull information out when needed, but that technology should be utilized in conjunction with other teaching methodologies, including written information and tip sheets, due to varied learning styles. Eight participants agreed that continued one-on-one support in a variety of formats was needed, whether in person, virtually, or in a call-center format. RI1 suggested the need for all of the information about provider education, tips, e-learnings, lessons, and other formats each provider is using need to be within the EMR system for ease of access. Seven interviewees mentioned the language --real-time, on-the-fly, or just-in-time training (See Appendix J for definitions.) training that is done while the provider is working, providing them education just-in-time for them to perform the task or function.

RI9 specified that the role of a healthcare educator is moving away from specialization in one department or software application, that individuals in this role need to be versatile in their understanding of the EMR system, and how it is utilized by various providers and their departments. RI9 said that increased intentionality in the development of training materials and a more interdisciplinary model to healthcare education is what will be required of this role in the future. RI9 believed that utilizing different technologies has helped her understanding of how learning is evolving with increased amounts of technology. She stated that students have “shorter attention spans and the need to um, have just-in-time education available.” RI9 indicated that this need for immediate information is a byproduct of an increased emphasis and reliance on technology. She added that the utilization of more technology in the practice of a medical clinician:
has required me to shift my thinking about how I write my curriculum. Thinking about it, [the providers] might not necessarily be a student in a classroom-they’re going to be in the middle of a conversation with a patient and are trying to remember what an answer is and they know they can search online on our website to find that bit of information to help them care for a patient.

The overall message from each interviewee was that the role of a healthcare educator, although it may look different in the future, is a necessity for the providers and the organizations they support due to the increased utilization of technology and the future implications of technology use.

The final interview question asked participants to indicate if they thought healthcare educators would utilize adult learning theories in their future practice. Every participant answered positively, that yes, adult learning theory will be significantly involved in future healthcare educator roles. Additionally, each participant indicated the need for increased importance to be placed on the role of learning styles in the future of healthcare education. RI9 made an interesting point about varying learning styles and the importance of utilizing adult learning theory in future healthcare education. She stated:

Yes, I think it’s essential if you’re wanting to keep anyone in healthcare. I mean, I don’t know that there’s anyone in healthcare who would say that they didn’t enjoy learning, there’s a lot of schooling that needs to happen here, that goes into healthcare organizations desiring their healthcare educators to be professional and create top notch education for their staff. So I do think that it will be a requirement and highly necessary for other healthcare organizations for their educators.
RI9 indicated that adult learning theory should be incorporated into healthcare education, not only to achieve excellent education and to have successful providers, but also to keep those individuals who are naturally life-long learners in the healthcare system.

**Research Interview Category 7: Additional Participant Insights**

The final thematic category determined by the transcribed and coded interviews was the information gathered outside of the traditional interview. As a step of the member check portion of the qualitative methodology, I told participants that they could contact me at any time if they had questions, wanted to add any clarification to their answers, or if they would like to see the completed research. I did follow-up with several participants to seek clarification on their interview answers after transcription. At the end of the interviews, I asked if there was anything else they would like to say or discuss. Some indicated that there was nothing further, but others took it as an opportunity to expand on previous answers, offer clarifications, and ask questions. The information garnered from the conversations outside of the interview helped me learn more about the participants and their perspectives, and I determined it would be a valuable section within this analysis. They indicated that they were interested in my research because they thought learning about what the other participants said about their joint role and the tools or technology they were using could be helpful for their own practice. Two participants indicated that they had interest in forming a group of healthcare educators in the region, where healthcare educators could all come together, share their practices, what had been successful and what they were struggling with. RI10 said she would really enjoy and appreciate a collaborative group that uses the same EMR to come together and discuss a foundational training that any incoming provider would get in any of the region’s
healthcare organizations, and then each organization would train their individual providers on their specific build. RI1 pointed out another aspect of the changing healthcare world, where smaller companies and organizations are being bought by larger ones, or merged to share resources and create more access for patients in a particular area. She mentioned this while discussing the idea of partnerships between healthcare organizations.

Besides partnerships between organizations, RI1 and RI5 mentioned a unique aspect about their training practices: They both work very closely with providers to get their feedback and to get examples of real-life patient scenarios. RI3 also mentioned joining forces with the administration in the departments that she works with to make sure there is buy-in for the changes or the processes being implemented. A continuation of this idea was found at the organization where RI1, RI2, and RI3 work. They are in the process of implementing a program that has members who are considered quality users of the EMR system, people who feel comfortable with the system, and understand the workflows for their area. These individuals all received specialized training on individual learning styles. They get together with the training and build team to determine the best processes for their area, furthering the idea that a community is better for the healthcare educators, the providers, and the organization.

**Summary of Research Interview Results**

Three pilot interviews and ten research interviews were completed and seven categories were identified from the recorded, transcribed, and coded research interviews. The categories include a description of the interviewees, how they were solicited, and information about their backgrounds. The second theme describes the role of healthcare
educators and their beliefs regarding their role. The third theme reviews memorable experiences that healthcare educators had while providing education to clinicians in a healthcare setting. The next theme shares the participants’ thoughts about their role and importance as a healthcare educator in their healthcare organization. The fifth theme reviews which of Knowles, Holton, and Swanson (1998) six adult learning principles each participant used in practice, the utilization of other adult learning theories, and the interviewees’ opinions on having adult learning theory as part of the healthcare-educator role in the future. Next technology and innovation were explored through the healthcare educators’ practice and utilization. Also discussed is the future of the healthcare educator role. Finally, the last theme presented additional information and insights gathered in post-interview conversations with participants.

**Content Analysis**

This section describes the process and results found through a content-analysis review of provider education materials submitted by the study participants with the goal of exploring the second research question: What adult learning principles, determined by Malcolm Knowles, can be identified in provider education materials utilized in a healthcare setting? This section describes the data collection tool and the materials submitted, the content analysis, and themes identified through the content analysis. All interviewees were asked to submit provider education materials on behalf of their respective organizations. Individuals working in the same organization determined who would submit the materials. See Figure 1, Appendix N for a list of interviewees and their coded organizations.
This sub-section will describe the content analysis data collection tool utilized to review the provider education materials submitted. A rubric was used to analyze the education material. Each material or grouped set of materials was analyzed using a data collection table or rubric (Appendices G and H). After the pilot interviews and discussion with the pilot interviewees, I determined that the data analysis tool for the provider education materials needed to be adjusted. The final version consisted of five columns. The first column was separated into seven rows, listing Knowles, Holton, and Swanson’s (1998) six learning principles, including specific ideas for each principle to guide me in determining if the items were present or not. The second, third, and forth columns provided descriptions of the materials indicated if a particular Knowles et al. (1998) principle was present, emerging, or not present. Within the corresponding cell of the table, I described if the principle was found or not and the context or description of its location, if pertinent. The fifth column documented the page numbers of the items or principles. But after doing the analysis, the principles were found throughout the material instead of on just one or two pages, so this column was not useful. At the bottom of the collection tool in the last row, there were places to indicate if any innovative teaching strategies or tools, such as advanced technology or simulations, could be identified. I did not find any of the materials to be innovative.

**Analysis of Materials from Healthcare Organizations**

All organizations’ materials are proprietary and interviewees submitted materials they felt comfortable sharing. Due to the proprietary nature of the materials, all participants and the organizations they work for requested that examples of provider education materials not be made public. Thus they are not part of this dissertation.
The provider education materials analyzed in four categories: provider training guides or manuals, tip sheets for providers (see Appendix J for definition.), provider assessments, and facilitator guides used by the educators for training and teaching purposes. Each organization could submit as many documents as it wished. The materials were grouped based on audience, content, subject, and type of material. For example Organization Two (O2) submitted nine items: Two practical application assessments, one outpatient provider training facilitator guide and two tip sheets on the same topic, and four training guides representing four days of training with their providers. I grouped them as follows: two assessments, two tip sheets on the same topic, and four facilitator guides, and kept all three types of documents in their respective categories for analysis. Although the organization submitted nine items, they were grouped so only four items for this organization were represented. The purpose was to narrow my focus and streamline the analysis of the materials. Since the grouped items contain similar structures, topics, and content, it seemed appropriate to merge their analysis and consider the grouped documents as one.

This also helped me get a clearer picture of the organization and materials presented to the provider. For example, the clinician would get the two tip sheets on the same topic at the same time. One tip sheet is functional and explains each step. The other is more about workflow and suggested tips for success with the new process. Joining materials in this manner allowed me to get a broader understanding of the organization’s education materials and training strategies because I was able to analyze the documents in the same manner they would be given to providers. Providers would likely not receive a tip sheet that includes only functionality. They would often receive a
tip sheet describing the need for the tip sheet, the workflow on the tip sheet, and tips for utilizing the information in the tip sheet. O2 had two tip sheets about the same topic that contained all of these pieces, and a provider would not be given one without the other.

Before merging any documents, each item was labeled with the appropriate organization’s number, which was determined by the order of submission, and each document received a number to represent how many documents that specific organization submitted. Once the items were grouped, initial determination and analysis of items were established and documented, and the materials were separated into the four categories for ease of comparison. These four categories were provider manuals or guides, provider tip sheets, provider assessments, and facilitator guides used by the educators. The breakdown of how many materials were submitted within the four categories is represented in Appendix O, Figure 2. Figure 3, Appendix P identifies how many of the four category types each organization submitted.

One organization (O5) submitted one online e-learning, but I decided to exclude it for two reasons. No other organizations submitted materials in an online format and since the delivery of the training material was so different than the paper materials received, there was no benefit to analyze the online material in the same way as the paper materials. I labeled each organization with an O and a number. For example, O5 represented organization five. Each provider-education material submitted was labeled with the appropriate label. Organization five submitted three education materials. Material one was labeled O5.1, material two O5.2, and so on.
Analysis of Provider Training Manuals

O1, O4, and O5 submitted five provider training manuals. Of the five provider training manuals, four were for inpatient providers and one was for outpatient providers. The audience for all five manuals was newly hired clinicians. The manuals outline basic EMR utilization information. Two from the same organization were formatted as small booklets, while the other three were in full-sized packets. The four inpatient manuals contained a table of contents, with explicit labeling of sections and learning activities that aligned with Knowles, Holton, and Swanson’s (1998) fifth principle, the orientation to learning. This principle aligns with the idea that clinicians prefer to learn information that assists them in performing a specific task or solving a problem. All provider manuals contained screen shots, or pictures, taken from their respective electronic medical record, which allows providers to see what that step or activity will look like in the software system. Each manual contained step-by-step instructions to assist clinicians in increasing their efficiencies, predominantly utilizing Knowles, Holton, and Swanson’s (1998) fifth principle of orientation to learning.

Analysis of Provider Training Tip Sheets

Four organizations, O1, O2, O3, and O5 submitted eight tip sheets. O1 submitted three tip sheets for outpatient providers about effective clinical documentation in the electronic medical record (EMR), one tip sheet about the referral workflow, and one about a particular system function. O2 submitted two tip sheets about the same topic and were subsequently combined to be viewed as one material for the purposes of this study. This combined tip sheet discussed an organizational change to the EMR mandated by external entities. All the submitted tip sheets showed how to utilize the EMR to assist
with the software change in more efficient and useful ways. O3 submitted two inpatient provider resources, one on operating room orders and one on basic documentation of problems in the EMR. O5 submitted two tip sheets for inpatient providers, one for surgeons and one for hospitalists. In general, there were not many differences in the materials provided. All organizations labeled the tip sheets and sections appropriately for ease of use. Of the eight tip sheets, six included screen shots taken directly from the EMR. The one that did not include a screen shot had a table of EMR tool definitions to assist with documentation. All tip sheets contained information aligning with three of Knowles, Holton, and Swanson’s (1998) principles, the second principle of learners’ self-concept, allowing for autonomy and decision making; principle five, applying real-life situations to the practice environment at a self-directed pace. The tip sheets also represented Knowles, Holton, and Swanson’s (1998) sixth principle of motivation, mostly internal motivation showing real-life learning that allowed for intended and expected outcomes, job satisfaction, and increased self-esteem after accomplishing a task.

**Analysis of Provider Assessment Materials**

Organizations O2, O4, and O6 submitted three provider assessment materials, one for outpatient providers and two for inpatient providers. The assessments were vastly different. O2’s outpatient provider assessment materials were practical application assessments using generalized patient and practice scenarios that were to be taken over the course of two weeks. Clinicians are given fake information to log-in to a training EMR environment where real patient information is not included. O2 had their providers run through a scenario moving through the system on their own with little prompting. For example, the scenario states that the provider has just taken a patient’s blood
pressure. Then the practical provides a fake reading and asks the provider to record the reading. No assistance is given to show the clinicians where or how to record this reading, which assesses the provider’s ability to move through and utilize the system correctly after attending training. O4’s inpatient assessment materials also utilized the playground or fake EMR environment for their provider assessment. This organization’s assessment included fill-in-the-blank answers, asking clinicians to retrieve information from the EMR system. It also included a portion where the provider must enter in orders for a patient and create a note documenting the interactions with a patient. The final section of O4’s assessment is a multiple-choice answer. O6 submitted a provider assessment in the form of a worksheet. This worksheet contains a checklist of items that clinicians needed to enter into their practice environment. No decision making or creation of any information or material was required of the providers to move through this worksheet.

**Analysis of Facilitator Guides for Healthcare Educators**

The final category of submitted materials was facilitator guides. Three organizations submitted five provider training facilitator guides: O1, O2, and O6. O1 submitted two guides. One discussed the training scope for any providers in either an outpatient-or an inpatient-setting at that organization. The guide explicitly stated the objectives and responsibilities of the training teams and the courses they would be teaching. The second guide submitted by O1 provided an explanation of Carl Jung’s four learning styles: mastery, interpersonal, understanding, and self-expressive, emphasizing the importance in their educational practices to teach according to individual learning styles. O2 also provided two facilitator guides. The first was specific to educating
outpatient providers. The second was unique as the only guide to discuss training for outpatient providers who would work remotely. This guide contained information from a four-day, in-person course that all providers working remotely must attend before they begin work at their designated, virtual location. Two aspects of this guide and course were unique: a round-table discussion plus historical and scientific information about protocols being utilized to practice at this organization. This course is also very case- and scenario-oriented, allowing for all of Knowles, Holton, and Swanson’s (1998) principles to be represented. The guide reinforces the importance of the work the clinicians are giving, the reason for the training, points out possible knowledge gaps, relies heavily on self-direction and group discussion, and utilizes the providers’ previous practice experiences regarding case discussion and examples. This guide moves the clinicians through four days of training, each day requiring a mastery of the materials and information from the day before. Each activity and case scenario are problem focused and activities are task oriented so the information assists the provider in addressing everyday situations and circumstances.

The final principle of motivation was present because clinicians who complete this course may move on to a higher position within the organization or within their role, and assist providers in satisfying internal motivational factors such as self-esteem and job satisfaction. Both guides from O2 were so detailed that there is a color-coded legend for the training facilitator that shows the font and size used within each section of the guide and what it represents. For example, specific reminders or talking points are denoted by separate font, color, and size to distinguish them from other information in the guide. O6 was the final organization to submit a facilitator guide. One part gave background
information about the specialty of the providers they were training, and information about the class, which stated that previous course work was required. The guide discussed class preparation, information about the organization, and information about a scoring system that these clinicians use in their practice.

**Explanation of Content Analysis Data Collection**

After grouping all like materials as previously described, there were 21 items of provider education to analyze. To review the materials, I read through the material once, and on the second reading I highlighted, circled, or made notes in the margins about identification of Knowles, Holton, and Swanson’s (1998) six principles. Then I use the table I made and determined if each principle was present, emerging or not present, and indicated my findings and reasoning within the data collection table. For example, if a training material contained none of the identified elements of a specific principle, then that material received the designation of not present for that particular principle. If the education material contained one element of a particular principle, then I considered it to be emerging. Finally, if the majority of the elements for a certain principle were found within the training materials, then that material received a present designation for that element. I reviewed each material twice, on two different days, to ensure no items had been misidentified. No changes were made after the second day of analysis to the data collection results except for additional notes or explanations as needed for clarification, all original designations remained the same.

In analyzing the final data collection tables, all the training materials were grouped into categories, represented in Figure 2 in Appendix O. The four categories were training manuals or guides, tip sheets for the providers, provider assessment or
testing tools, and materials and information for the facilitator of the education. I used Microsoft Excel to input the data in a table format each time a designation of present, emerging, or not present was found for each material. This information was directly transferred from the data-collection tool. Next, I did a manual tally of the total times a designation of present, emerging, or not present was used for each organization. This manual tally was color coded for each organization. This information was then inputted into a Microsoft Excel table for ease of use and transferred to a table that shows the number of times each principle was found for each organization. The purpose of this was to aid in determining which organizations utilized certain principles more often in their training materials than others. Next, I double checked to make sure that each education material was counted for in the tally by repeating the process. After the numbers were verified, I manually added up the totals for each principle as shown in Figure 4. This graph breaks down the number of times each of Knowles, Holton, and Swanson’s (1998) principles were found to be present, emerging, or not present and the total numbers within each category.

**Content Analysis Findings**

This section reviews the provider education materials from the perspective of Knowles, Holton, and Swanson’s (1998) principles, starting with the principles that were most commonly found in the submitted materials and ending with those that were utilized the least. Due to the proprietary nature of these education materials, examples of the documents may not be shared. Overall, organizations did an excellent job in representing Knowles, Holton, and Swanson’s (1998) fifth and sixth principles, orientation to learning
and motivation, respectively. Neither of these principles received a designation of not present in any of the materials for any organization.

**Knowles’ Fifth Principle: Orientation to Learning**

The fifth principle was considered present in twenty of twenty-one materials. It was the most prevalent principle found in the provider education materials submitted for this study. Provider education material O3.2 is an excellent example of Knowles, Holton, and Swanson’s (1998) fifth principle, the orientation to learning. This tip sheet provided information to clinicians on how to add and resolve a patient’s problem by using the problem-list feature in the EMR system. It showed providers how the functionality works and indicated when to use each step of the process according to the patient’s phase of care.

**Knowles’ Sixth Principle: Motivation**

The sixth principle of Knowles, Holton, and Swanson (1998) discusses both external and internal motivation. Motivation as it relates to job satisfaction, or promotions, and intended and expected outcomes of the training was found in fourteen of the twenty-one materials, making this the second most commonly found principle in provider education materials. For example, at O2, a provider must complete all four days of the training program to have a possibility for job advancement. This is an intended and expected outcome of the training class and elicits a motivation of the part of the provider. Tip sheet O1.5 assists providers in completing their test-result notes more efficiently, thus resulting in higher job satisfaction once this tool is utilized, because the time it takes providers to document is greatly reduced. O2.4 is a tip sheet specific to provider diagnosis entry. In many of the provider assessment materials, there is an
expected and intended outcome that the providers taking the assessment will understand the course material at the end of the training. O4.3 skills assessment for impatient providers is an assessment of general skills required to perform the daily functions of the role, such as locating information in the EMR system, placing orders, and documenting their action steps.

**Knowles’ First Principle: The Need to Know**

The first principle, the need to know, was found the third most often in ten of the educational materials. This principle indicates that learners prefer to understand the reason and recognize the value in the learning they are doing. An example of this principle can be found in the material O1.4. A referring provider workflow tip sheet included a description of the tip sheet, its purpose, the provider’s responsibility regarding the workflow, and how this workflow will assist in caring for patients.

**Knowles’ Third Principle: The Role of Learners’ Experiences**

The role of the learners’ experiences is found in nine out of the twenty-one materials submitted, making it the fourth most commonly found principle. It is also found in the education material from O2.2. This training course has providers run through scenarios, and then demonstrates how to handle an actual patient case, asking providers to pull from their previous experiences and knowledge to ensure proper patient care.

**Knowles’ Second Principle: The Learners’ Self-concept**

The second principle, the learners’ self-concept, was fairly evenly spread among the three designations of present, emerging, and not present, making it the fourth most commonly found learning principle. This principle was considered present in six of
twenty-one education materials, with nine designations of emerging. These principles are present in the O2.2 facilitator guide. Providers in this organization have lessons to complete prior to attending the new-provider training course. According to the O2.2 materials, there is a collaborative session for the providers that includes an icebreaker and a chance for the providers to speak with each other, to get to know who they will be working with, and, specifically, to build relationships. There is also an informal discussion session about how working as a virtual provider may impact their lives and their family.

**Knowles’ Fourth Principle: The Readiness to Learn**

The fourth principle of Knowles, Holton, and Swanson’s (1998) work, the readiness to learn, was a difficult principle to determine. Unless it was explicitly stated in the educational material that a certain level of expertise was needed before moving to the next step in the educational process or unless the material discussed the provider’s ability to learn a new thing, this principle was considered to be not present. The fourth principle was present in only four provider education materials and received the not-present designation in thirteen of the twenty-one materials reviewed, making it the least-common principle to be found in the provider education materials. This is present in the training materials submitted by O6, and the facilitator guide makes it clear that a participant of the course must have attended a pre-requisite course. The next section will discuss the results presented in this chapter and appraise any correlations between the participant interviews and the data collected through the content analysis of provider education materials.
Summary

This section provided a summary of the interviews and content-analysis results. It included a description of the data collection tool utilized to evaluate twenty-one provider education materials submitted by six different healthcare organizations, representing three states in the upper Midwest. Next a description of the materials submitted, separated into four different categories, provider training manuals, provider training tip sheets, provider assessment materials, and finally facilitator guides for healthcare educators was presented. This is followed by an explanation of the content analysis data collection processes is given, including the process for identifying themes within the data. Each provider education material was reviewed to determine if Knowles, Holton, and Swanson’s (1998) adult learning principles were present. The breakdown of those findings was rated from the most prevalent to the least prevalent.
Chapter 5

Conclusion

Introduction

The goal of this study was to research how healthcare educators describe their role[s] and experiences educating providers in a healthcare setting and what adult learning principles, determined by Malcolm Knowles, can be identified in provider education materials utilized in a healthcare setting. The study focused qualitative interviews and content analysis. Ten interviews took place over several months with individuals who self-identified as healthcare educators in the healthcare organizations in which they currently worked. The purpose of the interviews was to gain a better understanding of the role of a healthcare educator from the perspective of the individuals currently working in that role. From these interviews and the analysis of the provider education materials they utilize in their practice, I have a better understanding of the individuals, the role of a healthcare educator, and the importance of their role within a healthcare organization. Through content analysis, I was able to determine if any of Knowles, Holton, and Swanson (1998) six adult learning principles were present in the submitted provider education materials, and the connections between what the participants were saying they valued while educating providers compared to what learning principles were present.

This chapter begins with a discussion of the research findings and then reviews learnings from the research; discusses additional connections and understandings between the literature review and the findings, implications and limitations of the
research, and suggestions for future inquiry. Recommendations for the role of a healthcare educator and provider education in a healthcare setting follow.

**Discussion of Interview and Content Analysis Data**

This section examines the results of the interviews and the content analysis of provider education materials. One goal for using each was to find connections between what the interview participants said and what their provider education materials showed, with particular focus on Knowles, Holton, and Swanson’s (1998) adult learning principles. The sections explore findings through five themes.

**Desire to Learn: Professional Development**

This section focuses on the desire for providers and healthcare educators to learn and be successful in their job roles by increasing their knowledge and skills. O’Toole and Essex (2012) stated that workplace education, or education given in the work setting, is a motivating factor for adult learners because they can get the information they need to do their job, while doing their job. There can be a variety of motivational concepts determined from the educational materials and the comments made by those interviewed for this study. This is meaningful because it shows that healthcare educators understand the importance of keeping individual provider motivations in mind when developing materials or facilitating an education session.

Aligning with Knowles, Holton, and Swanson’s (1998) sixth principle of motivation, interviewees indicated that providers had internal and external motivating factors to be successful in their job role and increase efficiencies. Five interviewees said that they utilized this principle in their practice, and motivation, the act or instance of providing a reason to act a certain way, having a strong reason to act or accomplish...
something (Dictionary.com, 2015), was present in fourteen of the twenty-one education materials. Individual providers may differ in their personal motivations, but job satisfaction and learning to perform a task or solve a problem encountered at work aids adult learners in accepting and understanding the intended and expected outcome of the education. If the materials ask a provider to solve a problem or perform a task, and the outcome of the educational materials is understood and has an expected result, then the education material was deemed motivational. Hancock (2002) wrote that learner motivation is greatly dependent on the intended results of the learning. Adults find value in what they are learning when they believe the task is something they can accomplish and that the end result was expected.

Knowles, Holton, and Swanson’s (1998) fifth principle, the orientation to learning, is associated with real-life problems, or situations that are found in their work. Clinicians want to be able to review a tip sheet and directly apply the intended learning to their work. This principle was mentioned by seven of ten interviewees and was present in all but one of the education materials, where it was found to be emerging. It was the most prevalent principle utilized by healthcare educators and was found in all of their materials. Healthcare educators must work to ensure that the providers they assist are up to date on any of the frequently made changes. To do this effectively, healthcare educators have to find a way to show the clinicians that although their time is valuable, so is what they are about to learn. By applying their teaching to real-life scenarios, providers are able to apply what they have learned directly to their practice, in a timely manner, furthering their proficiencies and efficiencies with their organization’s EMR (electronic medical record). This aligns with Senge (2006), who wrote that adults in a
learning organization must maintain and grow their skillsets, including learning, information processing, and problem-solving. He proposed that these skills are crucial to the success of learning organizations.

Along with understanding the intended outcome of their learning, providers prefer to understand the value and reason behind the learning, which aligns with Knowles, Holton, and Swanson’s (1998) first principle, the need to know. Healthcare educators are tasked with creating a welcoming space where learning can take place and where previous experiences are valued and can be shared. Although interviewees indicated that this was important to them, it was not considered the most important of Knowles, Holton, and Swanson’s (1998) principles, but something the educators did naturally as part of their introduction or explanation of the course to their students. This is an area for opportunity in the provider education materials because it establishes a foundation for the rest of the course. One interviewee, RI3, a journalism major, suggested that the beginning of a tip sheet or other provider education material should be presented much like a story headline. The educator has to convince a provider that the training or the material is valuable to their work, so believe that it needs to catch the provider’s attention.

The healthcare educators interviewed also indicated that they place an importance on professional development in their role and feel it is vital because it greatly impacts how individuals understand the current and future applications of their role. Interviewees who reported the longest tenures working in the role of a healthcare educator, RI5, RI7, and RI10, with twenty, eleven, and ten years of experience respectively, were the three interviewees who intentionally utilized Knowles, Holton, and Swanson’s (1998) adult
learning principles to determine their curriculum. Participants RI5 and RI10 have previous experience within the adult learning field. RI10 received her master’s degree in adult learning. This may indicate that more education and understanding improves the practice of healthcare educators. According to the interviewees, the healthcare organizations where they worked seem to understand the importance of professional development, but have not yet established specific courses, skills, or goals for the role of a healthcare educator.

**Role of a Healthcare Educator is Wide Ranging**

This section explores the diverse roles and abilities of healthcare educators who were interviewed for this study. Participants shared the deep knowledge and educational experiences they had while working to educate providers. Their wealth of knowledge and expertise in a variety of areas is vital to understanding the role of a healthcare educator and their ability to understand the training they are providing from varying perspectives. The tenth interview question about memorable experiences while providing education to adult learners in a healthcare setting was helpful in illustrating the varied experiences each participant had so that individuals unfamiliar with the role of a healthcare educator could understand some of the unique situations that arise when educating providers. It surprised me that this question seemed to be one of the harder questions for interviewees to answer. This might be because it can be hard to share personal experiences and their reactions or interpretations to them, and it seemed difficult because several participants indicated that there were so many memorable experiences it was hard to select one or two to share. The experiences each interviewee shared impacted the healthcare educators and the providers they were working with. These
examples show the diverse learning curve that is required for providers when learning to utilize an EMR to do their work, and the variance in learning techniques, styles, and abilities that healthcare educators must possess to ensure the providers are successful.

Eight of the healthcare educators interviewed learned from these experiences that personally impacted their belief system and the way they approached work in the future, or their general understanding of their role. They are passionate about their work and care about making a positive impact in the work lives of providers. The role of a healthcare educator continues to shift, and the individuals in the role need to remain malleable and interdisciplinary as the role requires increasing and varied knowledge. Flexibility and adaptability are two key learnings about the role of a healthcare educator. The participants placed much emphasis on giving the right education, to the right people, in the best way possible for the individuals.

Six interview participants indicated they utilized this principle, making it the second most common principle utilized when educating providers. These same six participants also indicated that prior knowledge and experience was an important piece of the education they provided, and an important aspect of their beliefs regarding provider education and the role of a healthcare educator. RI7 discussed the importance she places on one-to-one training and shadowing of providers. She feels that there is a higher retention rate with provider education when there is a resource available to assist and directly and answer their questions in real-time. Knowles, Holton, and Swanson (1998) suggested that adults can find greater meaning in their learning experience if they share about their previous learning encounters. It is encouraging that many of the clinician
education materials analyzed for this study included opportunities for participants to share and build on past experiences.

**Importance of Adult Learning in a Healthcare Setting**

This section describes the importance participants place on adult learning in their healthcare organization. Dewey (1938) stated that all genuine education comes through experiences, and that we can learn the most through lived experiences. Knowles, Holton, and Swanson’s (1998) claimed that adult learning is a process of finding meaning, significance, and value in the learning experience. However, Knowles, Holton, and Swanson’s (1998) second principle was only present in six out of twenty-one of the education materials. This suggests that this principle is still developing and is an area of improvement for all the organizations involved in this study. Merriam, Caffarella, and Baumgartner (2007) denoted that as individuals’ self-concept becomes or remains more positive, their commitment to learning also increases. A better learning situation is created when adult learners can identify and feel comfortable with the experience and relate it to their own lives.

Knowles, Holton, and Swanson (1998) argue that utilizing adults’ prior learning experience and knowledge allows them to be resources for each other, to shape new learning, and to assist in growing an adult’s self-concept. Organization 2 (O2) shared that their training allows for self-directed and autonomous work prior to the training sessions, which has helped its healthcare educators to identify any aspect of the training that they need to spend more time on. This makes the education sessions more valuable to the providers and enables healthcare educators to differentiate their learning to fit individual providers’ learning styles and educational needs. Interview participants
clearly indicated that they believe one-on-one education is the most appropriate teaching strategy for working with providers. They also placed an importance on curriculum that was often self-directed and problem-oriented, which assisted providers in solving the real-life problems found in their work. Real-life applications that are task- or problem-focused tend to gain more buy-in from providers (Knowles, Holton, & Swanson, 1998).

**Importance of Healthcare Educators in a Learning Organization**

Although the title and specific definition of the healthcare educator role vary among healthcare organizations, the interviewee responses indicated that their healthcare organizations place an importance on the role of healthcare educators. Nine of ten participants said that the role of healthcare educators is important and beneficial to the providers they teach and for the overall organization. Participants reported that they are often the main point of contact for the electronic medical record (EMR) or technological concerns and appear to be a critical bridge for providers between the medical and the technical arenas. This helps to define the role of a healthcare educator and fortifies the importance of the healthcare educator to co-workers and other staff within these healthcare organizations. Four interviewees stated that they take great pride in being the first contact for any provider new to the organization. They said it helps to establish a relationship for future interactions. Six interviewees who suggested that readiness to learn, Knowles, Holton, and Swanson’s (1998) fourth principle, was important, also submitted educational materials that were specifically for newly hired providers.

Another important aspect of the role of a healthcare educator, including the role of this study’s participants, is technology use as a source of education. All interviewees utilize technology to educate the providers they work with. Participants mentioned
twenty-two technologies they thought pertained to this study. Healthcare educators have to understand the each technology enough to employ it for training and answer questions from providers about its use.

The responses to this question were unexpected. I hoped there would be some newly innovative or groundbreaking technology that could be shared with the audience of this research. In general, participants indicated that they felt comfortable using the technology that they had, that they were using the technological resources to their fullest capability, but were interested in learning about alternative options that were more complex and that might assist more with provider education. For example, every organization in this study uses e-learnings or webinars to provide training and education to providers, but many of the webinars just provide information to the student. Interactive e-learnings are not utilized as often as participants would like.

I hoped to find references to a new technology that increased the facilitation of provider education. However, the research revealed that no innovative or technologically advanced tools were being utilized at this time. I see three reasons for this. It takes monetary resources to purchase more complex software programs. Healthcare educators must learn to utilize new technology well, and there can be a large learning curve when working with more complex programs. There is also a technological learning curve for the providers, if they were to be educated using more sophisticated software.

The interview question about the implications of technology use on the role of the healthcare educator went largely unanswered. With additional interviews, I would separate this question more to emphasize its importance. Participant answers were intriguing and representative of their beliefs. One of the most interesting concepts
mentioned was from RI3, who discussed what she called a flipped classroom. In the flipped classroom instructional model, students complete coursework in an online or virtual setting, almost like homework, and then come to class where the trainer was more of a facilitator, and the students basically ran the classroom portion of the course. This concept of a flipped classroom may be new to healthcare, but I would consider this concept to be similar to the constructivist framework in the field of education, where the educator is more of a facilitator and the students work together to create knowledge and find meaning in a community. This idea aligns with my philosophical framework.

**Importance of Community in Healthcare Education**

This section discusses how community is vital to the growth of education in healthcare and in the role of a healthcare educator. Kilo (2008) indicated that practice isolation is a critical disparity in the current healthcare system. This refers to individuals who work or practice medicine in silos without colleague collaboration. Kilo found this to be a critical issue in healthcare education.

Senge (2006) wrote that a shared vision is a picture that individuals within an organization carry to create a sense of commonality, it “permeates the organization and gives coherence to diverse activities” (p. 192). The continued development of a shared vision within the learning organization is greatly influenced by the role of a healthcare educator that works to bridge the gaps between their teachings and the requirements of the organization.

I believe that working with all the appropriate individuals in an organization on provider education improves the education, the educational process, and may lead to
increased understanding of provider training materials and the actual providers, keeping them at the healthcare organization by making them more efficient and successful.

Like Kilo, RI6 believes that a partnership between provider colleagues is essential to the success of individual providers and a particular unit or department. RI1 also mentioned that healthcare educators have a goal of balancing the provider’s needs with those of the organization. Joint efforts and effective communication with organizational leaders increase the value of the healthcare educator role. Besides a community of provider colleagues willing to assist each other in their learning process, other members in the organization need to understand the importance of the provider education, and that it is a continuous process.

Three of the research participants suggested that there needs to be an increased importance placed on the larger community of healthcare educators, outside of our individual organizations. Some partnerships are happening naturally through acquisitions and mergers, but the workers and the organizations need to collaborate so that education-related resources and ideas can be shared, thus improving the provider education experience and increasing the knowledge of healthcare educators through additional resources.

The last community, and perhaps the most important, is the patient community. It was encouraging to see a trend in participant responses that made sure to call out the importance of the patients and their medical care. This was a top priority for the healthcare educators and especially for the providers they are working with. The patient community must remain at the forefront of all healthcare educators to ensure their needs are being met and that they can achieve their health goals. Healthcare educators assist in
patient healthcare outcomes as they instruct the providers to be more efficient and knowledgeable about utilizing the EMR more effectively.

**Learnings from the Research**

This section discusses several learnings from conducting the research, including observations about the process, and how my work as a healthcare educator has changed during this process. The section reviews learnings garnered from the participants, alignments to my philosophical beliefs as a result of this study, general personal learnings about my role as a healthcare educator, and the implications of this study on my practice.

**Learnings about the Research Process**

This section presents learnings from the research process and post-research reflection. The first learning was that a researcher cannot expect participants to continue with the study even after they have consented to do so. One pilot-interview participant and two final-interview participants backed out less than a day before their interviews. This experience led to two learnings and reminders. The first was the value of contacting a large number of organizations, so that if people decided not to participate, I would be able to find others. I discussed this obstacle with my dissertation committee and we determined that expanding my participant pool to include inpatient healthcare educators was an appropriate solution. I was thankful for connections at several organizations and contacted them about other potential participants.

Another learning was the value of transcribing the interview transcripts myself. There were times I could recall and summarize a particular participants’ ideas or statements because I had participated in the original conversation, transcribed the interview, and then listened to the recording several more times.
Learnings from the Participants

The most telling answers from the interview questions were about the healthcare educators’ definitions of their roles and their beliefs about provider education in a healthcare setting. I found that all interviewees had a passion for their work and felt a responsibility to teach those providers much as they could to assist in the providers’ success. The participants also felt strongly that more one-to-one education was needed to facilitate further a provider’s ability to grasp the knowledge being shared. Their overall goal was to ensure that the providers had all the information, tools, and resources they needed to care appropriately for their patients. This showed that the healthcare educators never forgot the most important goal of healthcare, helping patients.

Participants seemed to struggle to answer questions about their own beliefs, but were able to answer very easily the questions about their role definition and the work they do. I was reminded that people may not spend enough time reflecting on our beliefs, how they came to be, and how we can utilize them daily. We focus on our work because it impacts our daily lives, and since we are often evaluated on our work, we often strive to be better each day. I recommend that healthcare educators not only evaluate the quality of their work, but also schedule time to be reflective about the educational process. These reflections might determine if the education they are providing achieves its intended goals, if providers are gaining appropriate understanding of the materials, and if any innovative solutions could change the education to make the training more effective.

It was intriguing to realize that although six interview participants did not include Knowles, Holton, and Swanson’s (1998) principles intentionally to design their provider
education materials, they were using them in their practice. I was reminded that good educators do not need a complete understanding of theoretical practices. But if they know their audience, healthcare education providers in this case, they can tailor the education and increase the effectiveness of the role.

**Research Finding Alignment with Personal Beliefs**

This section reviews my philosophical beliefs about the purpose of education, the role of a healthcare educator, and its alignment to the beliefs of healthcare educators who were interviewed. Overall, much of the data confirmed my beliefs regarding workplace education. I believe that the purpose of education is for individuals to find and construct their own meaning and alter any preconceived notions they have. I find that these educational beliefs can be paralleled into the professional realm, where individuals are able to find meaning through work experiences. Specifically, through workplace education and the merging of these two disciplines, individuals are able to learn new information and have perspective-altering experiences. To alter these perspectives, educators play a key role in facilitating the constructive experience. Educators need to create a learning environment that is safe and has a sense of community, where students can feel comfortable and collaborate to find meaning and create a shared vision.

The research participants indicated that they have found value in their colleagues’ variety of interdisciplinary backgrounds, as it helps to better understand their students’ needs. Along with this, educators need to utilize curriculum differentiation whenever possible to create an individualized education sessions. Educators need to incorporate students’ prior knowledge and experiences into their teaching. This type of active
learning will help to create citizens who are active in the community and who are working towards the goal of helping others.

These educational beliefs parlay into my beliefs about workplace education. The same elements for teaching students should apply to teaching providers in a healthcare setting. I believe the goal of a healthcare educator is to assist clinical professionals with making their practice more efficient, to align with a more holistic methodology for treating patients, and to help patients receive the best and most appropriate care they can, thus increasing health outcomes.

**Learnings about Personal Healthcare Education Practice**

This section examines several learnings regarding my job role. In general, I feel more confident about my role as a healthcare educator, specifically, the impact my job is having on the providers and the larger organization in which I work. I feel confident that I am functioning appropriately in my job role, as many of the experiences, techniques, ideas, and stories shared by the interview participants align with mine. It is comforting knowing that the interviewees have similar goals and passion for the role of educating providers. Furthermore, I am reinvigorated to keep bringing forward my beliefs and knowledge about adult education, with a goal of enacting change to how we educate providers in my healthcare organization.

**Literature in Review**

This section reprises the most important authors found through the literature review and how their ideas impacted and aligned with the results of this study. The most important authors, in alphabetical order, were Block (2009), Dewey (1938), Farrell (2004), Knowles, Holton, and Swanson (1998), and Merriam, Caffarella, and
Baumgartner (2007). These authors helped to establish the theoretical framework for this research and helped me explain my philosophical beliefs, and develop my research and interview questions.

Block’s (2009) thoughts about community building and fostering a safe environment have greatly impacted me. I have utilized many of his ideas in my own practice and hope to continue to do so going forward. I will employ Block’s ideas, including professional development in our roles.

I remember originally reading Dewey (1938) a few years ago as part of an independent study where I was reading several foundational thinkers in the educational field to get a better understanding of the history of education, how far, if at all we have come, and what the future of education might look like. I was surprised how often I wanted to quote Dewey and his ideas. They are foundational for a reason, and I was reminded that one of his ideas about a learners’ prior experiences kept surfacing in the interviews for this study. The other main learning from Dewey (1938) is the idea of active citizenry. Three interview participants suggested that because of governmental incentive programs, an increase in societal awareness was an integral part of their job.

The way that Farrell (2004) wrote about the topic of workplace education made me feel she understood what the individuals in a work role similar to mine were experiencing. I utilized her ideas several times in the literature review and found connections in the research data. Farrell (2004) considers workplace educators, what she calls knowledge workers, to be the driving force in organizations. They manage knowledge from a variety of sources, produce the knowledge, develop curriculum, educate people about that knowledge, and then assess how the individuals are learning
the information. The enormity of the role she described is definitely congruent with the information shared by the research participants. Farrell (2004) further insisted that knowledge workers, or workplace educators, are naturally innovative and creative in their knowledge and educational solutions.

Knowles, Holton, and Swanson (1998) were foundational to this study. When I was determining which theory or set of adult learning principles to utilize for this study, I kept going back to Knowles, Holton, and Swanson. Their ideas connected with many aspects of the work I was doing, and I hoped that those ideas and principles would align with the interview participants’ roles as well. The main connections to their work can be found in the results chapter.

I found immediate connections with Merriam, Caffarella, and Baumgartner (2007). They looked at andragogy from a broad perspective and this intrigued me. The literature review offered some of their ideas on adult learning, such as self-directed learning, and the social context of adult learning. As well as the psychological and developmental needs of adults as they learn, the changing culture of the United States, specifically regarding its diversity and the need to pay attention to cultural differences when teaching adults. Finally, they mention to make sure that when teaching adults, educators keep in mind that their teaching should be learner and societal focused, and lead to encouraging adults to take their knowledge and be active citizens. All of these aspects can be directly linked to Knowles, Holton, and Swanson’s (1998) principles of adult learning and the responses each participant shared during their interviews.
New Literature Connections

This section describes new literature connections that helped illustrate the research findings. Senge (2006), Kilo (2008), Dweck (2010), Gardner (2008), and Spikes (1995) were all influential in the overall framework for this study and the considerations after the analysis was complete. The constant influx of information in healthcare creates an environment that fosters interdependency between individuals and systems. The acceleration of change continues to increase in complexity and calls for a different type of learning and a different way of thinking about learning in organizations.

The biggest new connection for me after the research was complete was in re-reading Senge (2006) and his ideas about systems thinking. Senge (2006) stated that systems thinking is a conceptual framework or body of knowledge that contains tools that are part of a larger pattern. By understanding these tools and the patterns they are a part of, we can begin to make effective changes. In systems thinking, structures can be identified to help ease difficulties in complex situations, helping to shift how we think.

The newer connections were that many interview participants suggested, much like Block (2009), that building a sense of community was important in their courses, as was building a safe, trusting environment when working with the providers, and in the collaborative efforts needed in a healthcare organization among providers, administration, and healthcare educators.

One of the biggest learnings from this study was that I was not alone in wanting to create a community of healthcare educators where we could all get together as a system and shared our collective vision. Kilo (2008) defines a system as a set of interdependent parts that share a common purpose and are designed to achieve specific results. Kilo
(2008) said that the outputs in a healthcare system are dependent on the knowledge and abilities of the medical providers and, therefore, on the quality of training they receive from healthcare educators. Kilo (2008) argued that issues with not aligning to a common practice or goal have thwarted the purpose of provider education, especially as health outcomes have not significantly improved and systems thinking has yet to gain real ground in healthcare. Shifting our reality to understand that we are part of a whole requires a new awareness of connections between and within systems. An example of systems coming together would be for administration to assist healthcare educators in attending professional development to learn about innovative technological solutions to delivering provider education.

I wish had pursued Carol Dweck’s (2010) ideas further. She wrote that there are two basic mindsets that people believe in, a fixed or growth mindset. In a fixed mindset, people believe their basic qualities and traits cannot be changed. In a growth mindset, people believe that basic abilities can be developed and that a love of learning and resilience can be achieved. Dweck (2010) also suggested that a growth mindset can create motivation in several arenas, such as education and business, and enhance relationships. I link this directly to Knowles, Holton, and Swanson’s (1998) sixth principle about motivation and to the role of healthcare educators. In general, I would suggest that all the participants interviewed believe in a growth mindset, mainly because of the work they are doing. They work to develop relationships with providers and to teach them new things. To do that type of work and find the clinicians’ motivations for learning is greatly aligned with Dweck’s ideas.
Gardner (2008) stated that there are five minds for the future: the disciplined mind, the synthesizing mind, the creating mind, the respectful mind, and the ethical mind. He said that these five minds need to work together, much like Block (2009) suggests, as a community to further humankind. Furthermore, he believes that the best people for the future will be able to combine these five minds, similar to the theory of multiple intelligences, utilizing aspects of each to impart the most impact on the world. This relates directly to the interdisciplinary ideas stated in the philosophical section and align with many of the interview participants’ backgrounds. The interviewees had an array of educational and personal backgrounds and perspectives that assisted them in understanding the providers they were working. This aligns with the participants’ beliefs about helping providers and assisting in patient care to achieve positive health outcomes.

Spikes (1995) suggested that tomorrow’s organizations will emphasize the role of the workplace educator as a force within an organization, growing and gaining in momentum and influence within organizations. As organizations become less hierarchical, teams and work-based groups will have increased importance. The change in job roles and work patterns, including job sharing, home-based work sites, and variable hours, will become the norm. He stated that the best way to incorporate these organizational changes will be to facilitate employee development at all levels, especially in the role of the workplace educator, as this role is seen as pivotal for continued employee and organizational growth. Spikes (1995) maintained that for future organizational success, employee development needs to be expanded and innovative strategies to develop, promote, and engage in workplace education must take place: “Future workplace learning initiatives must be tied to the immediacy of application
needed by workers in tomorrow’s just-in-time organization” (p. 88). The author wrote that instructional mechanisms must be designed to assist employees with their desire for individualization and self-directed learning. This would allow individuals to learn in a way that maximizes their unique learning preferences and potential. Spikes’ ideas directly relate to the role of healthcare educators, the work they are doing, and the changing nature of healthcare.

**Implications of the Research**

This section offers two implications of the study and additional ideas for how the literature and the results found in this research can be utilized. Several implications of this research study will be addressed in this section, assisting in answering the two research questions “How do healthcare educators describe their role[s] and experiences educating providers in a healthcare setting?” and “What adult learning principles, determined by Malcolm Knowles, can be identified in provider education materials utilized in a healthcare setting?” There was no intention that that problems identified in the introductory chapter-- time allotment for education, competing priorities for providers, competing priorities for healthcare educators, healthcare learners, and a reluctance to change--would be solved by this study. However, the implications of the findings can help to address these concerns with a more focused understanding of the role of healthcare educators who teach providers in healthcare settings.

**Changes in Healthcare**

This section describes the changes taking place to the nature of healthcare and my opinion about changing nature from personal and vocational practice experiences. In my recent practice, I have worked in multiple hospitals, assisted nine primary care clinics,
and have also worked with urgent care, occupational medicine, quick-access clinics, and work-based clinics. I see that the future of healthcare demands just-in-time services where anyone can go to any clinic no matter what type of insurance they have or who their primary care provider is. In as a healthcare educator, I have been involved in several recent conversations in which members of my organization are trying to determine the best way to provide medical care to a population with varying opinions about their healthcare needs. It has been my experience and my colleagues’ experience that younger people provide similar feedback: They should receive the same or similar services, diagnoses, and treatments no matter which provider they see. An organization that I am familiar with employs a telehealth system, an online-based clinical service where patients can use their own computers to fill out a survey of their symptoms and a nurse practitioner can assess their condition and prescribe medications as appropriate.

Fee-based, on-demand service, and having a provider at one’s worksite are changing the healthcare landscape. If patients can visit a provider located at their workplace, the implications of that visit are drastically decreased for the patient/employee and the employer. The patient/employee is taking less time away from work to attend the visit. Employers have found an increase in employee satisfaction and production as their staff are back to work more quickly than if they went to a traditional, off-site clinic. For individuals who do not have this option, increased education should be given to patients so they utilize the healthcare system appropriately. In my experience, urgent care clinics are seeing patient overflow from primary care, and the emergency department is seeing patient overflow from urgent cares.
Participant RI9, who educates inpatient providers, stated that inpatient censuses are down, elective surgeries are down, and emergency-room visits are up. There are plenty of healthcare services available, but feedback from patients indicates that the options are too overwhelming, and patients are unclear about the most appropriate care option. This relates to my study because the providers that the healthcare educators work with need to utilize their electronic medical record (EMR) system effectively to help patients move quickly through the healthcare setting they access and find the appropriate educational resources to provide the patients with for their health. As more patients go outside of traditional primary-care settings to receive their medical care, healthcare needs to adjust to meet those needs.

**Increased Use of Technology and Innovation in Healthcare**

This section discusses the increasing need for technology and innovation in healthcare settings and its implications to healthcare education. Adult education is a growing field as the world becomes more globally connected and technologically advanced. “Technology is not only making learning mandatory, it is providing many of the mechanisms for it to occur” (Merriam, Caffarella, & Baumgartner, 2007, p. 20). Adults may learn something new each day; oftentimes, that new learning is impacted by technology. Healthcare educators work to alleviate any anxiety this new learning may cause providers. Roth (1995) wrote that continued technological advancements will shape the way we think about teaching, learning, and working. He suggested that technological systems will alter traditional constraints involved in work and learning, such as time, place, safety, language, and culture. He stated that “information technologies, like other forms of technology, have a history of permeating our ways of
being before we fully understand their consequences” (p. 75). Roth maintained that
technology should be insignificant to the learner and that the main focus should be the
quality of learning, with technology used as the tool to provide the learning. Seven
participants interviewed echoed this statement, stating that technology is great if it can be
utilized in an appropriate manner, and be a reliable resource.

Merriam, Caffarella, and Baumgartner (2007) further pointed out that with
technology embedded in the workplace, expectations of workers have increased. More
timely responses are expected. Knowledge workers can work from anywhere,
reinforcing the notion that technology has increased the need for adult educators to
understand the contextual world in which we live (Merriam, Caffarella, & Baumgartner).
In the world of healthcare, patients can communicate with their providers online and get
their tests results almost immediately.

The idea of flexible learning is another connection I was reminded of after the
research analysis was complete. Collis and Moonen (2002) described flexible learning as
a complex phenomenon that contains four key components: technology, pedagogy,
implementation, and institution. These components are interrelated and nested within
each other. Flexibility in education can provide options in a variety of learning areas,
with diverse activities through various mediums. Collin and Moonen (2002) stated that
the key to flexible learning is that learners have a choice in their learning experience.
The use of technology, defined by Collin and Moonen (2002), is a combination of
information and communication technologies, such as computers, network systems,
applications, and products among others, is a key factor in the use of flexible learning in
higher and adult education. The authors wrote that flexibility in education can be a
strategic change where core technologies are retained, while additional or complementary technologies are increased or aligned with the foundational technologies. Flexible learning is a vital aspect of healthcare education. Healthcare educators and learners must remain flexible and adaptive to progress and flourish in their roles.

Collis and Moonen (2002) defined a 4-E model that indicates an individual’s likelihood to use technological innovation for a learning-related purpose. The 4-Es are environment or the institutional context, educational effectiveness, perceived or expected ease of use, and engagement, the person’s response to technology and change. With the advent of new technologies, there is the blending and blurring of delivery systems to adult learners. Many large healthcare organizations have adopted an electronic medical record (EMR) system that stores all patient-related medical information. The electronic medical record system also serves as a tool to assist providers with their daily medical decision making and documentation of their decisions.

As federal programs continue to get passed and enforced, increased proper utilization of the EMR will be the foundation for future healthcare success. Technology and innovation is a requirement if healthcare organizations want to continue to see patients and remain successful. The adaptability of healthcare organizations in the use of technology such as telehealth and online visits will impact a healthcare organization’s future growth related to patient access to appropriate and affordable healthcare.

Although all of the participants and the organizations included in this study utilize e-learnings and webinars to assist in educating their providers, more innovative solutions need to be incorporated in healthcare educators’ practice to further align with Knowles,
Holton, and Swanson (1998) and other adult learning principles. The current state of healthcare education is just scratching the surface of avenues to educate providers.

True innovation in provider education involves creativity, while addressing the competing priorities of the providers and the healthcare organization. As mentioned by seven interview participants, there is a shift in the way provider education will most likely be done in the next few years. After being hired, but before practicing at a new organization, a provider would have to participate in some form of virtual education prior to receiving specialty, site, or organizational specific training on the EMR. Three participants mentioned sending out webinars or e-learnings to providers that contained some sort of competency that would assess the provider’s abilities with the EMR. Then there could be several educational paths that a provider would take based on their proficiency. My healthcare organization has an accelerated provider training course for newly hired clinicians who already have experience with the EMR we utilize. This has dramatically increased providers’ satisfaction when onboarding at a new healthcare organization. They feel more prepared to proceed with their regular job duties because they can learn the specifics of their role in their specialty or at their location instead of spending time in a training classroom.

This also allows for more hands-on, real-life, scenario-based training, and can align Knowles, Holton, and Swanson’s (1998) adult learning principles and the beliefs of the research participants. I was disappointed, but not surprised that the majority of the organizations that participated in this research did not intentionally use Malcolm Knowles’ or any other adult learning theories consistently when developing their provider learning materials. Although every participant agreed that this is the next step in
provider education in healthcare, it is frustrating to see that adult learning has not previously had a place in provider education.

**Limitations of the Research**

This section addresses the limitations of the study. Senge (2006) articulated that individuals within organizations can have difficulty looking outside themselves when positions interact. He also suggested that individuals focus on their own positions and cannot always see the impact of their actions extending beyond that position. Even though I have held several different positions within healthcare, I acknowledge that this is a potential limitation to this study as my positionality comes from that of a healthcare educator. The participant pool was not equally divided between the outpatient and inpatient healthcare educators. The varied levels of experience in the interview participants was positive, but it was hard to compare the responses of someone who has only worked for a few years in the healthcare educator role to someone who has twenty years of experience. I was unable to study similar provider-education documents that perceive provider education differently. Provider education materials are constantly changing due to the nature of healthcare and updates that are needed to the EMR system and workflows. My review of the materials was a single instance, so the analysis is not translatable to materials outside of this review.

Attempts were made to contact eight different healthcare organizations in the upper Midwest to get a representative sample of healthcare educators in this region. Due to lack of participant availability, seven research interviews were completed via telephone, which omits body language or other non-verbal cues that can be interpreted from an in-person conversation. This study was a snapshot of several healthcare
educators in the upper Midwest. Their responses were limited to their personal lived experiences and the meanings they prescribe to them. Therefore, these results cannot be generalized to other healthcare organizations, healthcare educators or personnel.

The next limitation is the resistance and difficulties found when identifying research participants and the small sample size of this study. Several participants pulled out of the interviews due to availability and insecurities in sharing their educational materials. The final limitation is the choice of working to identify Knowles, Holton, and Swanson’s (1998) adult learning principles. After consulting dissertation committee members, it was determined that one foundational thinker related to adult learning was sufficient for the purposes of this study. The researcher and committee members agreed that Knowles, Holton, and Swanson’s (1998) work, although contradictions to the ideas can be found, emphasizes many basic understandings of adult learning in the United States. The limitation is found in narrowing the scope of the research to only include one theorist, as the provider education materials could have been evaluated utilizing a variety of different theories or principles.

**Suggestions for Future Inquiry**

This section presents suggestions for future research and inquiry. An initial set of suggestions focuses on data collection. The first suggestion is to interview medical providers who are receiving education to understand how they view the role of a healthcare educator, its importance in the healthcare organization, and their role as learners. Second, it would be interesting to study the various delivery methods and technology utilized by healthcare educators, including the materials, such as training received online or through distance learning versus traditional classroom or one-on-one
training. Third, I would like to do more interviews with healthcare educators in smaller organizations to see if their views on the role are differ due to size of organization.

Fourth, I would like to interview participants from additional states outside of the Midwest to see if their beliefs, experiences, and roles are similar to interviewees in this study. I would want to ask participants about their use of adult learning theories, and technology and innovation. It would be fascinating to see which learning theories and innovations are being utilized across the United States. The fifth suggestion for future inquiry would be to interview healthcare administrators to determine the emphasis they place on the role of a healthcare educator, the importance they place on provider education, and their opinions on incorporating adult learning theories into the practice of healthcare education. Sixth, I would next like to ask the participants more questions and have the ability to dive deeper into their responses than I did with this limited study. It would be great to understand the motivations and experiences of the healthcare educators more fully, bringing in aspects of Dweck’s (2010) mindsets into the conversation. Additionally, a deeper exploration into the role of a healthcare educator, garnered from interviews, would be interesting to determine if a specific skillset, qualities, or responsibilities would improve the role and increase provider education successes. Finally, I would analyze a larger number of provider education materials that are similar, in order to do a more in-depth analysis of outpatient versus inpatient materials to determine if there is a significant difference.

A second set of suggestion focuses on Knowles, Holton, and Swanson’s (1998) principles of adult learning. First, research comparing an organization that utilizes Knowles, Holton, and Swanson’s (1998) principles directly when developing their
provider education to an organization that does not would be fascinating. Also, determining if a focus on a specific Knowles, Holton, and Swanson’s (1998) principles would to lead to increased job satisfaction in providers and healthcare workers would be intriguing. The final suggestion for future research would be to compare the findings of this study in a different discipline, interviewing other workplace educators with similar questions and reviewing their training materials to determine if Knowles, Holton, and Swanson’s (1998) principles can be identified.

**Recommendations for the Future of Healthcare Education**

Utilizing the concept of flexible learning that Collis and Moonen (2002) described has four aspects of learning: technology, pedagogy, implementation, and institution, whereby the learner gets a choice in the learning experience. This section offers recommendations for the future of healthcare education. It will suggest a specific step-by-step process for ensuring proper provider engagement and understanding of the educational information, and making sure that all of Knowles, Holton, and Swanson’s (1998) adult learning principles are addressed in regard to provider education. The steps outlined in this section are: professional development, flipped classroom instruction, provider pre-course questionnaire, educator evaluation, educator self-reflection, organizational colleague workgroup, and a regional colleague workgroup community.

The first piece of the process is to ensure all healthcare educators receive proper professional development to understand adult learning theories, and that all of Knowles, Holton, and Swanson’s (1998) six principles were addressed when designing curriculum and in their courses and the educational materials given to providers. The second is to utilize constructivist theory through a flipped classroom for instruction, where the
healthcare educator plays a facilitating role in the educational process, and the students work together to find meaning in the education. This would require providers to complete pre-work, such as a questionnaire about their learning styles and preferences, and utilizing Collis and Moonen’s (2002) 4-E model helps to indicate an individual’s likelihood to use technology in the learning process. The 4-Es are environment or the institutional context, educational effectiveness, perceived or expected ease of use, and engagement, the person’s response to technology and change.

The pre-course questionnaire would addresses three of Knowles, Holton, and Swanson’s (1998) principles. The first is the role of the learners’ experiences, taking into account any previous experience they have with an EMR and any prior educational experiences. The healthcare educators could utilize this information to alter the curriculum accordingly. Second, the orientation to learning, where adult learners prefer to learn things that will assist them in completing a specific task or solving a problem, and that have a real-life application. This would further ensure that healthcare educators are training providers about items that are specific to their role. The principle that will be satisfied through the pre-questionnaire is motivation. Adult learners can have a variety of internal and external motivators, such as a promotion or increased job satisfaction. If a provider is able to relay that information to the trainer before attending the course, then healthcare educators can make sure to address provider needs and, it is hoped, achieve the intended and expected outcomes that clinicians believe will be the result of the course.

Healthcare educators could utilize the pre-questionnaire to address these preferences through their curriculum build for a specific class, meeting the needs of the majority of students. Although the information in the education given to the clinicians
would have to be standardized due to the requirements of the particular electronic medical record (EMR), some individualization could occur to produce better outcomes, and assist providers in retaining more of the educational information and workflows, while effectively utilizing their organization’s EMR. I believe this would lead to increased job satisfaction for providers and healthcare educators.

As part of the educational process of constructivist theory, utilizing the concept of a flipped classroom in a healthcare setting, clinicians would be given information about the purpose, value, and objective of the course prior to attending. This would assist them in developing their own motivational understanding, and address Knowles, Holton, and Swanson’s (1998) three remaining adult learning principles the need to know, which involves the learners preferring to understand the reason or value in what they are learning; the learners’ self-concept, which allows self-direction and autonomy in adult learners, allowing them to be responsible for their own learning decisions; and the readiness to learn, where adult learners have the ability and eagerness to learn new things. Two of these three principles, the learners’ self-concept, and the readiness to learn, were found to be present the least through the analysis of the provider education materials and one principle, the learners’ self-concept, was indicated by interview participants to be utilized the least as well. By combining the pre-questionnaire and the flipped classroom instruction philosophy, all of Knowles, Holton, and Swanson’s (1998) adult learning principles would be addressed and utilized as a foundation for the course and curriculum development.

An additional aspect of constructivism and the flipped classroom concept is the building of community. If providers come to their course with the same knowledge, they
have the possibility of finding commonalities more quickly. The constructivist educational framework and the flipped classroom instructional concept can help to align providers’ objectives and goals for the course and have a greater provider community within the class and also once they leave the training. These concepts can also assist clinicians to work collaboratively to construct and find meaning from their new educational experience.

Another aspect of the educational experience is what should transpire after the educational session is complete. The first is to have a standardized feedback form for providers to complete after each training session. This allows healthcare educators to receive valuable information regarding the effectiveness of the class, their teaching, and possibly provide suggestions from the providers about course adjustments. Second, individual healthcare educators could set aside time after a training session to reflect on how well the session went. A personal evaluation tool could be utilized by the healthcare educator as an avenue for self-reflection. This tool could ask educators to consider alternative teaching solutions or identify changes to their curriculum to make their teaching more impactful. Next, healthcare educators within the same organization could have critical reflection sessions where the curriculum and training mechanism utilized could be evaluated by the larger learning community. This colleague collaboration could be highly beneficial to generate innovative teaching solutions and create a community.

Finally, a larger, regional group of healthcare educators could work together to ensure that any provider attending a similar training course at whichever healthcare institution would receive the highest quality of innovative training, aligning with current research and adult teaching practices. This type of constructive collaboration in multiple
arenas can have many benefits, such as an increased understanding of the training information on the part of the provider, an increased utilization of appropriate tools in the EMR system, and an increased sense of meaning for the individuals working as healthcare educators.

Summary

This section summarizes of this chapter and research by providing recommendations for the future role of healthcare educators. This study was not intended to solve the problems laid out in the introductory chapter, but its goal of this study was to make the audience aware of the problems that exist when providing education to medical clinicians in a healthcare setting. Another purpose of this research was to establish a better understanding of the role of a healthcare educator. With increased awareness about the role, justification of the importance of such a role within a healthcare organization is ascertained.

As healthcare institutions place an increased value and importance on the role of a healthcare educator and in the education of providers, additional support is needed for the role. Improved technology and advanced tools are required to impart innovative education to medical providers. With this comes a stronger sense of community, where within organizations, clinicians, administration, and healthcare educators can work collaboratively to determine the needs of the providers receiving education. The collaborative effort needs to be utilized between healthcare organizations as well, so that the healthcare educators at each institution can share their innovative solutions and create a community of educators to facilitate improved provider education in their region.
The role of the healthcare educator has been shown through this research to be uniquely challenging, with greater understanding of the role, comes an understanding that addition resources and professional development should be provided to the role and work of a healthcare educator. I would argue that specific advancement opportunities, including professional development, should be determined within each organization, specifically including education regarding adult learning theory and the application of those theories in their practice. In my current organization there are varied levels of retention rates within the role of a healthcare educator, with a recent increase in turnover. These recommendations need to be met to increase retention rates within the role of a healthcare educator, as well as to increase retention rates of providers, as they are more likely to stay in their role if they are receiving the education and tools they need to effectively and efficiently do their job. The ultimate goal of both healthcare educators and providers is to improve patient care and their health outcomes. An investment in the educational process of providers will help to add stabilization to healthcare, a world fraught with constant change. The future of healthcare education aligned with technology and innovation and its implications for future patient care are remarkable, and require the understanding of the value that healthcare educators can bring to healthcare
References


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www.simonandbrown.com


definitive classic in adult education and human resource development. Houston, TX: Gulf Publishing Company.


University of Southern California: Center for Effective Organizations.


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Appendix A

Pilot Interview Consent Form

Dear Participant,

My name is Jenna Laine and I am a doctoral candidate in the School of Education at Hamline University in St. Paul, Minnesota. You are being invited to participate in a pilot study as part of the research for my dissertation.

My dissertation is seeking to understand the role and experiences of healthcare educators, their utilization of adult learning principles, and innovative education strategies as they provide training and education to medical practitioners in a healthcare setting. The pilot interview will consist of 15 open-ended, semi-structured questions that will be asked in a one on one interview setting, lasting for approximately an hour. An additional member check or interview may be required for clarity and understanding of responses. An accompanying document will be provided to assist your understanding of the adult learning principles being utilized for this research study and will include a definition and example of a healthcare educator from the researcher’s perspective. Your participation and feedback in this pilot study will help me to finalize appropriate semi-structured interview questions for my final research study.

If you agree to participate your identity and interview responses will be kept confidential. All participants and their organizations will be given an alphanumeric identification number assuring your anonymity. Your responses may also be used as direct quotations in the dissertation document or as part of an appendix. The interview and subsequent follow-up will be audio recorded and transcribed.
There is little to no risk involved in participating in this pilot study as your identifying information and any responses or suggestions will be protected and kept confidential. The results of this pilot study are public scholarship. The abstract and final product will be cataloged in Hamline’s Bush Library Digital Commons, a searchable electronic repository and may ultimately be published or used in other ways. You may decline to participate at any time without negative consequences. Please note your informed consent is assumed when all consent form documentation is signed and completed. Please return consent documents to the researcher at jjohnson11@hamline.edu.

For questions or additional information you may also contact the researcher at the above email address or by phone at 952-237-5458.

Thank you for your consideration,

Jenna B. Laine Doctoral Candidate

School of Education Hamline University
Informed Consent to Participate

(Keep this portion for your records)

I have received your request to participate in an audio recorded research interview. I have self-identified my vocational role as that of a healthcare educator or as an individual who possess specific knowledge about healthcare educators and is currently working in a healthcare setting. I understand that the interview is part of a doctoral dissertation at Hamline University in St. Paul, Minnesota and I agree to participate in an interview and assist with any follow-up questions or clarifications as needed. I understand that my participation in this research study is voluntary and that any personal or organizational identifying information will be kept confidential. I understand that there is little to no risk involved in participating in this study and can withdraw from the study at any time without penalty or consequence.

_________________________  _______________________
Participant Signature             Date
I have received your request to participate in an audio recorded research interview. I have self-identified my vocational role as that of a healthcare educator or as an individual who possess specific knowledge about healthcare educators and is currently working in a healthcare setting. I understand that the interview is part of a doctoral dissertation at Hamline University in St. Paul, Minnesota and I agree to participate in an interview and assist with any follow-up questions or clarifications as needed. I understand that my participation in this research study is voluntary and that any personal or organizational identifying information will be kept confidential. I understand that there is little to no risk involved in participating in this study and can withdraw from the study at any time without penalty or consequence.

__________________________  __________________________
Participant Signature          Date
Appendix B

Research Interview and Content Analysis Consent Form

Dear Participant,

My name is Jenna Laine and I am a doctoral candidate in the School of Education at Hamline University in St. Paul, Minnesota. You are being invited to participate in a study as part of the research for my dissertation. My dissertation is seeking to understand the role and experiences of healthcare educators, their utilization of adult learning principles, and innovative education strategies as they provide training and education to medical practitioners in a healthcare setting. Your participation in this research study will help to answer the research questions “How do healthcare educators describe their role[s] and experiences educating providers in a healthcare setting?” and “What adult learning principles determined by Malcolm Knowles can be identified in provider education materials utilized in a healthcare setting?”

By agreeing to participate it is assumed that you have self-identified as a healthcare educator currently working in a healthcare setting. By agreeing to participate in this research study you will participant in an interview as well as consent to share provider education and training materials that you have developed or utilized in your practice. The research interview will consist of 15 open-ended, semi-structured questions that will be asked in a one on one interview setting, lasting for approximately an hour. An additional member check or interview may be required for clarity and understanding of responses. An accompanying document will be provided to assist your understanding of the adult learning principles being utilized for this research study and will include a definition and example of a healthcare educator from the researcher’s perspective.
The research interview will be audio recorded and conducted in person, over the phone or through Skype and then transcribed and coded. If you agree to participate your identity and interview responses will be kept confidential. All participants and their organizations will be given an alphanumeric identification number assuring your anonymity. Your responses may also be used as direct quotations in the dissertation document or as part of an appendix. The interview and subsequent follow-up will be audio recorded and transcribed.

There is little to no risk involved in participating in this pilot study as your identifying information and any responses or suggestions will be protected and kept confidential. The results of this pilot study are public scholarship. The abstract and final product will be cataloged in Hamline’s Bush Library Digital Commons, a searchable electronic repository and may ultimately be published or used in other ways. You may decline to participate at any time without negative consequences. Please note your informed consent is assumed when all consent form documentation is signed and completed. Please return consent documents to the researcher at jjohnson11@hamline.edu. For questions or additional information you may also contact the researcher at the above email address or by phone at 952-237-5458.

Thank you for your consideration,

Jenna B. Laine  Doctoral Candidate  School of Education  Hamline University
I have received your request to participate in an audio recorded research interview. I have self-identified my vocational role as that of a healthcare educator currently working in a healthcare setting. I understand that the interview is part of a doctoral dissertation at Hamline University in St. Paul, Minnesota and I agree to participate in an interview and assist with any follow-up questions or clarifications as needed. I understand and agree to submit medical provider education and training materials that I utilize for my practice for the purposes of content analysis as part of this research study. I understand that my participation in this research study is voluntary and that any personal or organizational identifying information will be kept confidential. I understand that there is little to no risk involved in participating in this study and can withdraw from the study at any time without penalty or consequence.

__________________________   ______________________
Participant Signature            Date
Informed Consent to Participate

(Please sign and return this portion to Jenna Laine)

I have received your request to participate in an audio recorded research interview. I have self-identified my vocational role as that of a healthcare educator currently working in a healthcare setting. I understand that the interview is part of a doctoral dissertation at Hamline University in St. Paul, Minnesota and I agree to participate in an interview and assist with any follow-up questions or clarifications as needed. I agree to submit medical provider education and training materials that I utilize for my practice. I understand that my participation in this research study is voluntary and that any personal or organizational identifying information will be kept confidential. I understand that there is little to no risk involved in participating in this study and can withdraw from the study at any time without penalty or consequence.

________________________
Participant Signature

________________________
Date
Appendix C

Pilot Interview Participant Handout

Dear Participant,

Below are the research questions for our upcoming interview. The interview questions are based on the literature available about the role and experiences of healthcare educators working to facilitate provider education in a healthcare setting. The goal of the interview is to assist in answering the research questions “How do healthcare educators describe their role[s] and experiences educating providers in a healthcare setting?” and “What adult learning principles determined by Malcolm Knowles can be identified in provider education materials utilized in a healthcare setting?”

Please review all interview questions and accompanying information prior to our scheduled interview and let me know if you have any concerns. You are not obligated to answer all interview questions and may withdraw from participation at any time. If you have further questions about your consent to participate with this research, please refer to your originally signed consent or contact the researcher.

Thank you so much for your assistance with this research!

Regards,

Jenna Laine
Accompaniment to Participant Interview Questions

**Healthcare educator definition:** individuals who work to educate healthcare personnel on a variety of healthcare related topics in a healthcare setting. These individuals work to bridge the gap between the organizational, clinical, and technological needs and expectations. Per Greenes (2000) the purpose of a healthcare educator is to facilitate improving access to appropriate medical information to assist providers and other healthcare staff with making informed medical decisions. For example at my organization the role of a healthcare educator would be to assist providers in understanding a new federally mandated medical standard that they must achieve. It is the responsibility of a healthcare educator to understand the requirement, determine the best approach to disseminating the new goals, develop curriculum accordingly, and facilitate the education of providers about the new standard. Oftentimes this requires utilizing the electronic medical record system and occasional software build to implement the change.

**Malcolm Knowles’ adult learning principles with researcher’s summary:**

1) The need to know: most adults crave to know and understand more. Adult learners also prefer to know the reason or value in their learning.

2) The learners’ self-concept: adult learners are responsible for their own decisions and lives, which leads to self-direction and autonomy in their learning.

3) The role of the learners’ experiences: adult learners have previous learning experiences and knowledge from a variety of backgrounds. All of which should be taken into consideration when developing, implementing, and teaching adult learners.
4) The readiness to learn: adult learners are at a specific developmental stage that promotes the ability and eagerness to learn new things.

5) The orientation to learning: typically, adult learners prefer to learn things that will help them to perform a task or solve a problem. In general, adult learners find real-life application learning to be the most beneficial.

6) Motivation: adult learners have both internal motivators, such as job satisfaction and external motivators, like a promotion. Real-life learning situations that lead to an intended or expected outcome are the most motivating for adult learners.
Appendix D

Pilot Interview Questions

Role of healthcare educator and Learning Organization

1) Please state your title and describe your role at the current healthcare institution in which you work.

2) How many years have you worked as a healthcare educator? How many years have your worked at your current organization?

3) How do you define the role of a healthcare educator?

4) What importance, if any, does your healthcare organization place on your role or the role of a healthcare educator within the organization?

Beliefs and Experiences

5) What is your educational background?

6) Have you taken or attended any classes, professional develop courses, etc. or had any experiences that have assisted you in understanding or practicing your role?

7) What are your beliefs regarding provider education in a healthcare setting?

8) What impact, if any, do you feel your role has on the organization as a whole, such as the institution itself, the providers you educate, your co-workers, and other employees of your healthcare organization?

9) Have you had any memorable experiences while providing education to adult learners in a healthcare setting? If yes, please describe.
Adult Learning

10) Do you utilize any of Malcolm Knowles’ adult learning principles or similar ideas in your practice? If yes, can you describe an experience or instance when adult learning strategies or methods were utilized?

11) Do you design or maintain provider educational materials with any adult learning theories or similar ideas in mind? If yes, please explain. If no, are there any other theories, ideas, or strategies that you employ when building provider curriculum?

12) Are any of Knowles’ adult learning principles found in your provider educational materials?

Technology and Innovation

13) Do you utilize any innovative or technologically advanced tools or solutions in your practice? If yes, what impact, if any, do you feel technology and/or innovation has on your role or the role of a healthcare educator? If no, why not?

Future of healthcare education and educators

14) What do you envision the role of a healthcare educator looking like in the future?

15) Do you envision the future role of a healthcare educator will employ adult learning strategies and theory in their practice?
Appendix E

Research Interview Participant Handout

Jenna Laine
EdD Dissertation
Research Interview Questions with Participant Information

Dear Participant,

Below are the research questions for our upcoming interview. The interview questions are based on the literature available about the role and experiences of healthcare educators working to facilitate provider education in a healthcare setting. The goal of the interview is to assist in answering the research questions “How do healthcare educators describe their role[s] and experiences educating providers in a healthcare setting?” and “What adult learning principles, determined by Malcolm Knowles, can be identified in provider education materials utilized in a healthcare setting?”

Please review all interview questions and accompanying information prior to our scheduled interview and let me know if you have any concerns. You are not obligated to answer all interview questions and may withdraw from participation at any time. If you have further questions about your consent to participate with this research, please refer to your originally signed consent or contact the researcher.

Thank you so much for your assistance with this research!

Regards,

Jenna Laine
Accompaniment to Participant Interview Questions:

Healthcare educator definition: individuals who work to educate healthcare personnel on a variety of healthcare related topics in a healthcare setting. These individuals work to bridge the gap between the organizational, clinical, and technological needs and expectations. Per Greenes (2001) the purpose of a healthcare educator is to facilitate improving access to appropriate medical information to assist providers and other healthcare staff with making informed medical decisions. For example at my organization the role of a healthcare educator would be to assist providers in understanding a new federally mandated medical standard that they must achieve. It is the responsibility of a healthcare educator to understand the requirement, determine the best approach to disseminating the new goals, develop curriculum accordingly, and facilitate the education of providers about the new standard. Oftentimes this requires utilizing the electronic medical record system and occasional software build to implement the change.

Provider definition: Medical Doctors, Physicians, Advanced Practice Providers, Nurse Practitioners, etc. who have completed all necessary requirements to achieve and maintain their professional license. This excludes individuals with a Registered Nurse license or below.

Participants: Individuals that work to educate providers in a large healthcare organization in the upper Midwest, utilizing an Electronic Medical Record as a tool for support.
Description of Malcolm Knowles’ Adult Learning Principles with the Researcher’s Summary:

1) The need to know: most adults crave to know and understand more. Adult learners also prefer to know the reason or value in their learning.

2) The learners’ self-concept: adult learners are responsible for their own decisions and lives, which leads to self-direction and autonomy in their learning.

3) The role of the learners’ experiences: adult learners have previous learning experiences and knowledge from a variety of backgrounds. All of which should be taken into consideration when developing, implementing, and teaching adult learners.

4) The readiness to learn: adult learners are at a specific developmental stage that promotes the ability and eagerness to learn new things.

5) The orientation to learning: typically, adult learners prefer to learn things that will help them to perform a task or solve a problem. In general, adult learners find real-life application learning to be the most beneficial.

6) Motivation: adult learners have both internal motivators, such as job satisfaction and external motivators, like a promotion. Real-life learning situations that lead to an intended or expected outcome are the most motivating for adult learners.
Appendix F

Interview Questions

Role of Healthcare Educator and Learning Organization

1) Please state your current title and describe your role at the current healthcare institution in which you work.

2) How many years have you worked at your current organization? How many years have you worked as a healthcare educator?

3) How do you define the role of a healthcare educator?

4) What importance, if any, does your healthcare organization place on your role or the role of a healthcare educator within the organization?

5) What importance, if any, does your healthcare organization place on utilizing adult learning theories and principles in their education of providers?

Beliefs and Experiences

6) What is your educational background?

7) Have you taken or attended any classes, professional develop courses, etc. or had any experiences that have assisted you in understanding or practicing your role?

8) What are your beliefs regarding provider education in a healthcare setting?

9) What impact, if any, do you feel your role has on the organization as a whole, such as the institution itself, the providers you educate, your co-workers, and other employees of your healthcare organization?

10) Have you had any memorable experiences while providing education to adult learners in a healthcare setting? If yes, please describe.
Adult Learning

11) Do you utilize any of Malcolm Knowles’ adult learning principles in your practice? If yes, can you describe an experience or instance when these principles were utilized?

12) Do you design or maintain provider educational materials with any other adult learning theories (besides Knowles) in mind? If yes, please explain.

Technology and Innovation

13) Do you utilize any innovative or technologically advanced tools or solutions in your practice? If yes, what impact, if any, do you feel technology and/or innovation has on your role or the role of a healthcare educator? If no, why not?

Future of healthcare education and educators

14) What do you envision the role of a healthcare educator looking like in the future?

15) Do you envision future healthcare educators employing adult learning strategies and theory in their practice?
Appendix G

Content Analysis Data Collection Table with Rubric Explanation

<table>
<thead>
<tr>
<th>Items Identified for</th>
<th>Item Present?</th>
<th>Item Emerging</th>
<th>Item Not Present</th>
<th>Page number(s)</th>
</tr>
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<tr>
<td>Organization 1</td>
<td>Include descriptions as appropriate</td>
<td>Include descriptions as appropriate</td>
<td>Include descriptions as appropriate</td>
<td></td>
</tr>
<tr>
<td>Material 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EMR Novice</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Ambulatory</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provider User Guide</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Knowles #1:

Need to know:

- Reason for learning
- Value in what they are learning
- States potential gap in learner’s knowledge

Scale:

Dimension

Description of Dimension
• Tools to identify gap (rotation, modeling, assessments, etc.)
## Appendix H

### Example of Completed Content Analysis Data Collection Table

<table>
<thead>
<tr>
<th>Items Identified for</th>
<th>Item Present?</th>
<th>Item Emerging</th>
<th>Item Not Present</th>
<th>Page number(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Organization 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Material 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>EMR Novice</strong></td>
<td></td>
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<tr>
<td><strong>Ambulatory</strong></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>Provider User Guide</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowles #1:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Need to know</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Reason for learning</td>
<td>Present,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Value in what they are learning</td>
<td>-Included definitions of key terms and language used in the training materials at the beginning,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• States potential gap in learner’s knowledge</td>
<td>included pictures of the software when applicable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Tools to identify gap (rotation,</td>
<td>-Indicated required items</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>modeling, assessments, etc.</strong></td>
<td>needs to complete specific actions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-----------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Stated significance of completing specific actions</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Knowles #2: Learners’ self-concept**

- **Statement, encouragement**
  - setting an environment of self-directed learners
- **Activities, experiences**
  - creating learner self-direction

| Present, Included information for users to access the practice environment, which is all self-directed learning |  |  |
- Independence
  and
  independent
  learning

<p>| Knowles #3:  | Emerging, some information for users is included referring them to other reference tools to access tip sheets, or a self-directed practice environment. |
| Role of learners’ experiences | -In general, there is no indication within the training materials that any student experience has been incorporated. |
| Incorporates students’ lived experiences | |
| Use of experiential techniques (group discussion, simulation exercises, problem-solving activities, case method, and laboratory instead of) | |</p>
<table>
<thead>
<tr>
<th>transmittal techniques)</th>
<th>-No individualization of training materials as the guide is made in a standard way and given out to all users. -Included information for users to access the practice environment, which is all self-directed learning.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Knowles #4: Readiness to learn</th>
<th>Not present, information in the training materials to indicate where the learners are in regards to their learning process, or</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Timing of developmental tasks associated with moving</td>
<td></td>
</tr>
</tbody>
</table>
from one developmental stage to the next (ex. staff mastering their own role before moving on to advanced or supervisory level training)

- Induction of readiness (ex. Exposure models of superior performance, career counseling, simulation exercises, etc.)

Knowles #5: Present, this training guide
<table>
<thead>
<tr>
<th>Orientation to learning</th>
<th>was geared toward completing specific tasks and included excellent labeling and breakdowns of each item.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life-centered</td>
<td>Definitions of language used was present.</td>
</tr>
<tr>
<td>Task-centered</td>
<td>Objective portions were lacking and the orientation to the actual problem being solved by the task was not present.</td>
</tr>
<tr>
<td>Problem-centered</td>
<td>Included important contact information for questions</td>
</tr>
<tr>
<td>-Included information on where to find tip sheets</td>
<td></td>
</tr>
<tr>
<td>-Displayed table of contents</td>
<td></td>
</tr>
<tr>
<td>-Included appropriate and helpful screen shots of the software program to assist the user in understanding</td>
<td></td>
</tr>
<tr>
<td>-Indicated required items needs to complete specific actions</td>
<td></td>
</tr>
<tr>
<td>-Stated significance of completing specific actions</td>
<td></td>
</tr>
<tr>
<td>-Bolded important</td>
<td></td>
</tr>
<tr>
<td>Knowles #6: Motivation to learn</td>
<td>Emerging, insufficient information to motivate the user explicitly, but does provide information to the user to increase their self-esteem and job satisfaction through appropriate use of the EMR. One statement of individual and organizations goals for MU, a federally</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>• External Motivation (ex. Promotions, higher salaries, etc.)</td>
<td></td>
</tr>
<tr>
<td>• Internal Motivation (ex. Job satisfaction, self-esteem, quality of life, etc.)</td>
<td></td>
</tr>
<tr>
<td>Innovative Teaching Strategies</td>
<td>incentivized program, with description and what it means for the user and the organization</td>
</tr>
</tbody>
</table>
Appendix I

List of Technology Utilized by Interview Participants to Educate Providers

- Bloomfire
- Camtasia
- Dashboards
- e-learnings
- E-mail
- Handheld devices
- Knowledge links
- Learning Management System/Learning Management Content System
- Microsoft Lync/Microsoft Communicator
- Net Learning
- Power Point
- Remote desktop/Share my desktop/Desktop shadowing
- Sharepoint
- Soft Chalk
- Stored knowledge portals
- Videos
- Web-based training
- WebEx
- Webinars
- Wiki
Appendix J

Definitions of Terms

**ADDIE:** 1) An acronym for Analysis, Design, Development, Implementation, and Evaluation. This model guides the process of creating effective educational courses and materials for your audience (instructionaldesignexpert.com, 2015). 2) ADDIE Model Instructional design is the systematic approach to the Analysis, Design, Development, Implementation, and Evaluation of learning materials and activities. Instructional design aims for a learner-centered rather than the traditional teacher-centered approach to instruction, so that effective learning can take place. This means that every component of the instruction is governed by the learning outcomes, which have been determined after a thorough analysis of the learners’ needs. These phases sometimes overlap and can be interrelated; however, they provide a dynamic, flexible guideline for developing effective and efficient instruction (McGriff, 2000).

**Bloom’s taxonomy** McGraw-Hill (2015) is a classification system used to define and distinguish different levels of human cognition—i.e., thinking, learning, and understanding. Educators have typically used Bloom’s taxonomy to inform or guide the development of **assessments** (tests and other evaluations of student learning), **curriculum** (units, lessons, projects, and other learning activities), and instructional methods such as questioning strategies.

The original taxonomy was organized into three domains: Cognitive, Affective, and Psychomotor. Educators have primarily focused on the Cognitive model, which includes six different classification levels: **Knowledge, Comprehension, Application, Analysis, Synthesis**, and **Evaluation**.
Careteam:

physicians, physician extenders, nurses, medical assistants and those providing ancillary and diagnostic services

eg, radiology and lab technologists, physical therapists, nutritionists, psychotherapists, massage therapists (McGraw-Hill).

Continuing Medical Education (CME): 1) Is a systematic educational facilitation that works to continuously improve patient care by helping healthcare practitioners translate medical research into practice (Young, Kim, Yeung, Sit, & Tobe, 2011). 2) A mechanism to improve physician and patient outcomes through additional education after a provider has already received their formal training (Mansouri & Lockyer, 2007).


Facilitator: (Noun) 1) A person or thing that facilitates 2) A person responsible for leading or coordinating the work of a group, as one who leads a group discussion (Dictionary.com, 2015).

Just-in-time: (Adjective) Business. Noting or pertaining to a method of inventory control that keeps inventories low by scheduling needed goods and equipment to arrive a short time before a production run begins (Dictionary.com, 2015). Utilization within healthcare education, the goods in this case is the education or information in given to a provider right before they utilize the educational information.

Nurse-Practitioner: (Noun) A registered nurse who has received special training for diagnosing and treating routine or minor ailments (abbreviation NP). Also called nurse-clinician (Dictionary.com, 2015).
**One-on-one:** (Adjective) Consisting of or involving direct individual competition, confrontation, or communication; person-to-person: a one-on-one discussion (Dictionary.com, 2015). In healthcare education, this is utilized when discussion training that is done one-on-one or person-to-person, where the healthcare educator and the provider sit together during the educational session. Can also be referred to as **elbow-to-elbow training, elbow training/support, face-to-face training/support.**

**Physician’s Assistant:** (Noun) A person trained to perform under the supervision of a physician, many clinical procedures traditionally performed by a physician, as diagnosing and treating minor ailments (abbreviation PA) (Dictionary.com, 2015).

**Provider/Clinician:** (Noun) 1) A physician or other qualified person who is involved in the treatment and observation of living patients, as distinguished from one engaged in research. 2) A person who teaches or conducts sessions at a clinic (Dictionary.com, 2015).

**Real-time:** (Noun) 2) The actual time during which an event takes place or an event occurs (Dictionary.com, 2015).

**Successive Approximation Model (SAM):** is an Agile Instructional Systems Design model that has been introduced as an alternative to **ADDIE** that also emphasizes collaboration, efficiency and repetition (Training Industry Inc., 2014).

**Tip sheet:** (Noun) A short publication containing the latest information, predictions, and tips for a particular business or subject (Dictionary.com, 2015).

**Webinar:** (Noun) A seminar or other presentation that takes place on the internet, allowing participants in different locations to see and hear the presenter, ask questions, and sometimes answer polls (Dictionary.com, 2015).
**Workplace Education**: Adult basic and literacy education programs that are planned and delivered through business/education partnerships and provide customized work-related basic (or foundation) skills instruction to those already employed and in need of more advanced skills to maintain or advance in their jobs (Worklink, 2015).
Appendix K: Table 1

Demographic information for research interview participants

<table>
<thead>
<tr>
<th>*All Female</th>
<th>Years at Current Org</th>
<th>Years in H.C. Ed. Role</th>
<th>Level of Ed.</th>
<th>Prof Dev.</th>
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<tbody>
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<td>5</td>
<td>BA/BS</td>
<td>Yes</td>
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<tr>
<td>RI2</td>
<td>6</td>
<td>1</td>
<td>LPN</td>
<td>No</td>
</tr>
<tr>
<td>RI3</td>
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<td>4</td>
<td>BA</td>
<td>Yes</td>
</tr>
<tr>
<td>RI4</td>
<td>3.5</td>
<td>6.5</td>
<td>BS</td>
<td>Yes</td>
</tr>
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<td>RI5</td>
<td>3.5</td>
<td>20</td>
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<td>3</td>
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<tr>
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Appendix L: Table 2

Participant Utilization of Knowles' Principles

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<th>Knowles #1: Need to know</th>
<th>Knowles #2: Learners’ Self-concept</th>
<th>Knowles #3: Role of learners’ experiences</th>
<th>Knowles #4: Readiness to learn</th>
<th>Knowles #5: Orientation to learning</th>
<th>Knowles #6: Motivation</th>
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### Appendix M: Table 3

**Adult Learning Priority and Utilization**

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<th>Participant</th>
<th>Adult Learning Priority in Organization?</th>
<th>Utilization of adult learning theory (outside of Knowles)</th>
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Appendix N: Figure 1

Research Interview Participants per Organization

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Appendix O: Figure 2

Total Types of Materials Submitted

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<td>Manuals</td>
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Note: The bar chart shows the total types of materials submitted for each category.
Appendix P: Figure 3

Materials Submitted Per Organization
Appendix Q: Figure 4

Status of Knowles' Principles in Workplace Educators’ Content

<table>
<thead>
<tr>
<th>Principle</th>
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<td>1-Need to know</td>
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<tr>
<td>2-Learners' Self-concept</td>
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<td>3-Role of learners' experiences</td>
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<td>4-Readiness to learn</td>
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<td>5-Orientation to learning</td>
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<td>6-Motivation</td>
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