2019

Perceptions of the Effects of Technical Competence on Female Adult Learners

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This is to certify that the doctoral dissertation by

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Walden University
2019

Abstract

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MAT, University of Memphis, 2010

MBA, University of Phoenix, 2007

BSBA, Lemoyne-Owen College, 2005

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Educational Technology

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Abstract

Colleges and universities face some retention problems for female adult learners over the age of 25 who face technical requirements in higher education courses. However, little is known about how technology influences the experiences of female adult learners. The purpose of this basic qualitative study was to identify how female adult learners over the age of 25 perceived the technical demands of the courses in their degree programs and how they coped with those demands. The conceptual frameworks for the study were the adult learning theory, which focuses on self-directed learning, and the transactional distance theory. Participants for this study were 12 female adult learners who reside in Tennessee who have been enrolled in undergraduate and graduate courses and were over the age of 25. Data sources included face-to-face and phone interviews. Data were analyzed using open coding to identify patterns and themes. The findings of this study indicated that participants were influenced by the technical demands they faced. Participants attributed the extent of success in their courses to the level of technical competence they possessed during their time as students. Participants used individual coping strategies in their courses as well as resources provided by the institutions they attended. This study contributes to positive social change because it provides information that higher education institutions can use to both increase retention and help female adult learners succeed during their higher education careers.

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Dedication

This study is dedicated to my son, Myles Keath Wilson Jr. and my parents, Loyce and Dorothy Frazier. They taught me the importance of education, faith, and perseverance. Thank you to my sister and mentor, Dr. Tracy Collins, for being an example of a true leader and scholar. Thank you to my twin sister and cheerleader, Timela Woods, for always encouraging me when I needed it. Mom and Dad, you now have two doctors in the family! I hope I have made you proud.

Acknowledgements

First, I want to thank God for giving me the wisdom, strength, and dedication needed to complete this study. Second, I want to thank my committee, Dr. Narjis Hyder, Dr. Amy Adcock, and Dr. Paula Dawidowicz who guided me through this study. I want to give a special thank you to Dr. Narjis Hyder who helped me through the tears, frustrations, and joys. Thank you all for your expertise and patience. Third, I want to acknowledge my family who has encouraged and prayed for me through this journey of completing this doctoral study. To God be the glory!

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Chapter 1: Introduction to the Study

Technological advancements and digital tools have broadened the format of postsecondary instruction, increasing the popularity of digital learning environments among adult learners (Sharp, 2018). Female adult learners in particular are returning to school to improve their skills and knowledge, despite their many responsibilities. One of the many ways they have entered higher education programs is through online degree programs. According to Salvo, Shelton, and Welch (2017), online education is continuing to grow in popularity among students, with more institutions offering fully online degrees. The demand by students for online courses at community colleges has become greater than the demand for onsite courses, and educational institutions are expanding their programs to meet the growing demand (Salvo et al., 2017).

According to Bachman, Johnson, and Stewart (2013), online student enrollment has shown double-digit growth for almost a decade, and academic leaders, such as school administrators, and deans, recognize that online education is necessary for enrollment growth at colleges and universities. In recent years, almost one-third of college students in the United States were enrolled in at least one online course and almost two-thirds of school administrators agree that online education is critical to the long-term strategies of their institutions (Bachman et al., 2013). Institutional leaders believe that many factors could be affecting this increase in online course enrollment, including flexibility of schedules, demographic location, costs associated with attending college, and student comfort (Jones, 2013). According to Hitchcock (as cited in Jones, 2013), “Learning is no longer limited to just four walls, learning can happen anywhere, and it already is

happening everywhere, every day." An increase in online degree enrollment indicates that not only are traditional students attending college, but adult learners over the age of 25 of all genders are enrolling as well (Jones, 2013).

Advances in technology have allowed for the growth of distance learning, but a lack of technical skills might have an influence on adult student completion rates (Baruch, 2014). Some of the barriers faced by adult learners include lack of social interaction when using technology, lack of technical skills which are required when using Web 2.0 tools, an inability to speak to instructors and technical faculty at educational institutions, family commitments, and lack of support from their employers and management teams due to the inability to use these tools during normal work hours (Bryant, 2014). According to Baruch (2014), there is also a prominent gender gap in technology. The gap is a product of factors including accessibility, resources and leisure, and men and women's approach to technology. This gender gap could affect how female adult learners experience the technical demands of the courses in their degree programs and how they cope with these demands.

This chapter presents the nature of the study, background, problem statement, and conceptual framework of the study. All sections will be relevant to the research questions, which form the basis of the study. This chapter will also include definitions, the purpose of the study, and the significance of the research and its findings as it relates to the technical demands in higher education degree courses that include the use of technology.

Background

The emergence of online degree programs has created a wealth of learning opportunities for businesses, educational institutions, and adult learners (Johnson, 2011). Female adult learners are returning to school to further their education and enhance their marketability for jobs and careers. Johnson (2014) explained the number of college students age 25 and older is on the rise and will soon make up more than 40% of the total U.S. college undergraduate population. According to Johnson (2014), an individual's earning potential increases with increased education. A four-year education degree decreases the probability of falling below the poverty line. A person with a master's degree earns twice as much and an individual with a professional degree earns three times as much as a high school graduate (Johnson, 2014). Adult learners are now able to attend college while maintaining their responsibilities as employees, spouses, and parents. However, adult learners who are participating in computer-based learning, which involves learning both a system of content delivery and the content itself, may find it frustrating due to a lack of prior experience with technology and assistance from the instructor. Although these individuals may use programs such as Facebook and Instagram personally, they may not be familiar with the technical programs necessary to complete college assignments. The level of technical competence for adult learners over the age of 25 may be lower than other individuals enrolled in computer-based courses.

Technology has transformed learning at the postsecondary level and increased the prevalence of digital learning (Sharp, 2018). It is important to analyze the perceived levels of confidence with technology tools used among adult learners (Sharp, 2018). The

confidence levels of adult learners may have an influence on their success in higher education courses. According to Sharp (2018), increased levels of confidence lead to enhanced self-efficacy, which has a positive effect on learner behaviors.

Adult learners face many challenges traditional students commonly face but have other commitments, such as full-time jobs and families (Baharom & Hueyzher, 2018). Adult learners are enrolling in a rising number of online courses because online learning more easily fits their schedule (Baharom & Hueyzher, 2018). However, there are very specific needs for adult learners. Baharom and Hueyzher (2018) stated adult learners search for suitable learning environments that permit them to adapt to life as students while managing the numerous demands from work and life. Adult learners often multitask around work and family responsibilities (Baharom & Hueyzher, 2018). According to Baharom and Hueyzher (2018), andragogy, the theory of adult education advocated by Malcolm Knowles in the late 20th century, involves six assumptions regarding adult learners to best understand their educational needs, which One assumption is adult learners are self-directed learners and act independently. Second, adult learners have gained valuable experiences in their lives and value applying their experiences to the learning process. Third, adult learners are eager and ready to learn what they need to learn to succeed. Next, adult learners are interested in the application of learning in order to problem-solve. Additionally, adult learners are more internally motivated and less so by outside forces. Lastly, adult learners are interested in understanding the value of what they are being taught (Baharom & Hueyzher, 2018). In

considering these assumptions, there is a challenge in designing an online environment for adult learners (Baharom & Hueyzher, 2018).

Online learning organizations have capitalized on an expanding population having access to the Internet (Baharom & Hueyzher, 2018). As adult educators approach instructional design, they must consider how to apply research-based practices that preserve the quality of instruction and provide adult learners with technology-based instruction that is relevant (Sharp, 2018). Due to a possible lack of technical competence among adult learners, various learning approaches should be considered. Digital learning environments require different instructional design methods than face-to-face learning environments (Sharp, 2018). Analyzing levels of confidence with technology tools among adult learners is extremely important, especially since technology has become a fundamental aspect of 21st century learning (Sharp, 2018). Further research is needed to determine the effects of technology on the experiences of adult learners.

Problem Statement

Modern higher education often requires learners to be able to use technology successfully. McPherson and Noelting (2017) explained including multimedia in virtual course design increases student confidence in their ability to complete courses successfully, reduces dropout rates, and increases overall course grades despite the complexity of the topic. The problem is many adult learners returning to school have not had the opportunity to develop the necessary technical competence to complete assignments requiring the use of technology. Technical competence has been defined as skill or area of knowledge used in the occupations of a specific industry (Zamboni, 2017).

Some adult learners may have negative connotations regarding their past classroom experiences and may find communicating online more comfortable (Hashmi, Inverso, & Kobrin, 2017). Most adult learners are juggling family lives and careers with their education, which makes online learning ideal for their daily lives (Hashmi et al., 2017). However, it cannot be assumed that all adult learners have access to the Internet. According to Hashmi et al. (2017), while nearly three quarters of Americans have home broadband service today, low-income households, seniors, racial minorities, and those with lower levels of education are less likely to have broadband internet access at home. While educators are trying to find ways to integrate technology, barriers such as lack of affordable internet and the scarcity of online educational products for adult learners are being considered by instructional designers as online courses are being created (Hashmi et al., 2017). Multimedia choices and methods of integrating technology are important to consider when higher education courses are developed. According to McPherson and Noelting (2017), future research studies are needed to determine the impact of multimedia choices on students' virtual course experiences and outcomes. A deeper understanding of student experiences is needed to understand how multimedia choices and the use of technology in higher education courses influence students' experiences and success. Specifically, there is a lack of understanding and research regarding how female adult learners over the age of 25 experience the technical demands of higher education degree programs. The study looks at female adult learners' experiences regarding technical demands in college courses and how their experiences influenced their success in those courses.

Purpose of the Study

The purpose of this basic qualitative study was to identify how female adult learners over the age of 25 perceive the technical demands of courses in their degree programs and whether their experiences have an influence on their success in those courses. In order to accomplish the end goal, a qualitative interview study was conducted on female adult learners over the age of 25 who have experienced technical demands while enrolled in higher education courses. Through this study, I examined how female adult learners facing common barriers of being mothers, employees, and providers contend with the technical demands of school. Colleges and universities could possibly use the results of this study to ensure they are meeting the needs of female adult learners who may need additional resources to successfully complete college courses.

Research Questions

This study was guided by the following four research questions:

RQ1: What are female adult learners' experiences regarding technical demands of coursework and communication in their higher education online degree programs?

RQ2: How do female adult learners perceive the technical demands of their higher education degree programs?

RQ3: How do female adult learners cope with the technical demands of their higher education online degree programs?

RQ4: How do female adult learners believe the technical demands of their higher education degree programs influence their successful completion of the program?

Conceptual Framework

The conceptual framework that was used for this study is self-directed learning, which outlines the idea of personalized learning as a highly effective learning method for adult learners (Egizii, 2015). The adult learning theory or theory of andragogy was developed by Malcolm S. Knowles. Knowles (1968) stated andragogy is the art and science of helping adults learn based on important assumptions about the differences between children and adults as learners. Knowles (1968) said to be an adult means to be self-directed and expect to take responsibility for decisions. According to the adult learning theory, adult learners need to know why they need to learn something, learn experientially, and approach learning as problem solving, and learn best when the topic is of immediate value (Johnson, 2014). According to Johnson (2014), the adult learning theory consists of five key components: a) the concept of the learner, which is having experience in making day-to-day life decisions and, therefore, is assumed in the learning environment to prefer self-direction in determining the goals and outcomes of his or her learning; (b) the value of the learner's experience, wherein direct experience allows the adult learner to capitalize upon the vast amount of life experience, which he or she brings to the classroom; (c) readiness to learn, a presumption that the adult learner is willing and ready to learn when he or she experiences a need to know or achieves a new methodology to perform more effectively; (d) orientation to learning, which is acknowledging that adults have often experienced a need in their life directly correlated to the need for additional education and, therefore, are often equipped with task or problem-centered skills together with a mindset resolved on learning; and (e) motivation to learn, wherein

this model makes the assumption that although adults are often externally motivated by the desire to achieve promotions or embark upon new careers, their most potent motivations are internal.

Another theory that was used in this study is the transactional distance theory. According to Moore (as cited in Dockter, 2016), the transactional distance theory is defined as "a concept describing the universe of teacher-learner relationships that exists when learners and instructors are separated by space and/or by time" (p. 77). This theory considers the distance between participants in these online courses, relationships formed between participants, frequency of their communication, and even the structure of the interactions and how such aspects of distance education courses may promote or discourage learner autonomy. The three aspects of learning that establish a high or low level of transactional distance are dialogue, structure, and learner autonomy (Dockter, 2016). Dialogue refers to the instructional communication between teacher and students; structure refers to the course design or the way the course is delivered; and learner autonomy refers to the potential for students to take ownership of their own learning (Dockter, 2016). The delivery of the course and the inclusion of certain multimedia tools can cause students to feel even more distant from teachers due to the lack of dialogue used between them. Dockter (2016) explained, the inclusion of pre-recorded videos in online education is a highly structured tool to include, but there is no opportunity for dialogue in the moment. This decreases the potential for communication to happen between the teacher and student, which can affect the autonomy and success of the student in the course. Applying theories to adult learning curriculum created a lens to

examine whether technology integration in college courses influences the success of female adult learners in higher education courses. An in-depth explanation of these theories and their relation to the study can be found in Chapter 2.

Nature of the Study

A basic qualitative approach was used for this study. According to Kruth (2015), the purpose of qualitative research is to provide unbiased and reliable information in a format that is relevant and meaningful to the target audience. Qualitative research uses the skills of the researcher as the data collection instrument while implementing inductive data analysis techniques (Kruth, 2015). The purpose of qualitative research is to answer questions regarding how people experience an issue. The use of personal experiences will provide valuable information for the study.

I collected qualitative data for this study through semi-structured face-to-face interviews and phone interviews. The type of interview was determined by the availability of participants. The interview was conducted with 12 female adult learners living in the United States who are over the age of 25 who have graduated from online degree programs and female adult learners over the age of 25 who did not complete their online degree programs. The interviews helped to determine how female adult learners have coped with the technical demands they faced while in higher education degree programs.

Definitions

Adult learners: A diverse group, typically age 25 and older, with a wide range of educational and cultural backgrounds, adult responsibilities, and cultural backgrounds

who typically do not enroll in post-secondary education immediately after high school (Southern Regional Education Board, 2018).

Online degree program: A program in which students can obtain a degree totally online without the need to attend face-to-face classrooms (Sadik, 2016).

Technical competence: Skills or areas of knowledge used in the occupations of a specific industry (Zamboni, 2017).

Assumptions

An assumption that was made for this study was that participants would answer all questions honestly. It was also assumed that participants would accurately remember the challenges and difficulties experienced in online degree courses. Another assumption was that participants would be truthful in responding to the interview they were asked. Working with these assumptions allowed exploration of the perceptions of technical demands in higher education courses among female adult learners.

Scope and Delimitations

This study was designed to understand the perceptions of female adult learners as they experienced the technical demands they faced while in courses that required the use of technology. The study focused on identifying the barriers and challenges faced while students were enrolled in these courses. The focus of the study was to identify resources that may be necessary to increase the success and completion rates of female adult learners who enroll in online degree programs or courses that require the use of technology. Insights of this study may be transferrable to employers who seek to increase

the number of females in positions that require technical knowledge and completion of higher education degrees.

Limitations

This study, like others, has weaknesses. The primary weakness is that I am a female adult learner who is a mother and employee, which could lead to bias in the study. The other weakness is that the study sample consisted of 12 purposively- sampled participants who cannot be taken to represent the entire female adult online student population in the country. To avoid bias in this study, I avoided the use of my own personal opinions. I used the information provided by the participants in the study and the research I collected to present the conclusions of the study. The findings in my study are worthwhile due to the tools used in the study to identify the actual perceptions of female adult learners over the agent of 25 who have experienced technical demands while pursuing their degrees.

Significance

This study was used to help determine what technical demands female adult learners face and how they have been able to contend with them. The results of this study can also be used to determine whether programs are needed to assist adult learners in terms of technical competence before or while they are pursuing higher education degrees. Colleges and universities could determine if tools and interventions are necessary to increase the degree completion rates of female adult learners. Teachers may be able to find different ways to integrate technology into their assignments that may be more suitable for all learners. By finding ways to overcome the potential obstacle of

technical competence, adult learners may be able to complete the degrees they desire in order to become more marketable, thus improving the lives of themselves and their families.

This study will achieve positive social change by providing information that higher education institutions can use to develop interventions that may help female adult learners acquire technical competence skills to allow them to complete their desired degrees. The promotion of educational sustainability is essential in producing more college graduates and increasing individuals' knowledge. This knowledge can then be given to the children of female adult learners. By helping identify the need for educational interventions related to technology, this study may allow adult learners to cope successfully with the technical demands of their courses. Female adult learners may be able to further their education with a positive experience while improving the economic status of their families.

Females may also begin to show more interest in technical careers and education using these findings. Lopez-Saez, Puertas, and Sainz (2011) explained that the scarcity of women in technical fields has caused interest in the technology community over the last few years. There is a gap in research regarding differences between females and males in terms of who is interested in technology. In order to accomplish the end goal of determining the impact of technical demands on female adult learners, I believed it was important to show how females perceive the technical demands they face.

Summary

The next chapter will provide a review of studies that have been conducted by researchers who focused on the experiences of female adult learners, the impact of technology on learners, and the effectiveness of various types of online degree program structures. In Chapter 3, I will describe the methods used to conduct research in the study, focusing on the sampling of research participants, data collection, and analysis procedures. Chapter 4 will provide results of the study. Chapter 5 will provide a discussion of the results reported in Chapter 4 and include closing remarks and implications of the results.

Chapter 2: Literature Review

Introduction

Many adult learners returning to school have not had the opportunity to develop the necessary technical competence to complete assignments requiring the use of technology. There is a lack of understanding and research regarding how female adult learners over the age of 25 experienced the technical demands of higher education degree programs. The purpose of this basic qualitative study was to identify how female adult learners over the age of 25 perceive the technical demands of the courses in their degree programs and how they cope with these demands. In this chapter, I provide a review of the literature to determine the effects of technology on the education of female adult learners in particular.

Literature Search Strategy

I used several research strategies, resources, and databases to compile a literature review consisting of digital and printed materials created over the past 5 years. The Walden University Thoreau Library was the primary database used to locate relevant articles and studies. I also consulted Google Scholar and Bing to locate additional articles and studies to support the purpose of the study. Peer-reviewed articles were used as well as dissertations and research studies found through the Walden Library. The databases searched were ProQuest Dissertations and Thesis Global, ERIC, SAGE Journals, and Science Direct.

Google Scholar provided another option for locating articles that were not found through the Walden Thoreau Library. I found many articles through the Internet related to

technical competency and the challenges faced by female adult learners. Many academic journal articles were located through searches related to female adult learners and technology levels. I used Bing to locate additional articles and facts related to the effects of technical competence and the coping mechanisms of female adult learners over the age of 25. The key search terms used were *adult learners, technical competence, adult learning theory, andragogy, online degrees, and technology integration.*

Conceptual Framework

Conceptual frameworks are used to help illustrate the focus of a study. Self-directed learning, the conceptual framework used for this study, describes the idea of personalized learning as a highly effective learning method for adult learners (Egizii, 2015). Andragogy is the art and science of helping adults learn based on important assumptions about the differences between children and adults as learners (Knowles, 1968, p. 351). Knowles (1968) said that being an adult means to be self-directed and responsible for their decisions. According to Johnson (2014), the adult learning theory consists of five key components: a) the concept of the learner, which involves having experience in making day-to-day life decisions and, therefore, is assumed in the learning environment to prefer self-direction in determining the goals and outcomes of his or her learning; (b) the value of the learner's experience, wherein direct experience allows the adult learner to capitalize upon the vast amount of life experience, which he or she brings to the classroom; (c) readiness to learn, a presumption that the adult learner is willing and ready to learn when he or she experiences a need to know or achieves a new methodology to perform more effectively; (d) orientation to learning, which is acknowledging that

adults have often experienced a need in their life directly correlated to the need for additional education and, therefore, are often equipped with task or problem-centered skills together with a mindset resolved on learning; and (e) motivation to learn, wherein this model makes the assumption that although adults are often externally motivated by the desire to achieve promotions or embark upon new careers, their most potent motivations are internal. Adults desire to be involved in the planning and evaluation of their instruction and believe their experiences provide the basis for learning activities (Adams, 2016). Adults usually have an identifiable purpose, bring a reservoir of experiences, have set goals, bring extensive doubt and fear to the educational process, and have established families. Therefore, instruction for adults should focus more on the educational process and less on the content they are being taught to enhance the possibility of success (Adams, 2016).

The transactional distance theory considers the distance between participants in online courses, the relationships formed between participants, the frequency of their communication, and the structure of these interactions and how such aspects of distance education courses may promote or discourage learner autonomy. According to Moore (as cited in Dockter, 2016), the transactional distance theory is defined as a concept describing the universe of the teacher-learner relationships that exists when learners and instructors are separated by space and/or by time (pg.77). The three aspects of this theory that establishes a high or low level of transactional distance are dialogue, structure of the course, and learner autonomy. According to Moore (as cited in Dockter, 2016), the separation of learners and teachers affects both the teaching and learning experience (pg.

77). It is important for the teacher to create a way for students to access the class and connect the goals of the class with their own interests, and thus have a better opportunity to connect with the teacher and the class (Dockter, 2016). This study focused on examining adult learners' perceptions and experiences through the adult learning and transactional distance theories in order to determine whether their experiences influenced their success in higher education courses that included the use of technology.

Literature Review Related to Key Variables and Concepts

Barriers and Challenges Faced by Adult Learners Using Technology

The emergence of a knowledge-based economy and technology have encouraged adults to seek additional skills and knowledge to enhance their marketability and effectiveness in the business world. According to Bergman, Cumberland, and Osam (2017), the overall college student population has shifted to a far more diverse student body as it relates to age. The number of students enrolled in colleges who are over the age of 22 has grown by 18% in the last 10 years, and was projected to rise by 21% between 2005 and 2016 (Bergman et al., 2017). Nontraditional female students comprise the majority of current nontraditional students who are enrolled in degree programs (Johnson, 2014). These nontraditional students are defined as adult learners over the age of 25 who decided to continue their education after graduation from high school (Johnson, 2014). Gender roles have been shown to play a part in the type of barriers that are faced by male and female nontraditional learners (Bergman et al., 2017). Johnson (2014) stated nontraditional female students experience barriers and challenges in pursuing their education while balancing their many roles and responsibilities, including

limited resources, inadequate transportation, depressed economic conditions, and limited job opportunities. According to Fowle (2018), adult learners are also more likely to come from disadvantaged backgrounds. Many of them are the first in their family to attend a higher education institution and have responsibilities caring for others, disabilities, low disposable income, and geographic immobility. Thus, they need support to develop confidence in their academic abilities and skills (Fowle, 2018).

Web 2.0 and Adult Learners

The number of adult Internet users has risen worldwide, and is considered the most rapidly growing age group to use the Internet (Diaz-Prieto & Garcia-Sanchez, 2016). Training in the use of these new tools is arousing increasing interest among older adults. However, adult learners face challenges when using Web 2.0 tools. Ahmed, Almuneim, and Almabhouh (2017) explained the term Web 2.0 tools refers to the next generation of Internet technologies that facilitate interaction with the user. Web 2.0 tools are often necessary to complete assignments in higher education courses (Bryant, 2014). Web 2.0 tools have the potential to create more interactive learning environments in which learners become creators, editors, producers, and evaluators (Ahmed et al., 2017). These new tools have transitioned from the use of the static World Wide Web to today's web, where sites are created and shared by the end user. They can be used to develop new learning strategies that enhance motivation, improve participation, increase self-directed learning, and facilitate learning and social skills (Ahmed et al., 2017). These tools are becoming more complex in design. Thus, adults may face challenges when completing assignments using these tools. Some of the challenges they face are a lack of sufficient

social interaction, lack of relevant skills to use Web 2.0 tools, and institutional, organizational, and family-related barriers (Bryant, 2014). Bryant (2014) suggested that institutions offering online adult education should consider the special circumstances of adult learners when designing online learning courses.

Although students are returning to school to complete their degrees, many of them dropout before finishing (Bryant, 2014). One of the major causes of dropout rates in online degree programs for adult learners using Web 2.0 is that some instructors in online learning do not incorporate current Web 2.0 technology in their online instruction (Bryant, 2014). However, students believe that Web 2.0 tools address the needs of learners while allowing them the opportunity to work at their own pace (Bryant, 2014).

There are very few studies that have addressed the use of Web 2.0 tools in university teaching (Ahmed et al., 2017). However, a study was conducted in 2013, which focused on the use of Web 2.0 tools during that time. The study indicated the most important obstacle faced was the lack of knowledge and skills to use Web 2.0 tools by faculty members (Ahmed et al., 2017). The results also showed there are a number of difficulties facing the use of Internet applications in university teaching such as the lack of training for faculty members and students to use computers and the Internet (Ahmed et al., 2017).

Common Barriers Faced by Adult Learners

Knowles believed that self-directedness and autonomy are crucial for online success and they align well with the andragogical principles of adult learners' orientation to learning and motivation for learning (Squires, 2018). However, adults are often faced

with five technology challenges. According to Squires (2018), personal bias is the first challenge faced by adult learners. Many adults may feel that one phone type is better than another is. They may prefer to use a particular web browser or program over another. Due to these biases, instructional designers should possibly consider the tools and platforms they use when creating courses. According to Sharp (2018), although digital learning environments have increased the accessibility of educational opportunities, they require different instructional design methods than traditional face-to-face learning environments.

Secondly, literacy influences adult learners. Not everyone is digitally literate; this is especially true for some older generations. Squires (2018) explained many adult learners might have been out of an academic setting for a significant amount of time, thus creating a lack of literacy in technology. This must be considered when classes are created. Terminology should be general, and resources should be provided to assist individuals that may not be familiar with certain technical jargon.

Third, technology exposure varies from adult to adult. Adult learners may not have the ability to quickly begin studying in an online course and be successful. According to Squires (2018), despite contact exposure to electronic media in all aspects of work and education environments, students may not feel comfortable utilizing specific programs or applications. Adult learners may not have the knowledge of opening attachments and following online or hybrid courses. Therefore, the variation of technology exposure could have an impact on the success and perceptions of adult

learners. Adult learners may require careful mentoring in how to best use certain forms of technology (Squires, 2018).

Next, there is a fear of losing data, photos, and losing personal details as it relates to technology (Squires, 2018). Many adults are afraid of hacking and scams, which is understandable. This fear could lead to adult learners giving up on their pursuit of education if technology is involved. Many adult learners may not be able to complete online assignments due to the fear of unknown technology such as pop-ups, alerts, and messages they are unfamiliar with. Additionally, many adult learners may not be able to afford the latest technology. Therefore, social and cultural exposure will affect their ability to complete online assignments that incorporate technology.

Bergman, Cumberland, and Osman (2017) explained institutional barriers consist of policies and procedures within colleges and universities that prevent adult learners from participating in educational based activities, as well as affect degree completion rates among adult learners. Adult learners begin to seek support from family and friends to cope with stress associated with attending college (Bergman et al., 2017). Hence, many students have called for increased levels of support from colleges for adult learners to aid in their progression towards degree completion (Bergman et al., 2017). Johnson (2014) concluded that post-secondary institutions should evaluate course structure and course delivery to ensure their course design incorporates opportunities for social support. Additionally, studies have shown that non-traditional female adult students experience more satisfaction and better achievement when they receive support from a group of similar student cohorts (Johnson, 2014). Bergman et al. (2017) stated advancing further

knowledge in the common barriers faced by adult learners could assist in the development of more targeted programs and policies that would address the needs of students as they pursue their goal of securing a college degree. The results of my study could be used to identify the particular reasons why female adult learners lack motivation and support to complete their online degree programs. The results of the study could also be used to determine specific resources that could be used to help motivate female adult learners to successfully complete their degree.

Male versus Female Technology Confidence Levels

In previous research concerning male versus female technology confidence levels, it was determined that the confidence levels of female and male students using technology differs. Females associate a lower perception of "ease of use" and higher levels of anxiety when using technology. Females are more open to social influence when using technology (Garcia-Garzon et al., 2017). However, female students are more nervous about using technology than males and are less competent when using technology. Garcia-Garson et al. (2017) found that males used e-mail, online chat rooms, and games on computers more than females and possessed a higher level of perception of digital competence.

Adult female and male learners may experience similar challenges while attending school. However, there are differences. Panteli and Wallace (2018) stated there is preference for eLearning when opting for higher education among working adults. However, working adult males and females have different imperatives for seeking to pursue higher education and different reasons for choosing online learning. Women seek

personal networks to expand their knowledge and develop skills. This is not the case in most men. Additionally, females find themselves overwhelmed and emotionally strained while attending school as they are faced with possible judgement from their peers of them leaving their families to attend school. Steyn and Van Tonder (2017) explained female adult learners, compared to their male counterparts face a broader more complex lifestyle fulfilling multiple roles and often encounter competing pressures of childcare, financial and school responsibilities. Females often juggle the role of mother, wife, community member, and student, which causes difficulties (Steyn & Van Tonder, 2017). Research has been conducted to explore alternative learning approaches for these adult learners. Steyn and Van Tonder (2017) conducted a study exploring an alternative learning approach to higher learning through hybrid study learning. The study focused on the experiences of female adult learners using a hybrid study approach, which included web-based technology and course materials blended with the traditional classroom. The study was based on Knowles' Andragogy theory to transform the learning-teaching experience from tutor-directed to student-directed learning (Steyn & Van Tonder, 2017). Using a case study, researchers (2017) found the experiences and expectations of learning in the 21st century are shaped by global pressures and competitiveness, especially with technology integration in learning. Students spent less time studying when using technology, everything was electronic, they could access their learning anywhere, and they could do research faster (Steyn & Van Tonder, 2017). Institutional managers felt that using technology integration to enhance learning could change the face of the future of females (Steyn & Van Tonder, 2017). According to Panteli and Wallace (2018),

eLearning is considered a female-friendly activity due to flexibility, career development, safety, and financial considerations. Therefore, women are seeking online learning because they are busy people balancing home life and work life (Dalton, 2018).

. There is a gender gap in the technical knowledge of boys and girls even in K-12 classrooms as well. Kimberly Bryant, engineer and creator of Black Girls Code, created an organization to teach girls more about technology (Springen, 2014). Since 2011, Black Girls Code and its volunteers have taught computing skills to 2,500 students. While all students are welcomed to join, the group specifically seeks to educate young women from Black, Latina, and Native American communities, since they are most underrepresented in the technology industry (Springen, 2014). Bryant along with other women are propelling girls' exploration of technology, in large part in response to the documented gender gap in tech fields (Springen, 2014). Some of the factors that have been determined to account for the gender gap in the tech field include a lack of female role models, gender stereotyping, and less "family-friendly flexibility in the STEM field (Springen, 2014). This presents a direct relationship to the gender gap in technology among adult females and males. In this light, many teachers and librarians are applying for grants to purchase computers, software, and 3-D printers programs targeting female students. In essence, technology cannot provide any assistance and advantages if students do not have the tools or access to technology (Delgado et al., 2015).

Technology in Higher Learning Environments

The number of students enrolled in online and distance education programs continues to rise in college and universities across the United States (Baker, Chiasson,

Maher, Schroeder, & Terras, 2018). Allen and Seaman found the number of students taking at least one online course increased by over 570,000 to a new total of 6.7 million. Online enrollment at community colleges has increased at an average rate of 18.5% (as cited in Sikand, 2017).The opportunities offered by online degree programs, those in which 80% or more of the content is delivered online, have demonstrated steady growth for at least the last decade and this growth has outpaced traditional higher education (Budash & Shaw, 2017). Many students begin their educational journey at community colleges in hopes of transferring to larger colleges and universities in the future. Having the ability to enroll in online courses allows students the chance to study on their own time and at their own pace (Sikand, 2017). This flexibility gives individuals who are faced with other challenges including work schedules and dependent care the opportunity to enroll in distance education courses to promote self-learning (Sikand, 2017).

According to Baker et al. (2018), despite the continual growth of distance education programs, a significant challenge for higher education institutions is that student retention in online programs is lower than in traditional programs. Therefore, institutions have reshaped their educational systems to meet the needs of both learners and teachers as they try to integrate technology into the classroom (Omar Faruk & Nese Sevim, 2017). Many teachers create their own courses or they find resources online. Educators have changed their teaching habits by trying to integrate technology into their courses. Omar Faruk and Nese Sevim (2017) explained students' technology usage may be influenced by technology use and university support for technology usage in learning. Developing high quality, user-friendly online courses are one-step toward supporting the

online student in achieving his or her goals (Dalton, 2018). As technology continues to become a main component of our daily lives, it will continue to shape the habits of students (Omar Faruk & Nese Sevim, 2017).

The teacher-student relationship is also important in improving retention in an internet based learning environment. The online instructor must be willing to communicate with students on at least a weekly basis if not daily (Dalton, 2018). According to Budash and Shaw (2017), online instructors should be accessible and responsive to their learners, addressing the changing needs of the dynamic online classroom regularly and consistently. Baker et al. (2018) explained students are more likely to persist if faculty gave timely feedback, involved students in interactive activities, and promptly provided support to struggling students. According to Dalton (2018), the instructor is the most crucial influence on student achievement in an online learning environment.

It is important for instructors to become familiar with technology in order to improve the adult learner experience. Practice with technology is just as important as building teaching skills, classroom management skills, and other common elements of successful teaching (Inoue-Smith, 2014). Instructors must have a positive attitude toward technology and a good understanding of how to use technology (Dalton, 2018). A teachers' level of digital literacy plays an integral part in technology integration in online higher education courses. Digital Literacy is defined as the ability to read and interpret media, to reproduce data and images through data manipulation, and to evaluate and apply new knowledge to new situations (Inoue-Smith, 2014). An instructors' level of

digital literacy depends on access to technology and appropriate instruction of information technology (Inoue-Smith, 2014). A teacher's ability to incorporate technology influences whether a student experiences good online instruction. This will improve the successfulness of learners in online courses. The results of my study will be used to determine whether alternative methods should be used to improve the experience and degree completion rates of female adult learners in online degree programs.

Technology Integration in K-12 Classrooms

Technology is an integral part of our everyday lives (Bynum & Harrell, 2018). As a result, technology integration has begun in K-12 classrooms. According to Delgado, McKnight, O'Malley, and Wardlow (2015), technology has begun to change education, affecting how students acquire the skill sets needed to prepare for college and a career and how educators integrate digital technological instructional strategies to teach. There have been large investments made in K-12 classrooms to prepare students for college and a career (Delgaldo et al., 2015). Many schools and school districts have purchased software, hardware, insurance, and infrastructure throughout their classrooms for their students (Delgaldo et. al, 2015). Given the importance technology plays in the world today, schools now have a responsibility to integrate technology into teaching and learning and prepare students for 21st century skills and careers (Bynum & Harrell, 2018). Based on the research above, preparing students through technology integration in K-12

classrooms can help to improve the adult learner experience when they enter online degree programs.

Although classrooms may have access to many technology devices, there are several external and internal factors that affect the proper implementation of technology in classrooms (Bynum & Harrell, 2018). One the factors is technology usage. Teachers play a significant role in the technology integration process (Barron, Dawson, Liu, & Ritzhaupt, 2016). Teachers' willingness and ability to integrate technology is essential in students gaining the technical knowledge they need for the future. Some of the factors that affect technology integration in the classroom are teaching experience with technology, teachers' level of education, the teachers' teaching experience, and gender (Barron et al., 2016). Teacher comfort and confidence with technology is another variable that is essential when evaluating technology integration in K-12 classrooms. Teachers must feel confident with technology in order to effectively include it in their lesson plans (Barron et al., 2016).

Support for Adult Learners

Support for adult learners in higher education programs is becoming necessary. Online communities are one way of providing support for these learners (Sanguins, 2015). The use of serial online communities of interest and communities of practice is culturally appropriate. Online communities will facilitate engagement of students and practitioners (Sanguins, 2015). Engagement between students and instructors can help to improve the adult learner experience. According to Baloyi (2013), the distance between the students and the institution is a worrying factor for learners. Proper provisions of

student support can break isolation of distance students, thus decreasing high dropout rates (Baloyi, 2013). Learner support has the potential to improve quality education (Baloyi, 2013). According to Porto and Thompson (2014), online education cannot continue to grow while ignoring a crucial component of campus support, wellness for adult online learners. Wellness is defined as an integrated method of functioning, which is oriented toward maximizing the potential of which the individual is capable (Porto & Thompson, 2014).

The combination of mobile devices, social media, and free web tools support interaction between students, their peers, and their instructor, thus increasing learning (Omar Faruk & Nese Sevim, 2017). Most universities also provide additional support for learners. Some of the forms of student support used by universities are admissions and recruitment, advising and orientation, employment placement, library services, and technical support (Porto & Thompson, 2014). The increased use of these support services in addition to professional organizations, institutions, instructors, peer support, and individual support could increase the success of nontraditional and adult learners (Porto & Thompson, 2014). Based on the research above, ensuring the availability of support for adult learners is extremely important to the success of students in online learning settings.

Federal policies are being reviewed to identify other ways to support adult learners. Some of the recommendations that have been proposed include reducing state-by-state regulations regarding online education programs, expanding pell grants, removal of financial aid barriers, expanding employer education benefits, and utilizing infrastructure-training programs to enhance American workers' skillsets and improve

high-speed broadband access (Hope, 2017). According to Hope (2017), many adult learners lack broadband access; and labor market skills can be confusing and overwhelming. Adult learners need convenience and support services from an online degree program to help them be successful (Dalton, 2018).

Summary and Conclusions

Over the past decade, there has been an increase in the number of female adult learners over the age of 25 enrolled in colleges and universities (Johnson, 2014). According to Johnson (2014), female adult learners over the age of 25 are becoming the fastest growing population of students entering postsecondary education and make up a majority of current nontraditional students. Many things including a better career, a better life for their family, a career change, personal satisfaction, and the economy have motivated female adult learners to enroll in college courses. Social changes have also prompted female adult learners to return to school. Many of them are faced with life transitions that require them to improve their financial status and become more marketable in the workface. While these learners desire to improve their quality of life, many do not complete their courses due to barriers and challenges. Many of the barriers that they are faced with include time constraints, personal responsibilities, transportation, lack of support, and technical issues. Studies have shown that female adult learners often lack the confidence, guidance, and skills needed to have a positive experience and be successful while pursuing their college education. The perceptions of female adult learners of technical demands they faced while in college courses is essential in

determining if there are resources and interventions that can be put in place for them to overcome the barrier of technical issues.

Technology has become widespread in all of our lives (Omar Faruk, & Nese Sevin, 2017). Educational institutions have reshaped their educational systems to meet the needs of learners as they try to integrate technology into the classroom (Omar Faruk & Nese Sevim, 2017). Students have adopted mobile devices such as smartphones and tablet PC's to complete courses in higher education. Educators are changing their teaching habits to prepare students for the technology driven world in which we live. The redesign of courses and adoption of new technologies has become essential in course design to meet the needs of adult learners.

Extending traditional learning and teaching experiences of female adults in higher education into new learning experiences have the potential of personal enrichment and meaningful learning (Steyn & Van Tonder, 2017). However, female adult learners are faced with a more complex lifestyle compared to their male counterparts as they fulfill multiple roles. Females often encounter childcare pressures and financial and school responsibilities (Steyn & Van Tonder, 2017). As they juggle the roles of mother, student, wife, and employee, they must consider how learning will fit into their time schedules (Steyn & Van Tonder, 2017).

Female adult learners need to understand why they should learn something. They seek to understand the importance of a topic to their lives. The adult learning theory or theory of andragogy states that adults are self-directed and expect to take responsibility for decisions (Knowles, 1968). They learn best when the topic is of immediate value to

them. Therefore, female adult learners may require a different learning approach than the approach used for traditional college students (Knowles, 1968).

There are various ways that female adult learners can attend school, which include traditional classrooms, online courses, and hybrid courses. Due to the convenience of online degree programs, many of these learners attend school online. Attending school online requires a level of technical competence that they may not possess. Technical competence is defined as a skill or area of knowledge used in the occupations of a specific industry (Zamboni, 2017).

Male adult learners may not be faced with the same challenges as female adult learners. Males have a higher level of perception of digital competence. They use technology more through e-mail, online chat rooms, and games (Garcia-Garzon et al., (2017). Female adult learners are more nervous about using technology than males. This could have an effect on the female adult learner experience in online degree programs. Further research is necessary to determine the cause of gender inequality in the use of technology (Garcia-Garzon et al., 2017).

Some of the other factors that affect education for female adult learners over the age of 25 include a lack of technical literacy, possible technology bias, a lack of finances to purchase computers or other forms of technology, lack of technology exposure, and fear of losing data or searching for data on the internet (Johnson, 2014). Many female adult learners have low self-confidence as it relates to their technical skills and ability to complete college courses after returning to school. Their prior experiences and demographic characteristics could influence the experiences of these learners.

Female adult learners are rarely using the student support services available to them. Many of them have self-advised themselves while in school and have not taken advantage of some of the resources that are available to them at colleges and universities. Female adult learners have also expressed a need for training and additional services to assist them with the technical skills needed to complete assignments. Perhaps an integration of such courses and training could be of assistance to them. Online communities and additional support could also improve the success of female adult learners. I conducted this study to fill a gap in the literature in identifying whether these services and additional services are necessary to improve the adult female student experience and perception of technology integrated college courses. The following chapter will provide an overview of the research design and rationale that will investigate the perceptions of female adult learners who have experienced technical demands in higher education courses.

Chapter 3: Research Method

Introduction

In the literature review, there was a lack of research involving differences in technical competence between males and females. There was also a lack of knowledge regarding the possible support needed to improve the female adult learner experience in higher education degree programs. The purpose of this basic qualitative study was to identify how female adult learners over the age of 25 years perceive the technical demands of the courses in their degree programs and how they cope with these demands. In order to accomplish the end goal, it was important to show the differences between female adult learners' experiences. It was also important to show how they coped with those experiences.

In this chapter, I will describe the research method. The chapter will include the research design and rationale, the role of the researcher, and methods for collecting and analyzing data. The organization of this chapter presents information related to the participant selection and the instrumentation process. Issues of trustworthiness and ethical considerations followed a rigorous approach. All participation in the study was done with informed consent and all material collected was confidential.

Research Design and Rationale

According to Rosenthal (2016), qualitative research can offer insights into the question of why people engage in a particular action or behavior. Basic qualitative research is used when the researcher is interested in better understanding a particular topic from the perspective of participants (Rosenthal, 2016). Devault (2018) argued that

qualitative research involves personal, field-based, and iterative or circular data collection practices. Researchers organize and analyze the data they collect to determine if there are patterns (Devault, 2018). The recognition of patterns helps to determine the results of the study (Devault, 2018). Qualitative research designs that are frequently used are basic inquiry, ethnographies, case studies, and phenomenological studies (Smith, 2018). Basic qualitative inquiry involves entering real world settings of participants to understand collected data, which leads to naturalistic inquiry (Rubin & Rubin, 2012). Ethnographies involve researchers who study a cultural group in a natural setting during a specified period of time (Smith, 2018). Grounded theory involves researchers who develop a theory through multiple stages of data collection and compare it with other theories found in literature (Smith, 2018). Case studies involve researchers who explore a single phenomenon that occurs during a defined time or activity and collects data (Smith, 2018). Phenomenological studies allow the researcher to examine human experiences through detailed descriptions (Smith, 2018). Quantitative research involves measuring subjects and reporting the results (Smith, 2018). The researcher identifies dependent and independent variables and conducts experiments to draw conclusions (Smith, 2018). Due to the process used in Quantitative research, it was not feasible in identifying the perceptions and experiences of the participants in the study.

I was interested in understanding the perceptions of female adult learners, as those perceptions relate to the technical demands they face during higher education courses. Conducting this study offered a means to gain understanding of real world perceptions regarding how adult learners cope with technical demands and how they feel

the demands affect their ability to successfully complete their degree programs. I believed a basic inquiry qualitative approach was best suited for interpreting the data obtained through semi-structured face-to-face and phone interviews. Junquiera et al. (2016) stated the use of semi-structured interviews elicits more open and honest responses from the interviewee. Semi-structured interviews allow the interviewer to ignore a structured script. The interpretation of data from a qualitative perspective presents the opportunity for understanding the perceptions of female adult learners and how their experiences affect their success in college courses. Through this study, the following research questions were addressed:

RQ1: What are female adult learners' experiences regarding technical demands of coursework and communication in their higher education online degree programs?

RQ2: How do female adult learners perceive the technical demands of their higher education degree programs?

RQ3: How do female adult learners cope with the technical demands of their higher education online degree programs?

RQ4: How do female adult learners believe the technical demands of their higher education degree programs influence their successful completion of the program?

Using a qualitative approach, I was able to examine the perceptions of female adult learners and determine how their experiences with technical demands affect them. One of the assumptions of using a basic qualitative research design is that participants construct reality using their personal experiences as they share their ideas during the research process (Merriam, 2009). Furthermore, the qualitative approach allowed me to

view higher education courses with technical demands through the lens of female adult learners.

By conducting interviews, I was able to understand from the perspectives of participants their perceptions of technical demands in higher education courses. Understanding their perceptions helped me to determine if their experiences had an effect on their ability to succeed in their courses. A basic qualitative approach enabled me to determine if there were themes among participants. I was able to conclude whether technical demands in higher education courses have an impact on the degree completion rates of adult learners. I was also able to identify whether other resources are necessary for female adult learners as they begin degree programs that require the use of technology.

Role of the Researcher

As the researcher, I served as the primary instrument for data collection. I was responsible for collecting, analyzing, and interpreting data. My role as the interviewer was to conduct and transcribe interviews to gather data. Participants were individuals who were my former colleagues while teaching, peers in degree programs I was enrolled in, or were referred by other participants in the study as individuals who met the criteria for the study. I did not have any previous or future leadership role over the participants in the study, which alleviated the possible threat of participants feeling obligated to participate in the study. Participants were informed that participation in the study was voluntary.

The potential for researcher bias existed as participants discussed their real-life experiences. My experiences as a female adult learner over the age of 25 created a background of understanding. While this experience could have influenced the interpretation of data, I used self-assessment, a reflexive journal, and my ability to remain objective to eliminate any possible bias during the study. Ethical issues were mitigated through informed consent and protection of participants' privacy. The next section provides details about the methodology that was used for the study.

Methodology

Within this section, I will describe the participant selection process, instrumentation, and process for data collection. The participant discussion includes characteristics of female adult learners who were recruited for the study. The sampling method for the study will be discussed with specific attention to the sampling size. The instrumentation that was used in the study will be defined along with its relation to the overall goals of the research project.

Participant Selection Logic

Cooke, Kang, Moyle, and O'Dwyer (2017) examined an educational program to improve acute care nurses' knowledge, attitudes, and family care involvement in the care of people with cognitive impairment and used 12 registered nurses in a purposeful sample. The study was conducted between July 2013 and March 2014 and took place in South Korea. Participants attended two-one-and-a-half hour workshops in the first month and two fifty-minute ongoing support sessions in the second and third month. The study focused on the effects of delirium, which was defined as an acute impairment in

cognition and a disturbance in awareness and attention, which in common for hospitalized older adults, particularly those with dementia (Cooke et al., 2017). The learning methods for the program included patient scenarios, role-playing, discussion, lectures, and self-directed study to help acute care nurses understand the importance of family caregiver involvement in the care for older adults with cognitive impairment. The study determined that the program had a positive impact on nurses' knowledge of cognitive impairment and attitudes towards older adults. The program improved nurses' knowledge of cognitive impairment and attitudes towards older adults with cognitive impairment. The study increased nurses' initial efforts to involve family caregivers in cognitive impairment care. According to the study, competent prevention, recognition and management of delirium in hospitalized older adults with and without dementia can have a significant influence on both delirium-related morbidity and mortality outcomes in South Korea (Cooke et al., 2017).

The participants of the study were 12 female adult learners who have attended college while over the age of 25. Adult learners are a diverse group, typically age 25 and older, with a wide range of educational and cultural backgrounds, adult responsibilities, and cultural backgrounds who typically do not enroll in postsecondary education immediately after high school (SREB, 2018). The participants of the study may not have completed a degree program. However, they previously took courses in a program that required the use of technical competence. Participants may have attended school in a traditional or online setting, provided they were required to use technology to complete assignments in the courses in which they were enrolled. I used email to recruit

participants. The email invitation was sent to individuals that met the criteria for the study. The email also requested potential participants to suggest others that may be interested in participating in the study. Participants were chosen using purposeful sampling. Purposeful sampling is a technique that is used in qualitative research for the identification and selection of information-rich cases (Duan et al., 2013). Duan et al. (2013) explained criterion sampling is the most used purposeful sampling strategy in qualitative research. To meet the needs of the study, the criteria for this purposeful sample included females over the age of 25, a history of taking college courses involving the use of technology, and the ability to participate in either a face-to-face or phone interview. I sent out requests for participation in the study by e-mail to women over the age of 25 who may meet this criterion (Appendix B).

Instrumentation

The data for this study was obtained through face-to-face and phone interviews. Merriam (2009) explained that interviewing is the most common data collection method in educational qualitative research. Semi-structured interviews were used as one of the primary sources of data collection in the study. If participants were unable to participate in a face-to-face interview, the interview was completed by phone. Phone and face-to-face interviews were used to understand the experiences of participants through open-ended questions. With the primary purpose of this study being to understand how female adult learners perceive the technical demands of the courses in their degree programs, the use of interviews was the most effective approach to collect data. I had the ability to clarify issues raised during face-to-face interviews immediately, which would have

avoided any misconceptions during transcription and analysis. However, there were no issues presented during the interviews.

Face-to-Face and Phone Interviews

Face-to-face and phone interviews included eight open-ended questions, which allowed the participant to speak freely while answering (Appendix C). Interview questions were specifically designed to address the research questions. The interview tool was designed with the intention of understanding the perceptions of students who experienced technical demands while in higher education courses. Table 1 is an interview matrix that describes how the interview questions were aligned with the research questions. I probed further as each question was answered when necessary.

Table 1

Interview Question Matrix

Interview Questions	Research Questions
1. How successful do you feel you were in the degree program you were enrolled in?	RQ2. How do female adult learners perceive the technical demands of their higher education degree program and their impact upon successfully completing their program?
2. What barriers or challenges did you face in technology-integrated courses as a female adult learner over the age of 25 and how did you contend with them?	RQ1. What are female adult learners' experiences regarding technical demands of coursework and communication in their higher education online degree programs?

(table continues)

3. What level of technical competence do you feel you possessed during your time in the degree program you were enrolled in and what skills were you lacking if any?	RQ1. What are female adult learners' experiences regarding technical demands of coursework and communication in their higher education online degree programs?
4. How do you feel your level of technical competence affected your ability to complete the courses you were enrolled in?	RQ4. How do female adult learners believe the technical demands of their higher education degree programs influence their successful completion of the program?
5. How were you able to cope with the technical demands you faced in your courses?	RQ3. How do female adult learners cope with the technical demands of their higher education online degree programs?
6. What resources do you feel should be available to adult learners at colleges and universities to assist with their level of technical competence?	RQ1. What are female adult learners' experiences regarding technical demands of coursework and communication in their higher education online degree programs?
7. How do you feel females and males differ as it relates to their level of technical competence?	RQ2. How do female adult learners perceive the technical demands of their higher education degree program and their impact upon successfully completing their program?
8. Do you have any questions about the use of this interview?	Conclusion of Interview

During the interview, I avoided questions that did not allow the participant to expound on their thoughts related to the questions. The questions used in the interview did not begin with a statement of alleged fact that may have created bias in the answers provided. Participants in the study were not persuaded in any direction as they answered questions to avoid bias. Face-to-face interviews were recorded using a small tape recorder. Phone interviews were recorded using TapeACall, which is an app that can be used to record calls placed using an iPhone.

Procedures for Recruitment, Participation, and Data Collection

After obtaining signed consent from participants through email (see Appendix B), I notified 12 participants who met the criteria of the study by e-mail regarding the details of the interview. Duan et al. (2013) explained qualitative research methods place emphasis on saturation by continuing to sample until no new substantive information is obtained. The sample size of 12 was sufficient due to the anticipation of reaching saturation after interviewing approximately 10 participants. Duan et al. (2013) stated the goal of achieving theoretical saturation by providing as much detail as possible involves selecting individuals who can ensure all aspects of that phenomenon are included in the examination and that all aspects are thoroughly examined.

Face-to-face interviews were conducted in a location that was convenient for the participant. The participant chose the interview location. Phone interviews were conducted by telephone during a time that was convenient for the participant. The interview began with a reiteration of the confidentiality of the interview and an opportunity for the participant to ask any questions. The interview lasted between 20 to

30 minutes, which allowed participants to speak in-depth regarding the questions asked. The interview was recorded using a small recorder that was located in the room during face-to-face interviews. After the interview questions were answered, I asked the participant if they had any questions and thanked them for their participation in the study.

Data Analysis Plan

The data collected through face-to-face and phone interviews were mapped to specific research questions through inductive analysis using a matrix (see Appendix F). Transcribed face-to-face and phone interviews included direct quotations from the participant. Using the recorded interviews, I completed the transcription. Corden and Sainsbury (2006) explained including verbatim quotations from research participants has become effectively standard practice in much social research. Authors of some of the frameworks developed within the health and social welfare sector have discussed how including excerpts from transcripts help to clarify links between data, interpretation, and conclusions, discussed variously within concepts such as validity, reliability, credibility, and audibility (Corden & Sainsbury, 2006). Participants received a copy of the transcribed interview as a method of verifying trustworthiness. After their feedback was noted, their participation in the study ceased. Participants were able to withdraw from the study at any time prior to completion of interviews. Interview questions provided an understanding of how participants in the study perceive their experiences of the technical demands they faced in higher education courses and how they cope with them. I transcribed interview data and uploaded it to Dedoose, a qualitative data management software for organization prior to coding and analyzing (Dedoose, 2018). I then used

open coding to identify themes and categories within the data. Clark and Veale (2018) explained once data is coded, the codes will be reviewed and themes and patterns will be identified. Categories are used to identify patterns that are repetitive in the transcription of the coded data; categories are reviewed and common themes are generated (Clark & Veale, 2018). A summary of the findings were then be created and are included in the results chapter of the dissertation. Discrepant data found during the coding process was included in the results of the study. According to Cotter, Kelly, Lydecker, and Mazzeo (2017), researchers' approaches to handling discrepant data could have a significant influence on study outcomes, as the amount of discrepant data is often, although not always, substantial. Therefore, the results chapter will include data that supports and does not support the theory used for the study.

Issues of Trustworthiness

It is important for a social researcher to maintain trustworthiness throughout a research study. There are four key factors that must be considered when conducting social research: (a) credibility, (b) transferability, (c) dependability, and (d) confirmability. I will describe the strategies that will be taken to ensure these factors are established in this section.

Credibility

Moules, Norris, Nowell, and White (2018) stated credibility is determined when coreserachers or readers are confronted with the experience and they can recognize it. During the planning stages of the research study, I addressed credibility. By identifying and citing valuable resources during the research process, credibility began. Participants

were provided with a copy of the transcription by email once it was completed. Allowing participants to view the transcripts of the interviews helped to ensure credibility. This allowed participants to verify whether their perceptions were captured correctly without confusion or misinterpretation.

Transferability

Transferability is described as the generalizability of inquiry (Moules et al., 2018). It is up to the researcher to provide detailed descriptions, so that others who seek to transfer the findings can do so (Moules et al., 2018). By using transparency throughout the study and thoroughly explaining the goals of the study and the relation of the participants to the study, I established transferability. Additionally, providing a clear description of the research, participant background, and data collection process will help the audience transfer the results of the study to their own situations.

Dependability

Achieving dependability requires the researcher to ensure the research process is logical, traceable, and clearly documented (Moules et al., 2018). I used a reflexive journal to reflect on my experiences and observations throughout the study, which helped to ensure consistency. Triangulation is another way of ensuring dependability is established. Triangulation was used in the study by collecting data through phone and face-to-face interviews. Through data collection and analysis, I was able to ensure consistency was maintained.

Confirmability

Moules et al. (2018) explained confirmability is concerned with establishing that the researcher's interpretations and findings are clearly derived from the data that is collected, which requires the researcher to demonstrate how conclusions and interpretations have been reached. Confirmability is established when credibility, transferability, and dependability are achieved in the study. Confirmability also requires the researcher to be unbiased throughout the study. The results of the study was based solely on the findings of the study through research and analysis. I did not determine the results of the study through bias, motivation, or my personal views.

Ethical Procedures

This research complied with all ethical considerations and standards of Walden University. IRB approval was obtained prior to the data collection process and all possible ethical considerations were addressed prior to the recruitment of participants. All privacy policies (Appendix A) and informed consent were provided to participants in the study and signed consent was obtained from each participant. Identifying information of participants was excluded from the study. Face-to-face and phone interviews did not include the name of the participant to ensure confidentiality. Each participant was assigned a participant number that was used to report the findings of the study.

The use of human subjects in the study exposed the participants' real life experiences and opinions. The use of identifiable information was obtained through interviews, but was not disclosed in the study as stated in the confidentiality agreement participants will receive (see Appendix A). Every effort was made to ensure individual

privacy, and exposure did not occur. Ensuring participant privacy was essential for this study.

Summary

This chapter included a description of the research design and rationale for the study to explore the perceptions of female adult learners over the age of 25 who experienced technical demands in higher education courses. Face-to-face and phone interviews were used to gather data. The role of the researcher and the methodology were also discussed. In an effort to recruit participants for the study, a purposeful sampling approach was used. The criteria for the sample was identified and the data collection process was explained. Considerations for ethical issues were provided in this chapter and methods to ensure trustworthiness were described. The strategies that were used to maintain confidentiality were outlined. The next chapter will include an explanation of how this research design was applied to determine the results for this study.

Chapter 4: Results

Introduction

The purpose of this study was to identify how female adult learners over the age of 25 perceive the technical demands of the courses in their degree programs and whether their experiences have an influence on their success in those courses. In order to accomplish the end goal, a qualitative interview study was conducted on female adult learners over the age of 25 who have experienced technical demands while enrolled in higher education courses. The central goal for the study was to examine how female adult learners facing common barriers of being mothers, employees, and providers contend with the technical demands of school. Four specific research questions were posed and served as the primary guide for considering results. The research questions were:

RQ1: What are female adult learners' experiences regarding technical demands of coursework and communication in their higher education online degree programs?

RQ2: How do female adult learners perceive the technical demands of their higher education degree programs?

RQ3: How do female adult learners cope with the technical demands of their higher education online degree programs?

RQ4: How do female adult learners believe the technical demands of their higher education degree programs influence their successful completion of the program?

This chapter will begin with a discussion of the setting, including personal and organizational conditions that could have had an influence on participants and how they interacted during the study. Basic demographics that are relevant to the study will be

presented, followed by a description of the data collection process as it occurred. The data analysis will include a description of the coding process and consideration of discrepant cases. Evidence of trustworthiness will be addressed including credibility, transferability, dependability, and confirmability consistent with Chapter 3. Results will be presented to address research questions, including similar responses and direct quotes.

Settings

This study included 12 females who attended a large college or university in states including Tennessee, Alabama, and Louisiana while being over the age of 25. Participants did not attend community colleges. Participants were enrolled in either an undergraduate or graduate degree program. A total of 15 invitations were sent out to individuals. The total number of participants who did not respond to the invitation was three. Participants agreed to complete either a phone or face-to-face interview. I requested the participant to choose a time that was best for them and made accommodations to complete the interview during that time. All face-to-face interviews were conducted in the homes of the participants. These locations were chosen based on suggestions and convenience of participants.

Demographics

Specific demographics for participants were not used in the results of the study. Only information provided during the interview will be referenced in the results section of the study. All 12 participants had experience in higher education courses that included the use of technology. Three participants completed doctoral degrees in nursing practice while being over the age of 25. Six participants completed master's degrees. One

participant completed a bachelor's degree. Two participants were enrolled in bachelor's degree programs while being over the age of 25, but did not complete the degree. Participants included five teachers, a corporate trainer, a pharmaceutical director, a logistics analyst, two sales representatives, a marketing manager, and a director of hospitality. Participants were identified as P1- P12 to maintain confidentiality when reporting on individual interviews. Participants all reside in the state of Tennessee and currently range in age from 35-59. Participants' age range and educational level while they were students as well as current age range and current education level are shown in Table 2.

Table 2

Participant Information

Participant ID	Gender	Age Range While Student	Education Level While Student	Current Age Range	Current Education Level
P1	Female	25-35	Bachelors Degree	35-45	Masters Degree
P2	Female	35-45	Masters Degree	35-45	Doctorate in Nurse Practice
P3	Female	45-55	Bachelors Degree	45-55	Masters Degree
P4	Female	45-55	High School Diploma	55-65	High School Diploma
P5	Female	45-55	High School Diploma	55-65	High School Diploma
P6	Female	45-55	Masters Degree	55-65	Doctorate in Nurse Practice

(*table continues*)

P7	Female	45-55	Masters Degree	55-65	Doctorate in Nurse Practice
P8	Female	25-35	Bachelors Degree	35-45	Masters Degree
P9	Female	35-45	High School Diploma	45-55	Bachelors Degree
P10	Female	35-45	Masters Degree	35-45	Masters Degree
P11	Female	25-35	Bachelors Degree	35-45	Masters Degree
P12	Female	35-45	High School Diploma	35-45	Bachelors Degree

Data Collection

Data collection included interviews consisting of eight questions that guided the interview. The interview questions were related to the research questions and purpose of the study. Clarifying and probing questions were asked to encourage detailed responses. There were 12 participants in the study who completed either a face-to-face or phone interview. Participants were recruited following procedures outlined in Chapter 3. Participants were individuals who were my former colleagues, peers in degree programs where I was enrolled in previously, or referrals from other participants as individuals meeting the criteria for the study. After identifying participants that met the criteria, they were invited to participate in one of the interview formats depending on their availability. Participants submitted a consent form for face-to-face interviews at the beginning of the interview or email consent if they agreed to a phone interview.

Prior to data collection, participant communication was conducted via email communication including an email invitation and email correspondence regarding the time, format, and location of the interview. Face-to-face interviews were conducted in the participants' home based on their suggestion for the location. Face-to-face interviews were recorded using a small digital recorder. Phone interviews took place during a time that was suggested by participants and lasted between 10 and 12 minutes. They were recorded using TapeACall, which is an app located on apple iPhones. Individual interviews were completed within 1 hour. I transcribed all interviews personally and forwarded an individual transcript of interviews to each participant to verify the information obtained during the interview. Each participant verified the information in the transcript and responded with confirmation of the validity of the questions and responses within 1 week.

Data collection procedures identified in Chapter 3 were followed with no variation. Participants were identified and recruited for interviews based on previous work and academic relationships with me. I previously knew many of the participants from my career in teaching and through my enrollment at three universities as an adult learner. Unusual circumstances were not encountered during the data collection process.

Data Analysis

As previously stated, each interview was transcribed from recording to script within five days of the recording. Interviews were transcribed using Microsoft Word. Once transcripts were completed, they were imported into Dedoose to organize the data. Open coding was used to organize the information obtained during the interviews. The

data from the transcripts were broken down into codes, categories, and themes. I identified codes by looking for common occurrences of the same words or thoughts. The codes that evolved included: Successfulness, challenges faced, resources needed, feelings, coping mechanisms, end results, general differences, female characteristics, level of technical competence, effects of technical competence, and reasons for level of technical skill. I used open coding to apply themes and categories. I grouped the occurrences of certain words into categories, thus allowing me to identify themes. Once general themes were identified, coded and related to specific research questions, qualitative data were considered more closely in order to present the results of the study. Themes that emerged within each research question are presented in Table 3 and defined below:

Table 3

Themes within Posed Research Question Codes

	RQ1: Female Adult Learner' Experiences	RQ2: Female Adult Learner's Perceptions of Technical Demands	RQ3: Female Adult Learner Coping Strategies	RQ4: Influence of Technical Demands on Success in Degree Programs
Theme	Barriers and Challenges	Participant Perceptions	Coping Mechanisms	Resources Needed for Adult Learners
Theme	Level of Technical Competence	Gender Differences	Resources Used	Successfulness in the Degree Program
Theme	Reasons for Level of Technical Skill	Gender Bias in Technology		Use of Interviews

The first theme that emerged was barriers and challenges. Barriers and challenges referred to the challenges and barriers faced by participants during their enrollment in higher education courses that required the use of technology. The next theme was level of technical competence. This theme referred to the perceived level of technical competence of participants while they were enrolled in their degree program while being over the age of 25. Reasons for level of technical skills was another theme that emerged. Reasons for level of technical skills referred to the causes for the level of technical skill. Participant perceptions also emerged during the data analysis process. Participant perceptions referred to the emotions participants felt while being enrolled in higher education degree programs where technology was integrated. Another theme that emerged was gender differences, which referred to whether participants felt there was a present bias in technology based on gender. Next, gender bias in technology emerged. Gender bias in technology referred to whether participants felt there was a present bias in technology based on gender.

Coping mechanisms and resources used was an important theme that emerged. Coping mechanisms and resources used referred to the individual strategies used by participants to help them complete assignments in their courses including tools offered by the university they attended. Next, resources needed for female adult learners emerged. Resources needed for female adult learners referred to the tools and ideas participants feel would help female adult learners cope with technical demands while in higher education courses. Successfulness in the degree program was another theme that emerged. Successfulness in the degree program referred to how successful female

participants feel they were in the degree programs they were enrolled in while over the age of 25. Use of interviews was the last theme to emerge. Use of interviews referred to the participant's perceptions of the impact the study will have on positive social change.

Some themes and codes identified during the data analysis were considered discrepant because they were only raised by a few participants and were not addressed as a recurring theme during interviews. These themes were included during the coding process to ensure all aspects of the data were explained in the discussion. These themes were included due to their relation to the study and in consideration of the targeted participants of the study, but were not identified as major themes for the interpretation of the results.

Evidence of Trustworthiness

Evidence of trustworthiness is important to the results of the study and the data analysis process. The collection and data analysis followed guidelines mentioned in the previous chapter. Trustworthiness of the research was discussed in Chapter 3 and included consideration of credibility, transferability, dependability, and confirmability.

Credibility was established by using consistent interview questions with each participant, encouragement of personalized honest responses, and the use of iterative questions. Honesty was encouraged by providing a comfortable environment for interviews according to the preference of participants. Iterative questioning was achieved by asking clarifying and probing questions to encourage detailed responses. The use of multiple participants with different educational and career backgrounds allowed for

triangulation of data. These factors are all consistent with the guidelines established in Chapter 3.

Transferability is important in a qualitative study to ensure the use of the findings is relevant to various populations and fields. By providing a brief description of the degree programs participants were enrolled in or completed and the type of educational institution they attended, transferability was established. Transferability was also achieved in the study through data analysis and recommendations for how the findings could be used. A detailed explanation of the data analysis process and themes found during the process will result in the ability to use the research findings in other areas seeking similar perceptions of members of the same age and gender classification. Transferability was also achieved through the interpretation of data and recommendations of how the findings of the study should be considered.

Dependability was achieved by providing a clear description of the process of recruiting, interviewing, and coding for the study. Transcription was completed with recorded interviews and forwarded to participants for authenticity and verification. Predetermined practices were used to identify potential participants who would meet the needs of the study. Opportunities were provided during the interview process for clarification and questioning.

Confirmability was achieved through the development of interview questions that were related to specific research questions. The use of authentic responses from participants was valuable to the study in ensuring the validity of the participants' perceptions. Clarifying questions were used during the interview to insure clarity of

participant responses. I kept a reflective journal, which included interview notes, to allow for consideration of potential bias to prevent misinterpretation of the data obtained. These measures were taken to meet the guidelines of ensuring trustworthiness as discussed in Chapter 3.

Results

After gathering information and transcribing the data, the findings of the study were determined. Data was organized using Dedoose and Excel to ensure organization during the coding process. Data were considered based on the research questions related to the perceptions of female adult learners over the age of 25 who experienced technical demands in higher education courses. Data were also considered based on the sources used throughout the research process.

The four research questions were created to address the purpose of the study. The research questions were considered when themes were found during the coding process. Eleven themes were derived after open coding was completed. Consideration of each research question provided clarification of themes that answered the research questions posed. The information obtained during data collection is listed according to its relation to the themes.

Experiences of Female Adult Learners

Research Question 1 addressed the experiences of female adult learners in higher education courses that included the use of technology. Many factors affected the participants' experiences. Those factors included themes such as barriers and challenges

faced, levels of technical competence, and reasons for the level of technical skill. Participant feedback related to each theme will be described in the following sections.

Barriers and Challenges

The first theme identified from the interviews was barriers and challenges. There were barriers and challenges participants believed to have an impact on their experiences and successfulness in the degree programs they were enrolled in. The challenges included many factors that are listed below. A clear explanation of the barriers and challenges faced will follow.

Table 4

Barriers and Challenges

Barriers	No. of Occurrences	Challenges	No. of Occurrences
Wife	3	Connection Issues	2
Mother	8	Lack of Computer Knowledge	3
Grandmother	1	Computer Function Issues	2
Full-time job	4	Posting Online	2
Personal Issues	2	Independent Work	1
No Barrier	1	Changes in technology	3
		Lack of Computer Memory	2

Participants identified a wide range of barriers and challenges they faced while in higher education courses. Participants believed these barriers had an impact on their successfulness in their courses. All participants reflected on the barriers they faced while enrolled in technology-integrated courses. The barriers included being a wife, mother, grandmother, full-time employee, and other personal issues. P5 discussed her experience in technology-integrated courses by describing the challenge of the lack of computer knowledge by stating, "I didn't know a lot about the computer. So, that kind of stopped me from even pursuing what I should have continued to do." Many participants commented that the lack of computer knowledge presented challenges for them when attempting to complete assignments in higher education courses. Three participants stated they were illiterate to the programs that were available to them. P8 commented, "Actually, I was not aware of the technology that was actually out there." Participants discussed the causes for their lack of computer knowledge. The causes included their age, the lack of use of technology in their careers, and the lack of technology needed for the fields they currently worked in, specifically the field of nursing. P7, an individual who teaches in the nursing field, discussed her lack of experience in using the computer by stating:

> I was a little challenged by some of the assignments that we had to do. We had a course on technology and the technology use in the healthcare field. And so we had various assignments and some of those I had to find out a little bit more on my own how to use or ask some of my fellow students.

P3 stated, “I had some personal issues, just different things going on.” These particular participants ranged in age from 35-45 while they were students. Many participants echoed her statement by discussing the many roles they held as mothers, wives, grandmothers, and full-time employees. The data indicated that participants juggled many responsibilities while being enrolled in college. P1 stated, “I did face some obstacles, the normal ones, being a wife, being a mother. But I was able to overcome those.” An interpretation of the interview data indicated that barriers and challenges played an integral part in the experiences of participants in higher education courses. It was clear that a lack of technical knowledge in fields such as nursing could have played a role in some of the challenges faced by participants. The data also indicated that participants who ranged in age from 35-45 faced many technical challenges while enrolled as students. This could be a result of a lack of technical exposure received during high school and undergraduate degree programs.

Understanding the types of technical challenges participants encountered was also important for this study. Participants discussed the technical challenges they faced while attempting to complete assignments. Those challenges included computer memory issues, connectivity issues, and adapting to changes in technology. P3 stated, “Sometimes you would have issues with logging on or getting inside the course.” When asked about the technical challenges faced, P8 said:

> I would say computers with short memory or lack of space, you have to overcome those and figure out what you can delete, what you can get rid of to be able to have those programs on the computer that you need to be able to complete your

> coursework. So, just the regular space issues, and sometimes you have connection issues.

Two participants, P1 and P9, mentioned the lack of space and computer memory issues as obstacles they faced that influenced their experience in their courses. This could have been due to the type of computers they used or their lack of prior experience in deleting unnecessary data saved to their computer. P9 was pursuing a bachelor's degree 6 years ago in an online degree program and P1 was pursuing a master's degree online 12 years ago. So, both participants had some exposure to computers at that time of their enrollment in online degree programs.

Level of Technical Competence

Participants were asked to state what they perceived their level of technical competence to be during their time of enrollment in higher education degree programs while being over the age of 25. It was important in this study to understand what participants felt their technical competence was during their time of enrollment in higher education courses. Participants were given an option of choosing beginner, intermediate, and advanced to identify their level of technical competence. A beginner level indicated that the participant had a small amount of previous experience using technology. An intermediate level indicated that the participant had some previous knowledge of technology, but was not considered an expert. An advanced level indicated that the participant had an expert level of technical knowledge and required very little assistance. Participants were also asked to explain their reason for choosing the specified level. A total of 75% of participants stated they considered themselves to be at an intermediate

level during their time of enrollment. The other 25% of participants stated they were at a beginner or advanced level. P9 stated, “More intermediate. I am old. I’m 50. So, I just didn’t use technology a lot early on in my career, and then once it became introduced, it was brand new.” P10 said, “I would say maybe intermediate. I think a lot of that had to do with job experience.” An interpretation of interview data indicated that participants felt their level of technical competence affected their experiences in the courses they were enrolled in. However, their job experience influenced their ability to use technology in college. The interview data indicated that a majority of participants had some previous experience using technology, which positively influenced their experience in technology-integrated courses. Participants who benefited from the use of technology in their careers ranged in age from 35-55 during their time of enrollment in online degree programs. These participants worked in careers that required the use of technology.

Reasons for Level of Technical Skill

Another talking point for participants was reasons for their level of technical competence. Reasons for the level of technical skill included work knowledge, practice, and previous college experience. Other reasons included non-exposure to technology, exposure to technology later in their careers, and a lack of knowledge of technical programs. P3 stated, “I work with computers at work all day.” P7 said:

> I knew how to use the computer, I knew how to make documents and write papers, but I did not have real experience online for using the library online, or using databases online. I didn’t have experience making spreadsheets, or concept mapping, portfolios, that type of thing.

P11 said, “I probably had to put more time and effort into it in situations if it was technology used.” According to the interview data, a lack of exposure to technology caused participants to spend additional time completing assignments and required them to research certain technical programs. Additionally, participants in the nursing field in particular did not have much experience in technology.

Some participants believed their level of technical skill was a reflection of their previous exposure to computers. P1, who was enrolled in an online master’s degree program in 2007 said:

> I’m very experienced with technology. I’m good with figuring out what the problem is, and getting things resolved. If I can’t figure it out I might use the help button or google or sometimes even YouTube. But, I’m pretty good at figuring out technical problems.

When asked how the level of technical skill affected their ability to complete courses, P2, who was enrolled in an online doctoral program during 2014 said, “I thought it made me successful because I used the computer and technology on a daily basis.” P10, who was enrolled in an online master’s program in 2018 said:

> I think it may have taken me longer than most. Some people that are pretty advanced with you know technology can do it really quickly. They don’t have to do a lot of probing and researching on how to do it. So, I think it may have taken me a little longer to do some assignments.

All participants mentioned their technical background during every interview indicating that all participants believed their level of technical skills had an impact on their

experience as a female adult learner. An interpretation of the interview data indicated that participants believed prior technical exposure was an essential factor in their experience as students in higher education courses that required the use of technology. Participants who previously completed degree programs and had exposure to technology-integrated assignments faced fewer challenges than their peers did.

Female Adult Learners' Perceptions of Technical Demands

RQ2 addressed female adult learner's perceptions of the technical demands they faced while in higher education courses. The themes that were identified that were related to participant perceptions included participant feelings, gender differences, and gender bias. A majority of the responses were related to the feelings they had while completing assignments in their courses. A detailed description of each of the themes will be discussed in the following section.

Participant Perceptions

The theme of participant perceptions was important to the study as it related to how participants perceived the technical demands they faced while they were enrolled in higher education courses. Participants' feelings ranged from stressful and overwhelming to slightly challenged and successful. This wide range of feelings could have been influenced by the level of technical skill participants possessed during their time of enrollment. P9 commented, "At times back then it would be very frustrating. Just not being able, not understanding or knowing what it is I needed to do to get the coursework done." P6 said, "It was stressful, but once I got used to using technology it became easier. But, at first it was a little bit stressful." Both of these participants were enrolled in

doctoral programs in the field of nursing during their times as students in technology-integrated degree programs. Alternatively, some participants felt they were slightly challenged with some assignments due to their previous experience with technology. P7 stated, “I was a little challenged by some of the assignments that we had to do. With practice and continuous work, the assignments became a little easier.” Many voiced increased understanding after being in their programs for an extended period. P8 stated, “Had I continued or decided to pursue another degree I would have probably been advanced. But I caught on fast. I’ve always been a fast learner.”

Other participants felt successful during their time of enrollment. Five participants felt they had the necessary experience and knowledge to complete assignments with ease. These five participants were individuals who had previous experience in higher education degree programs and experience using technology in their careers. P1 stated, “With my experience with computers at work and throughout my college years, everything was okay, I was able to be able to do what I needed to do.” P2 said, “I was able to just do my work, and go to refresh myself and was able to complete my work.” Similarly, P3 stated, “It didn’t affect me in a negative way. I was able to complete the assignments successfully.” It was clear that participants used their previous work knowledge to complete their assignments in their courses. Thus, many of them had a better experience in higher education courses. An interpretation of the interview data suggests that participants’ prior technical experience and knowledge created a better foundation for their ability to complete assignments in technology-integrated courses. Participants who previously completed degree programs and had experience completing technology-

integrated assignments had very few issues using technology during their time of enrollment in online programs.

Gender Differences

The idea of gender differences was addressed during the interview process. Participants were asked: "How do you feel females and males differ as it relates to their level of technical competence?" Participant responses to this question varied with equal separation in feelings of whether there is a difference in male and female technical skill level. Many reasons for the difference were found during interviews. P7, an individual who teaches in the nursing field, stated:

> Well, in my particular field of nursing, as I was getting my graduate degree, I think we probably, men and women in the program, had about the same background unless the guys had just gotten some technical experience through playing video games or doing stuff like that. But, I don't think it was really relevant to the technical assignments that we had. So, I guess for me I didn't really see a difference.

P9, a director of hospitality, said, "I don't think there is a difference between male and female." Alternatively, an equal number of participants felt there was a difference between male and female technical competence levels. P5 stated, "I think sometimes that females have so much to do or we have children and grandchildren and we don't have the time like most of the males do. Because males have more time on their hands to learn things." P11 said:

> In my opinion, as far as technical competence or their skills, for that particular field it's dominated by males. Yes, we have more females that's going into that field or are becoming more proficient in technology. But that's because they really don't have a choice at this point. I just feel like males may be more passionate about it, so it's just a difference, and there's possibly a learning curve between us and males as far as technical skills.

On the other hand, some participants felt females have a higher level of technical competence than males. P8 stated, "Well, I think for women, we may just be a little more technologically advanced than our male counter parts." An interpretation from the interview data may mean that participants do not feel there is a significant difference in the technical skill level of males and females. This suggests that gender does not have an impact on the experiences of adult learners in higher education degree programs.

Gender Bias in Technology

It was important to understand if female participants believed gender bias existed in technology during this study. Perceptions for gender differences in technical competence were found during interviews. Some female participants believed there were reasons for a difference in technical skill level based on gender, while others did not. P1, a logistics analyst, stated:

> I feel like females are more advanced and they're ready to take on challenges a little bit more than males are. Males I feel like might, they might struggle a little bit more just because their frustration level is not, and they don't have as much

> patience as females do, in my experience. So, I feel like females are better equipped to handle those situations.

P6, an educator, added:

> I feel like with my female students, they seem to be more patient. That's what I've learned. Male students from my experience seem to get frustrated a little quicker. I have found that females are a little more patient when they don't know something and they'll try to figure it out and call you and ask you or send you an email.

Some female participants felt there was gender bias in technology in the past. However, they do not feel it exists any longer. When asked about the presence of gender bias, P10, a corporate trainer, said:

> I used to think so, I think now, I think it really depends on the level of knowledge and I think a lot of it has to do with experience. I think job experience has a lot to do with it as well. You have a lot of umm females and males nowadays that are in the IT field, so they have that extra level of knowledge when it comes to technology. So, I really don't think it's a gender thing. A Gender bias anymore , I think it just more so on is based on who's willing to do what, what type of field are you willing to venture in.

Alternatively, one female participant felt a gender bias still exists in technology. P12, a marketing manager, stated, "There shouldn't be a difference in males and females, but we know that that is not the case today. An interpretation of the research data indicates that a

small percentage of participants felt gender bias existed in technology in the past. However, the bias is fading as more females enter the technology field.

Female Adult Learner Coping Strategies

With RQ3, participants were asked to discuss the coping strategies they used during their enrollment in higher education courses that required the use of technology. Participants discussed their individual coping mechanisms and the use of resources offered through the university they attended.

Table 5

Coping Strategies

Coping Strategy	Theme
Fellow Classmates	Individual Coping Techniques
Technology Courses	Resources Used as a coping mechanisms
Google	Individual Coping Techniques
Group Assignments	Resources Used as a coping mechanisms
Computer Research	Individual Coping Techniques
School resources that were provided	Resources Used as a coping mechanisms
Professor	Resources Used as a coping mechanisms
Computer System Cleanup	Individual Coping Techniques
New Computer	Individual Coping Techniques
Prep Work	Individual Coping Techniques
Practice	Individual Coping Techniques

Coping Mechanisms and Resources Used

Participants discussed the strategies they used to cope with the technical demands they faced during their time of enrollment in colleges courses. Many of the coping strategies that were used by participants included the use of personal resources such as family members and classmates. Some participants believed working in groups assisted them with coping with the technical assignments they had to complete. During group assignments, in areas where one student was weak, another student would be able to provide strength to complete tasks. P11 said:

> I would say I probably had to put more time and effort umm into it in situations if it was technology used. But again, just utilizing my resources or my peers. As you're in the degree program of course you, sometimes, especially if you're on the same path, you start reaching out to others for projects that you have to do. So, you kind of leverage each other umm based on what we feel more comfortable in. And so those that feel more comfortable within technology, being that my major was busy related, IT majors were also within some of my classes. So, I would lean on them during those times.

P4 added, "It was good that the other people, we worked in teams, because I didn't have to do as much, because some of the other team members had things to do. So, it limited me in the time on the computer." Many participants echoed these thoughts by describing the use of members of their family to help them complete assignments. P5 stated, "Sometimes I would get with other people to uh learn things or to umm continue on what I was doing."

P7 also stated:

> I coped by talking to my fellow classmates. I was fortunate that I had two, excuse me; I had three coworkers or friends that were going through the same program at the same time. So, one or two in particular I was able to communicate with and we kind of helped each other out.

These particular participants ranged in age from 45-55 during their time of enrollment as students. An interpretation from the interview data may mean that group assignments are beneficial for adult learners in higher education courses. Students in older age groups benefit from the help of their peers in completing technical assignments due to their ability to ask questions of them. It was clear that most participants used their peers as a coping mechanism during their time of enrollment.

Several participants felt that issues such as connection issues and limited computer space created obstacles for them while attempting to complete assignments. This may have been due to their inexperience with technology or the type of computer they were using. To overcome this issue, participants cleaned their computers or they purchased new computers. P1, a participant with an advanced level of technical competence, stated, “I just tried to clean up the computer, tried to clean up the system that I had, but as time went on I was able to be able to purchase a new one, a new laptop, and that granted me way more space that I needed, a more up to date system, and it alleviated a lot of the connection issues.” Other participants discussed the use of Google, research, and prep work before beginning an assignment to help them during their courses. P10 said:

> Because there were a lot of assignments that you had to use a specific method or you had to use a certain tool. It may have been a tool that I wasn't familiar with you know in regards to technology. So, I would do a lot of research with it.

The feeling of being alone became a common response during discussions regarding coping strategies. However, some colleges and universities provided resources for them to use as adult learners including a technology course, communication with school representatives, and the professor. P6 stated:

> Well, the technology that I had to get used to was posting online and not meeting on ground. That was the initial thing. But, the way my school incorporated it is that was we had to take a class in terms of learning how to communicate via online technology. That helped me to bridge into that type of learning.

P10 said:

> I did attend a university where a lot of it was online. So, I mean you could always chat with someone with questions. But, everything was kind of on your own. So, at the very beginning it was a little overwhelming because you had so many different assignments that you had to complete.

These particular participants ranged in age from 35-55 during their time as students in online degree programs. An interpretation of the interview data suggests resources provided by colleges and universities are beneficial to adult learners, particularly those who are in older age groups who may not have had as much exposure to technology as younger students. It was clear that students utilized the resources provided to them by the

university to cope with the technical demands they faced during their time of enrollment in higher education degree programs.

Impact of Technical Demands on Success in Degree Programs

RQ4 addressed the impact technical demands female adult learners faced had on their success in degree programs. During interviews, participants were asked: "How do you feel your level of technical competence affected your ability to complete the courses you were enrolled in?" Participant responses ranged from feelings of defeat or incompletion to having no impact at all. Many of the responses reflected their previous responses regarding their level of technical competence and the reasons for their level of technical skills. It was clear that participants believed their level of technical skill influenced their success in their college courses.

Effects of Technical Demands

It was important to understand how participants felt the technical demands they faced influenced their experiences in higher education courses. Two participants discussed their feelings of defeat due to the technical demands they faced. P5, one of the participants who did not complete her degree program, stated, "I think because of the lack of knowledge of the computer, I kind of backed off and didn't continue." P4 said, "No, I would get frustrated with the syllabus and some of the things that were required from the syllabus. I would call one of the team members and they would walk me through certain things." This indicates that the technical demands had an impact on some participants' ability to complete the courses or degree programs they were enrolled in.

Some participants were able to successfully complete their assignments. P6, a nursing professor, said, “It was stressful, but once I got used to using technology it became easier. But at first it was a little bit stressful, but like I said, practice made me better.” P9 added, “At times back then it would be very, it would be frustrating, umm just not being able, not understanding or knowing what it is I needed to do to get the coursework done. So, then once it was explained or you understood it, it made it a lot better.” An interpretation of the interview data suggests that a clearer explanation of assignments and experience in courses allowed participants to improve their technical skills over time.

A majority of the participants did not feel the technical demands they faced had any impact on their ability to be complete assignments. This may have been due to their previous experience with using technology. P1 stated, “I feel like I was prepared, well prepared for the coursework and the program. Other participants echoed these feelings. P12 commented, “It didn’t affect me in a bad way. I’ve always used technology, so I was able to integrate what I already knew into my assignments.” These particular participants expressed their previous exposure to technology early in their interviews. They felt prepared for the assignments due to their careers and previous computer knowledge. P3 said, “It didn’t affect me in a negative way. I was able to complete the assignments successfully.” It was clear that prior work experience using technology helped to create a better experience for many participants.

Resources Needed for Female Adult Learners

The theme of resources needed for female adult learners brought very valuable information to the positive social change aspect of the study. This theme accounted for one of the largest portions of the conversations during each interview. This theme referred specifically to resources colleges and universities could make available to provide a better experience for adult learners in degree programs that require the use of technology. Participants provided various ideas and tools that could be extremely beneficial for students. These tools and ideas could also make a positive impact on the technical demands faced in higher education programs.

During interviews, participants expressed the need for a help desk at universities to assist students with technical issues and questions. A help desk would give students an opportunity to ask technical questions. P1 stated:

> I feel like a help desk is necessary and I believe most of them do have that. Now, people are able to remotely log in to your systems where back then they weren't always able to do that. So, I feel like technology has come a long way, where the help desk can log in and show you what's going on and fix it for you.

P2, a teacher, agreed with the use of a help desk along with the need for faculty to be proficient with technology and have the ability to assist students with troubleshooting in the courses they teach. When asked about the resources needed, P2 stated, "a help desk, and to also make sure that faculty are competent in umm some of the computer courses or even just knowing how to help the students troubleshoot."

Another resource that was heavily mentioned during the interviews was the use of a technology course that should be taken at the beginning of the degree program. Many participants felt that this type of course would proactively assist students before they begin the course. When P9, a director of hospitality, was asked about resources needed for colleges and universities to assist adult learners with technical demands, she said:

> Maybe just a technology course that they could take that would teach them how to use the different uh platforms, especially in a university. So, if we are offering online classes, it would be great to have maybe an introduction to online classes, where the learners would learn the ins and out of the computer and this would be a in house training, you wouldn't do it online. You'd have to actually go to a class to learn.

Other participants agreed with the need for this resource. P8 said:

> I would say maybe if a university added in some type of course that solely centered on technology that's available to help them complete their program like certain websites like Grammarly, which I heard about later on, umm, could be something that could be useful for adult learners to use, Grammarly, to help them when they are writing papers for different courses. And there are a lot more. I have actually been out of the loop a little bit with college courses, but I do know of that one that's now available. That's actually like a website that students can use. Or, it's another one where once they write the paper, they can like they can like drop the paper in maybe like a drop and have it reviewed before it's even turned in.

P6, a college instructor, believed the course would be helpful as well. She said:

> I think that when they decide that they are going to do an online course, that there is maybe a one hour course that they take initially at the beginning umm for them to practice, get used to, learn different functions of the computer, how to post discussion questions, how to formulate a response, just how to use the technology. I think that helps and decreases the stress when they are in it fully aligned and not knowing how to access resources.

. Their enrollment in these programs was between 2009 and 2014. It was clear these participants believed providing a course and links to assist adult learners could help them with completing assignments. P4 said, “I think we should take a class, more about the computer, to learn more about the computer.” P5 believed one-on-one classes for adult learners would be a beneficial resource at college institutions. When asked about necessary recourses for adult learners, she said, “Maybe some one on one classes for adults that are not very computer literate.” Whether courses are individual or in a group setting, a large percentage of participants felt that a technology course is essential in improving the experience of female adult learners.

Participants also believed that more professor support would be great for higher education institutions. Participants discussed the need for assistance from their teachers during their time of enrollment in their courses. P11, a pharmaceutical director, believed professors should be able to share their computer with students in the course if needed. She stated:

> I would most definitely say more hands on would be more beneficial. And then a lot of people are just more visual. So, being able to be at work, hand and hand, would probably help. Especially umm being that online courses is more prevalent, so maybe if it's even professors sharing their screen, which would be probably helpful to the students. Because sometimes you know we don't want to speak up. Especially if we feel like everyone else is following allowing. But, there are times where there's more than one person that's kind of behind and have questions as well.

Visual aids could possibly be helpful for visual learners. Participants believed that providing more details prior to assigning different assignments could help adult learners to have a better outcome when they are attempting to complete a task. P10 said:

> Well, I think up front it should be something that is discussed with the students or given to them up front. Saying, "ok these are some assignments that you are going to have to complete in the future." These are some skills that you may want to brush up on. Or maybe become familiar with. Like for example, you're going to have to do a lot of graphs or tables, so you may want to work on some excel classes or participate in some focus groups around excel. Just kind of give them a heads up and maybe provide some links.

During the interviews, participants also suggested course redesign to assist adult learners in technology-integrated courses. From the data, two participants expressed the need for courses to be improved. P7 stated, "So, that I think the course, that particular course for me in my program should have been redesigned umm to show exactly how to use this

technology because I had to google a lot of stuff and watch YouTube videos to figure out how to use it." In addition, some participants felt that technology should be introduced to adult learners at a slower pace. P12 commented, "Really older students, like late 50's and 60's should be assigned technology at a slower pace to introduce them to the computer skills they will need to know." Presenting technology at a slower pace could give learners more time to research ways to use the technology prior to completing an assignment. Several participants discussed their need to prepare for assignments before completing them. This may have been due to their need to complete prep work prior to completing the actual assignment.

P7 said:

> I understood what they were asking for in the assignments, but I couldn't just sit down and do them and that be it, I had to do a lot of prep work before I could get to the point. I had to figure out how to use the, I guess the technical skills that that wanted me to be at, even have as a baseline before I could even complete the assignments.

P6 discussed her need for additional time and assistance. She said:

> I think that it may have taken me a little longer than most. Some people that are pretty advanced with you know technology can do it really quickly. They don't really have to do a lot of probing and researching on how to do it. They just go and finish it. So, I think that it may have taken me a little longer to do certain assignments just for the simple reason that I needed the extra assistance or extra help.

An interpretation of the interview data suggests there are many resources universities can use to support adult learners including course redesign, professor support, and a technology course. Particularly, students in older age groups would benefit from additional help with technology. These resources are essential tools that can be integrated into online degree programs to improve the experience of all adult learners.

Successfulness in the Degree Program

The theme of successfulness was found in each interview. Each participant was asked the following question: "How successful do you feel you were in the degree program you were enrolled in while over the age of 25?" A total of 75% of participants felt they were successful in their degree program despite the technical demands they faced. The remaining 25% of participants felt they were fairly successful or unsuccessful in the degree programs they were enrolled in. The causes of these perceptions depended on how the respondent was able to cope with the challenges and technical demands they faced. P6 stated, "I feel like I was fairly successful umm the way the program was structured it really allowed me as an adult learner to participate umm without the necessarily stress of not having to work." A few participants felt they were unsuccessful in their degree programs. When P5 was asked about her level of successfulness, she said, "Not very successful." While other participants felt they were very successful. P1stated, "I would say I was very successful because I was able to complete the programs." Other participants felt they were successful as well. P11 said, "I feel like I was quite successful in my degree program."

An interpretation of the interview data indicates that the overall experience and perception of participants in the study in relation to the technical demands they faced were a direct correlation between their technical history and technical skill. Participants were very vocal about their experiences. The career history, age, and technical exposure of participants were mentioned throughout many of the interviews as a cause for the level of success participants felt they had while enrolled in their college courses as adult learners. It was clear that participants believe that previous exposure to technology from work and school is critical to the success of adult learners in technology-integrated courses.

Use of Interviews

The interviews ended with a final question regarding the use of the information obtained during the interview. It was important to ensure students understood how the interview data would be used. A few respondents provided feedback on the purpose and possible use for the results of the study. P6 said, “I think it’s going to be good information for a lot of people that as more courses and schools develop and launch online programs.” Another participant who provided valuable information during her interview stated, “I feel that it will help some of the other older students that had questions and may be afraid to ask.” Other participants stated they did not have any questions related to the use of the information obtained during the interview. This illustrated a clear understanding of the purpose of their participation in the study and the impact the study will have on positive social change.

Research Questions and Themes

The results of the qualitative analysis were aligned with the research questions in order to relate the findings to the purpose of the study. Themes emerged as data was analyzed and coded. Data that was presented included perceptions and experiences of participants as well as direct quotations from respondents and a presentation of the themes that emerged during data analysis. Each theme was thoroughly described and supported by participant responses and feedback.

RQ1 was: "What are female adult learners' experiences regarding technical demands of coursework and communication in their higher education online degree programs?" This question considered the personal experiences of participants as it relates to the technical demands they faced in their higher education courses while being over the age of 25. Themes that emerged included barriers and challenges faced, level of technical competence, and reasons for level of technical skill. Participants discussed the causes for the level of technical competence they perceived they possessed during their enrollment in their degree programs. They also discussed individual obstacles they faced during their enrollment.

RQ2 was: "How do female adult learners perceive the technical demands of their higher education degree program?" In considering the perceptions of female adult learners, themes that emerged included participant perceptions, gender differences, and gender bias. This question considered the views of female adult learners regarding the technical assignments they faced while in their degree programs. The question also focused on whether participants believed there was a difference in technical competence

levels between males and females. The question also focused on whether there is a gender bias in technology regarding male or female domination in the field.

RQ3 was: “How do female adult learners cope with the technical demands of their higher education online degree programs?” In considering the coping strategies for female adult learners who faced technical demands, themes that emerged included coping mechanisms and resources used. This question considered the skills, tools, and strategies used by female adult learners who faced technical demands while they were enrolled in higher education degree programs. Particular focus was placed on individual coping techniques of participants and coping tools and resources provided by the institutions they attended.

Finally, RQ4 was: “How do female adult learners believe the technical demands of their higher education degree programs influence their successful completion of the program?” In considering this question, themes that emerged were resources needed for adult learners, successfulness in the degree program as a female adult learner, and use of interviews. Participants spent the largest amount of time discussing their ideas related to this topic. This question considered the resources needed to help female adult learners succeed in degree programs that included technical demands. The successfulness of female adult learners in these degree programs was also taken into consideration. Finally, the use of interviews was examined to determine if the use of the data collected during the interviews and throughout the research study would be beneficial to the success of female adult learners in the future.

Summary

This chapter focuses on the setting, demographics, data collection process, data analysis process, evidence of trustworthiness, and results of the study. This study focused on the perceptions of female adult learners over the age of 25 who faced technical demands while in higher education degree programs. Data collection was completed through face-to-face and phone interviews. The setting of the interviews was chosen based on the preference of each participant. Data analysis was completed after all interviews were transcribed and approved by each participant in the study.

A summarization of RQ1 indicated a correlation between participants' previous technical experience and the barriers and challenges they faced during their time of enrollment in higher education degree programs. A summarization of RQ2 indicated participants' perceptions of their experiences in their degree programs were based on their individual ability to complete assignments. It also showed varying views regarding gender differences and possible gender bias in the field of technology. A summarization of RQ3 indicated the coping strategies used by female adult learners as they faced technical demands in their courses. Many participants used their on coping mechanisms while others used the resources that were available to them through their college institutions. Finally, a summarization of RQ4 showed a relationship between the successfulness of participants and the level of technical competence they possessed during their time of enrollment. A considerable amount of time was spent during each interview discussing resources that would be helpful for adult learners as they pursue higher education degrees, which require the use of technology. Participants felt strongly

about courses and tools that could be shared with students to provide a positive impact on the female adult learner experience.

In Chapter 4, a thorough analysis of data created an emergence of specific themes. These themes helped to provide answers to the research questions posed in the study. The presentation of participant quotes gave a voice to student perceptions. The process of data analysis and direct responses from participants will be used for interpretation in Chapter 5.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The purpose of this basic qualitative study is to identify how female adult learners over the age of 25 perceive the technical demands of courses in their degree programs and whether their experiences had an influence on their success in those courses. In order to accomplish the end goal, a qualitative interview study was conducted regarding female adult learners over the age of 25 who have experienced technical demands while enrolled in higher education courses. I examined the experiences and perceptions of female adult learners facing common barriers of being mothers, employees, and providers as they contended with the technical demands of school. The data gained from this study may provide colleges and universities tools and resources to use to ensure they are meeting the needs of female adult learners in higher education courses that require the use of technology.

I based the study on the following four research questions:

RQ1: What are female adult learners' experiences regarding technical demands of coursework and communication in their higher education online degree programs?

RQ2: How do female adult learners perceive the technical demands of their higher education degree programs?

RQ3: How do female adult learners cope with the technical demands of their higher education online degree programs?

RQ4: How do female adult learners believe the technical demands of their higher education degree programs influence their successful completion of the program?

A basic qualitative approach was used to answer the research questions. Using qualitative methods allows scholars to draw on observations from the data to introduce abstracted knowledge that can be generalized beyond specific contexts (Basal, Smith, & Vaara, 2018). Interviews were completed with 12 participants for this study. Participants chose to complete a face-to-face or phone interview based on their preference. Face-to-face interviews were recorded using a small recorder and conducted in the participants' homes. Phone interviews were recorded using TapeACall, an app found on my Apple iPhone. I transcribed each interview using Microsoft Word. Interview transcripts were sent to each participant for verification and returned to me by email within 1 week. There were no changes indicated by participants during the review of the transcripts. After transcription, data were exported into Dedoose for organization and Excel for data analysis. During data analysis, coding was completed and themes emerged. The process is described in more detail in Chapter 4.

One of the main findings of the study was that challenges faced by adult learners extended beyond the basic obstacles of prior responsibilities, time, work, finances, and family. An important challenge these learners faced was a lack of technical competence. The coping strategies of these learners were identified. Participants expressed the need for additional resources to assist adult learners with the transition into higher education degree programs.

In this chapter, I will interpret the findings based on the themes identified in Chapter 4 in relation to the research questions. I will connect the research questions to the literature review and conceptual framework. Limitations will be reviewed and

implications for the findings will be discussed. Finally, I will provide recommendations for future research, consider implications for positive social change, and provide a conclusion for the study.

Interpretation of the Findings

During the interpretation of the findings, peer-reviewed literature described in Chapter 2 were compared. Focus was placed on the themes and codes that emerged during the data analysis process. Patterns found in themes were identified and related to each research question. Interpretation of the context of both the conceptual framework and literature review were used to determine the findings of the study.

RQ1

RQ1 stated: What are female adult learners' experiences regarding technical demands of coursework and communication in their higher education online degree programs? In respect to RQ1, I found that participants faced many barriers and challenges. Those barriers included being wives, mothers, grandmothers, and employees. Bergman et al. (2017) said college bound adult learners face situational barriers including finances, family life, health, work conflicts, and transportation issues. I found there were several technical barriers faced by participants. Those barriers included connection issues, computer memory issues, computer illiteracy, and adapting to changes in technology.

A majority of participants believed they were at an advanced or intermediate technical skill level while they were enrolled in their degree programs. One participant felt she was at a beginner level. Participants felt there were many reasons for their level

of technical competence. Reasons for higher levels of technical competence included previous work and college experience. Causes of lower levels of technical competence included lack of exposure to technology, lack of practice, lack of computer experience, and experiencing technology later in their careers. This confirms the results of other studies. Participants also indicated their level of technical competence caused them to complete assignments slower, put in more effort than others, and ignore technical programs that were available due to their lack of knowledge.

RQ2

RQ2 stated: How do female adult learners perceive the technical demands of their higher education degree programs? In respect to RQ2, I found that most participants perceived the technical demands they faced to be overwhelming, stressful, and frustrating. This was due to their lack of technical skills and previous technology exposure. Conversely, an equal amount of participants did not feel any negative impact due to the technical demands they faced. These findings can be attributed to their careers, prior computer knowledge, prior college experience, and practice with technology.

Another theme that emerged in relation to RQ2 was gender differences. Participants did not believe there was a gender gap in terms of technical skill. I found that participants believed there are characteristics that females possess that increases their level of technical competence. However, participants did not believe there is a gender bias in relation to technology.

RQ3

RQ3 stated: How do female adult learners cope with the technical demands of their higher education online degree programs? In respect to RQ3, the study found that participants used their own coping strategies as well as resources provided by the institution they attended to cope with technical demands. Participants took advantage of tools and resources that were available to them.

Participants also used their own coping mechanisms, which included peer assistance, group assignments, purchasing new computers, family assistance, and assistance from their professors. Participants also sought assistance from their peers and family members to assist them with technology.

RQ4

RQ4 stated: How do female adult learners believe the technical demands of their higher education degree programs influence their successful completion of the program? In respect to RQ4, I found that participants believed they were successful in completing their degree programs due to their experience and practice with technology. Participants also believed their level of support attributed to the successful completion of their degree programs. Conversely, two participants indicated they were unsuccessful in their degree programs due to their lack of technical competence.

Another theme that emerged in relation to research question 4 was resources needed for female adult learners. Participants believed a technology course, helpful links,

a help desk, and course redesign are necessary to increase the successfulness of female adult learners.

Participants also believed that instructors should have the ability to share their computers with students to assist them with technical issues as they attempt to complete assignments. I found that participants believed faculty should be technically competent when teaching courses that require the use of technology.

Interpretation in Context of Conceptual Framework

The adult learning theory and the transactional distance theory provided the framework for this study. The conceptual framework that was used for this study is self-directed learning which outlines the idea of personalized learning as a highly effective learning method for adult learners (Egizii, 2015). The adult learning theory and transactional distance theory prompted the development of the literature review, research questions, and data analysis. Consideration of self-directed learning was addressed within current literature.

The findings of this study revealed some participants' perceptions of the technical demands faced in higher education degree programs included feelings of stress, nervousness, and frustration due to a lack of support and the requirement to complete work individually. Other participants did not felt a negative impact of the technical demands due to their ability to practice, refresh their knowledge, and use their previous computer knowledge they have obtained. These findings confirm that being an adult means to be self-directed and to expect to take responsibility for their actions (Knowles, 1968). Participants also coped with the technical demands by communicating with fellow

classmates, using resources provided by the institution, and communicating with the teacher for assistance. This supports the transactional distance theory, which is a part of the conceptual framework that is identified in Chapter 1. I found that participants enjoyed group work as a way of communicating with their peers and gaining assistance with the technical demands they faced. Alternatively, some participants believed there was not an impact of the technical demands on their successfulness in their courses.

According to the data, most participants were able to successfully complete their degree programs. I found that participants were motivated to find coping mechanisms to assist them in their courses. Participants related their success in completing assignments to technical skills they possessed prior to enrolling in the degree program and the level of support and resources they had available to them. This confirms the components of the adult learning theory.

The study addressed the effectiveness of self-directed learning on the success of female adult learners. Through data analysis, the adult learning theory and transactional distance theory was acknowledged through participants' perceptions and the ability to communicate with their peers and teachers, while using support systems provided by the school. It was essential to understand the experiences of participants in order to determine if further resources are needed to increase the successfulness of female adult learners in self-directed learning environments. These findings will assist in the development of online courses and supportive tools for college institutions to provide to adult learners in the future.

Limitations of the Study

Several limitations to the study should be taken into consideration when reviewing the findings, results, implications, and recommendations for the study. The limitations are the same as indicated in Chapter 1. As stated in Chapter 1, the study sample consisted of 12 purposively sampled participants who cannot be taken to represent the entire female adult online student population in the country. Researcher bias was another limitation. However, I avoided bias by only using the information provided by the participants in the study and the research I collected to present the conclusions of the study.

Recommendations

Recommendations for Research

Based on student perceptions and connections made to the existing literature, recommendations can be made for future research studies. The results of the study provided an overview of perceptions of 12 female adult learners who experienced technical demands while enrolled in college courses. The study focused on the impact of technology integration on the female adult learner experience. According to McPherson and Noelting (2017), future research is needed to determine the impact of multimedia choices on students' virtual course experiences and outcomes.

A future recommendation would be to conduct the same study using 12 male adult learners. The study would be qualitative and would focus on the perceptions of male adult learners who face technical demands in higher education degree programs. It would be beneficial to compare the experiences of male and female adult learners to

determine if there are differences. Another recommendation would be to conduct the same study using a quantitative approach. Quantitative research methods refer to data that are gathered using "predetermined" instruments such as questionnaires, although data can also be obtained through, for example, experiments (Boeren, 2018). A quantitative approach would allow the results to include a larger population.

Finally, similar research that considers the demographic of participants, including a targeted population merits further investigation. Research might focus on a particular region of the world or a specific ethnic group. Particular focus might also be placed on a particular degree program of enrollment to determine if the type of course has an impact on the perceptions of adult learners. Following these recommendations will allow a more in-depth view of the effects technical demands have on the successfulness and retention of non-traditional learners in online courses. Various methods of support can be designed using the findings of further research recommended here.

Implications

The purpose of this study is to inform colleges and universities of the perceptions of female adult learners over the age of 25. The study contributes to the future of online courses and resources that could contribute to the successfulness of adult learners. For this section, I have identified the impact of positive social change for stakeholders in higher education. Recommendations have been identified for future research and development of tools that could have a positive impact on the future of non-traditional learners.

Positive Social Change

This study has provided a foundation for understanding how female adult learners perceive the technical demands of higher education degree courses. It provides insights to the level of technical competence female adult learners believe they possessed as they enrolled in college at a later age. It also provides an analysis of the reasons for their level of technical competence in addition to its impact on their ability to be successful in their college courses. This study provides a clear perspective through the eyes of female adult learners.

An increased understanding of student perceptions has the potential to influence positive social change for higher education. The findings of this study will encourage change within courses and the structure of degree programs to promote students to maintain their enrollment and completion of degrees. For example, participants indicated the need for a technology course to assist adult learners with the technical skills they will need to complete assignments in their courses. This will allow college institutions the opportunity to create these courses as they attempt to increase enrollment and graduation rates.

The findings of this study can be used to design resources and tools that can be used to support adult learners during their enrollment in degree programs. For example, when college institutions are implementing online degree programs, they will be able to determine the resources needed to accompany the programs to ensure the success of non-traditional students. This affects positive social change in an online setting as teachers

and administrators motivate non-traditional students to enroll and successfully reach their educational goals.

I will share the findings of this study with colleagues in the field of education and peers who would like to review it. I anticipate sharing the results of this study through peer-reviewed journals and educational publications. Disseminating this study and its results will provide awareness to a larger audience of ways to improve the experience of female adult learners in online degree programs and start the process of positive social change in higher education.

Conclusion

The data analysis for this study indicated that the adult learning theory and transactional distance theory are comparable to female adult learners' perceptions of the technical demands faced in higher education courses. Participants identified reasons for their perceptions, which were comparable to the conceptual framework of self-directed learning. Participants took responsibility for their level of successful in their courses, which is clearly explained in self-directed learning.

RQ1 explored female adult learners' experiences regarding technical demands of coursework and communication in higher education degree programs. Participants identified challenging experiences related to the completion of assignments. Through data analysis, a majority of participants had similar perceptions and faced similar barriers and challenges during their time of enrollment. The barriers and challenges extended past the normal obstacles of family, lack of time, work, and finances. Participants expressed technical competence as a major obstacle that affected their ability to complete college

courses. Participants who were students during the ages of 35-45 faced challenges that could be related to a lack of exposure to technology in high school and undergraduate degree programs. Participants who previously completed degree programs faced few challenges than their peers did. Additionally, participants who ranged in age from 35-55 during their time of enrollment benefitted from their exposure to technology in their careers. Overall, participants expressed the need to have the ability to communicate with their peers and teachers in their courses to help with the challenges they face as adult learners.

RQ2 focused on the perceptions of female adult learners in relation to the technical demands they faced in their courses. Participants perceived their experiences to be stressful and overwhelming, while other participants perceived their experiences to be non-stressful. Through data analysis, it was found that prior computer knowledge affected the perceptions of participants in the study. Participants who had minimal technical experience perceived technical demands to be frustrating. Alternatively, participants who had extensive computer knowledge perceived the technical demands to be non-impactful to their success in their courses. Particularly, participants who previously completed college courses had very few issues with the technical demands they faced. Additionally, participants did not feel there were gender differences as it relates to the level of technical competence between females and males. Additionally, participants did not feel there was a gender bias in relation to technical skill.

RQ3 explored the coping strategies of female adult learners who face technical demands in online degree programs. Participants expressed the use of resources that were

available to them through the school. They also indicated their individual coping strategies, which included practice, computer research, help from their peers, and assistance from their professor. This suggests participants are seeking support services from colleges and universities to assist them. Participants took advantage of group assignments in an effort to ask questions to their teammates and have the ability to perform tasks they were more comfortable completing.

RQ 4 explored whether participants believed the technical demands influenced their ability to succeed in completing their degree programs. Participants believed technical demands influenced their successfulness in the program. A majority of participants were able to complete the programs they were enrolled in. Only two participants stated they were unsuccessful in completing their degree program. Both participants related technical demands to their inability to finish the program. All participants expressed a need for more resources offered by colleges and universities. The suggested resources include a technical course for students, helpful links provided to students, a help desk, teacher assistance with technology, and course redesign. Students in older age groups in particular, would benefit tremendously from these resources.

In conclusion, I found that it was imperative to understand all of the obstacles and challenges faced by female adult learners in online courses. Considering participant experiences revealed insights related to the value of support services offered by college institutions. Course design, hands-on training, and the teacher-student relationship are essential to the success of non-traditional students. The findings in this study have the

potential to improve online learning and the female adult learner experience in higher education degree programs.

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Appendix A: Privacy Policy and Privacy Statement

Privacy Policy for Research Study: Perceptions of the Effects of Technical Competence on Female Adult Learners

To Individual Participants:

For this research, your privacy is important to Walden University, the Institutional Review Board (IRB), and me. Maintaining your trust and confidence is my highest priority. I respect your right to keep your personal information confidential and understand your desire to avoid its disclosure. Changes in the law necessitate that I disclose my Privacy Policy to you. By taking a few minutes to read it, you will have a better understanding of what I do with the information you provide and how I keep it private and secure.

Types of Collected Information

I collect certain personal information about you – but only when that information is provided voluntarily by you or is obtained by me with your authorization. I use that information to prepare to collect and analyze data gathered during this study.

Examples of sources from which I collect information include:

- Interviews and phone calls with you
- E-mails from you
- Interview questions

Parties to Whom Information Disclosed

As a principle practice, I do not disclose personal information about you or any participant to anyone. However, to the extent permitted by law certain non-public or private information about you may be disclosed in the following situations:

1. To comply with a validly issued and enforceable subpoena or summons.
2. In the course of a review of my study by practices under the authorization of Institutional Review Board (IRB), or as necessary to properly respond to an inquiry or complaint from the IRB.
3. By law as the result of disclosed information whereby a participant threatens to harm or injure another person, threatens or professes to commit suicide (having stated both a means and an intent), disclosure of violence, abuse or suspected abuse (emotional and/or physical) of a vulnerable person, has committed or intends to commit a crime.

Confidentiality and Security of Non-Public Personal Information

Except as otherwise described in this notice, I restrict access to all information about you to any party other than you. I maintain physical, electronic, and procedural safeguards in compliance with applicable laws and regulations to guard your personal information from unauthorized access, alteration, or premature destruction.

Thank you for participating in this study. I value your input, experiences, and perceptions committed to protecting your privacy. Please contact me at 901-337-8585 or by email at Tamela.wilson@waldenu.edu if you have any questions.

Appendix B: Email Invitation to Potential Participants

Dear (potential participant),

You are invited to take part in an interview for a research course that I am completing as part of my doctoral program. As a former or present female adult learner, you are in an ideal position to provide valuable firsthand information from your own experience and perspective.

The interview will be informal. I am trying to capture your thoughts and perspectives on being a female adult learner over the age of 25 while taking courses that include technology based assignments. Your responses to the questions will be confidential. I am requesting that you permit me to conduct an audio-recorded interview for about 20 minutes.

Transcriptions of interviews will be analyzed as part of my course. Copies of your interview recording and transcript are available from me upon request. This interview is voluntary. If you decide to take part now, you can still change your mind later. Being in this interview would not pose any risks beyond those of typical daily life. There is no benefit to you. However, your participation will be a valuable addition to the research and findings and could lead to possible technological interventions for female adult learners at colleges and universities across the country.

Interview recordings and full transcripts will be shared with each interviewee, upon request. Transcripts with identifiers redacted will be shared with my university faculty along with my analysis. The interview recording and transcript will be destroyed as soon as I have completed my course.

All the information you provide is considered confidential and will not be shared with anyone within your unit, the entire chain of command or any others in the private sector. Please email me at the following email address to let me know whether you agree to participate: Tamela.wilson@waldenu.edu

Once I receive your response, I will provide you with additional instructions about the study. Again, I thank you for your consideration and I look forward to hearing from you.

Sincerely,
Tamela Wilson, PhD candidate

Appendix C: Semi-structured Face-to-Face and Phone Interview Questions

The following question guide was developed to conduct research with female adult learners over the age of 25 who attended colleges and universities in the United States. Interviews will be conducted with 12 female adult learners who may or may not have graduated from degree programs. The purpose of the interview is to determine their perceptions of the effects of their level of technical competence on their ability to complete courses in their degree programs.

Semi-structured Interview Questions

1. How successful do you feel you were in the degree program you were enrolled in?
2. What barriers or challenges did you face in technology-integrated courses as a female adult learner over the age of 25 and how did you contend with them?
3. What level of technical competence do you feel you possessed during your time in the degree program you were enrolled in and what skills were you lacking if any?
4. How do you feel your level of technical competence affected your ability to complete the courses you were enrolled in?
5. How were you able to cope with the technical demands you faced in your courses?
6. What resources do you feel should be available to adult learners at colleges and universities to assist with their level of technical competence?
7. How do you feel females and males differ as it relates to their level of technical competence?
8. Do you have any questions about the use of this interview?

Appendix D: Participant Review and Validation

Name of the Study: Perceptions of the Effects of Technical Competence on Female Adult Learners

To: Participant Name

Enclosed is the transcript of our interview session(s) that was/were recently conducted as part of this study on experiences the perceptions of female adult learners over the age of 25. Please review it for its accuracy and make note of any statements, words, or phrases that you feel are inaccurate or did not properly represent your thoughts and feelings. Feel free to make comments in those areas where you feel need correction. After you have made your comments or if you feel the material is accurate and a true representation of our session, please indicate by placing your initials (typed or printed) in the appropriate line.

You may return this document to me in any electronic form with a signature as a scanned image or .pdf file attached in an email to: Tamela.wilson@waldenu.edu. You may also return it to me with a digital signature by completing the information at the bottom of this email with your, printed name, today's date, and your typed name in the signature block along with today's date.

Please initial the correct statement below:

_____ I approve the interview transcript(s) as transcribed and printed. I elect not to review it.

_____ I approve of the interview transcript(s) as transcribed and printed with changes as noted. (Please attach your comments or notes or list them in your email reply)

_____ I disapprove of the interview transcript(s) in their entirety and do not want them included in the study.

Printed Name	Date
Signature of Participant	Date
Researcher Signature	Date

Appendix E: Mapping Matrix

Research Question	Data Collection Tools	Data points Yielded	Data Source	Data Analysis
RQ1. What are female adult learners' experiences regarding technical demands of their higher education online degree programs?	Interview Protocol	What barriers or challenges did you face in technology-integrated courses as a female adult learner over the age of 25 and how did you contend with them? What level of technical competence do you feel you possessed during your time in the degree program you were enrolled in and what skills were you lacking if any? What resources do you feel should be available to adult learners at colleges and universities to assist with their level of technical competence?	Interview Transcripts	Inductive analysis with open coding

(table continues)

RQ2. How do female adult learners perceive the technical demands of their higher education degree program and their impact upon successfully completing their program?	Interview Protocol	How successful do you feel you were in the degree program you were enrolled in? How do you feel females and males differ as it relates to their level of technical competence?	Interview Transcripts	Inductive analysis with open coding
RQ3. How do female adult learners cope with the technical demands of their higher education online degree programs?	Interview Protocol	How were you able to cope with the technical demands you faced in your courses?	Interview Transcripts	Inductive analysis with open coding
RQ4: How do female adult learners believe the technical demands of their higher education degree programs influence their successful completion of the program?	Interview Protocol	How you do you feel your level of technical competence affected your ability to complete the courses you were enrolled in?	Interview Transcripts	Inductive analysis with open coding