TEACHING AND LEARNING TECHNOLOGY AND NEW MEDIA IN A COMMUNITY-BASED PROGRAM: ADULT EDUCATORS AND OLDER LEARNERS' EXPERIENCES

by

Regina Hernández

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Committee Members:

Clarena Larrotta, Chair

Joellen E. Coryell

Jovita M. Ross-Gordon

Arlene F. Serrano

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DEDICATION

To my beloved ancestors-

Reynaldo and Concepcion Jimenez

Jose Luís and Isabel Hernández

Susanna Jimenez English

Armando and Eloise Jimenez

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ABSTRACT

This qualitative case study documented the experiences of two adult educators and four older learners' teaching and learning technology and new media in a community-based program in Texas. The research questions guiding this study included: (1) What can we learn from looking at the educational efforts of a community-based programs offering technology instruction to older adult learners? (2) What is the role of new media and technology in changing older adults' lifestyles? (3) What are the motivations of older adults to venture into the use and exploration of technology and new media?

Data were collected from individual interviews, observations, documents, and the researcher's journal. Data analysis followed narrative analysis strategies and was driven by the study framework. Thus, study findings are presented in light of lifelong learning theory. Specifically, chapter IV describes the experiences of the instructors and learners as they teach and learn technology and new media. It also presents study findings in light of three lifelong learning principles: (a) learning for a more highly skilled workforce and strong economy, (b) learning for a better democracy and an inclusive society, and (c) learning for a more personally rewarding life. Chapter V presents the points of intersection between instructors' and learners' perspectives in relation to the learning of technology and new media. This last chapter also offers recommendations for practice for program administrators and adult educators as well as suggestions for future research.

I. INTRODUCTION TO THE STUDY

It was during Christmas of 2013 when Tía *,the Spanish word for Aunt, Nora sent me a friend request on the social media site Facebook. Nora's Facebook friend request was a surprise because she never used or showed interest in new media. All of my memories of her were at family events and celebrations. Naturally, I accepted her friend request. The next day I visited Tía Nora and Tío Enrique (her husband) at their house in Eagle Pass, Texas.*

Nora and Enrique have been married to each other for over 60 years, and their house is a hub where family members who live in Eagle Pass go daily. At the kitchen table, I asked Nora how she accessed Facebook without an Internet provider. She explained, "The kids were here. And they showed me how to get into it with my phone. How to open it up. I was fascinated." She continued, "Sometimes, we're here at the table, and we're discussing stuff, and we don't know the answer to a question. Mari, my granddaughter, goes into that Google. Like that, 'Grandma, this is the answer.' That's what I would like to learn how to do... to get information! It's just that I don't understand it yet. You know if I sat down and said 'teach me how this works,' maybe I would have more fun with it. I like this new technology, but I get frustrated. I don't know how to work my cell phone. They'll send me pictures and say, 'Grandma, I sent you a picture.' But I can't find it, I'm in the learning process."

"See that's a good thing about that," Enrique added,

You can send a picture of a person. Keeping in touch. Like my mom. She lost her brother. Never saw him again. And she would cry just about every day when she would remember him. We left different announcements at different radio stations. If the

technology that exists today existed back then, chances are we would have found him really fast, but we never did. He and my mother were the youngest one of all the family. Mom died, she was what, 72 and we never met him, and he never met the family, no one. Because there wasn't this type of technology, you lived. Back then, people, from here to there, moved around from one place to another. We did, for the longest. So, in order to get in touch, like with my mother-in law, we had to go to a public phone, whatever. It was kind of expensive. That's an advantage, a good thing about it. Today, all you gotta do is pick up your phone, and you're there, you know.

Nora explained, "It's good for emergencies."

Enrique replied, "I can always call Nora. And she can call me to make sure I'm ok. And that's the only reason that I got it."

Narratives about the experiences of older adults for avoiding or adopting new media have the possibility to close the digital divide so that older adults can take advantage of self-directed learning. This conversation with my aunt and uncle about their purpose for learning and using new media for the first time in their lives was very insightful and intriguing. The stories Nora and Enrique told me provided a context of their unique learning needs and motivations for using new media in the community where they live. Older adults grew up in different socio, cultural, and historical contexts than younger generations and were exposed to different distributions of domestic information and communication technologies (Chen, Lee, & Kirk, 2013). Enrique's personal narrative about his lost uncle illustrates the limited resources that existed prior to new media and his purpose for using new media today. The concerns from an older adult learner's perspective connect to a larger social problem that must be considered in order

to close the digital divide. Many older adults have not learned to use new media at school or in the workplace (Slegers, van Boxtel, & Jolles, 2007). I wanted to investigate existing efforts to include older adult learners and how they encourage these individuals to adopt new media in their daily lives. I also wanted to learn about the forces that drive older adults to venture into the use and exploration of technology and new media. Today, new media literacy is a concern for all human beings regardless of age, socioeconomic status, culture, or educational background.

Statement of the Problem

Age, education, technical knowledge, and technological anxiety can affect interest in new technologies (Wager, Hassanein, & Head, 2010). Often new technologies have too many features, some of which either intimidate older users or are not appreciated by them because they don't see their usefulness (Huber & Watson, 2014). Only 18% of seniors report feeling comfortable using a new technology device such as a tablet computer or smartphone (Smith, 2014, p. 4). However, there is a trend toward increasing use of the Internet through mobile devices such as smartphones and handheld tablet devices rather than laptops and personal computers (Barnard, Bradley, Hodgson, & Llyod, 2013). We currently live in an era of abundance of digital technology (Barnard et al., 2013); technology is more affordable than ever and more ubiquitous in everyday life (O'Brian & Scharber, 2010). Older adults make up the fastest growing consumer segment of Internet users (Wager, Hassanein, & Head, 2010) making it imperative to study efforts to assist them gain familiarity and feel more comfortable using both technology and new media.

According to Smith (2014), a substantial majority of seniors express trepidation about using new digital tools or devices without assistance. Among seniors who do not currently own a smartphone, a tablet computer, or an e-book reader, just 13% would feel comfortable attempting to use a new technology device without assistance (Smith, 2014, p. 12). These adults also report seeking assistance from a friend, calling the help line, or contacting technical support (Huber & Watson, 2014). This literature supports the need for providing instruction to older adults on the use and incorporation of new media and technology in their lives.

A report about the use of technology by older adults published by the Pew Research Center (Smith, 2014) described the results of a large survey conducting a unique exploration of technology used by Americans ages 65+ compared with the younger population. One of the major findings was that 59%, more than half, of older adults are Internet users (p. 2), yet there are distinctions in their technology adoption patterns, such as age, affluence, and education. There are a number of personal and social factors that influence older adults' purchase and use of technologies. The Pew Research Center (Smith, 2014) reports an emergence of two different groups of older Americans. The first group, which leans toward younger, more highly educated, more affluent older adults, has relatively substantial technology assets, and also has a positive view toward the benefits of online platforms. The other group, which tends to be older and less affluent, and more frequently beset with significant health or disability challenges, is largely disconnected from the world of digital tools and services, both physically and psychologically. These findings highlight the need for additional research to discover the role new media may have in improving older adults' lives.

Another study by Barnard et al. (2013) found that even though older adults report a willingness to adopt technology, usage data suggest they are part of the digital divide. This characterizes the distinction between older adults who use and do not use technology. Some of these adults never learned this technology at work and therefore lack an existing foundation of knowledge on which to build. Others feel isolated because they do not have access to helpful resources to teach them how to use new technology.

There is a lack of training programs for older adults to acquire necessary skills to use new media and technology. Huber and Watson (2014) conducted a study about technology and education among a sample of 77 adults between the ages of 52 and 92 who attended a week-long life-learning event at Indiana University. Implications and findings from Huber and Watson's research found there is little data about design issues related to technology and older adults. Older adults are a unique and growing segment of the population and have sometimes been ignored in the design phase of some popular information technology products (Wang, Pei-Luen, & Salvendy, 2011). Huber and Watson (2014) explain that older adults are very interested in taking advantage of technologies if they perceive them to be useful. All this information highlights the need for further research about: a) possibilities that new media have for older adults, b) how they can take advantage of these possibilities, and c) ways to help them to get involved in self-directed learning strategies.

Few studies have focused on the needs of older adults regarding new technologies and the usefulness of the Internet. Abad (2014) proposed a number of new methodological approaches to tailor the design of literacy programs for older learners based on criteria such as degree of autonomy and possibilities for enjoying everyday

life. Abad (2014) found that most projects directed toward the digital divide focused on E-inclusion linked to E-learning, but few studies have explored the needs of older people regarding new technologies and learning programs which could help them adopt new technologies to improve the quality of their daily lives.

Research Questions

1. What can we learn from looking at the educational efforts of a community-based program offering technology instruction to older adult learners?
2. What is the role of new media and technology in changing older adults' lifestyles?
3. What are the motivations of older adults to venture into the use and exploration of technology and new media?

Definition of Relevant Terms

Community-based education refers to programs providing adults with learning opportunities on a specific issue they believe to be important in improving life in the community (Merriam, Caffarella, & Baumgartner, 2007).

Digital divide centers on people's have access to digital technologies and also on the degree to which people succeed or struggle when they use technology to try to navigate their environments, solve problems, and make decisions (Horrigan, 2016).

Llifelong learning is a process of transitions actualized through experiences that adult learners go through life; it refers to learning for life and learning even at an old age (Chapman, McGilp, Cartwright, Souza, & Toomey, 2006).

New media refers to the Internet, social and professional networking, online websites, blogs, tablets, smartphones, online applications, and other digital mobile devices (Madden, 2010).

Older learners include adults who are 50 years of age and older (Madden, 2010).

Social media are social networking sites such as Facebook, Pinterest, and Twitter (Madden, 2010).

Purpose of the Study

The goal of the study was to describe the experiences of instructors and learners in a local community-based program offering instruction on technology and new media for older adults. The main goal was to provide insight into the stories of educators and learners as they explored and learned about technology and new media. The study allowed to gain a better understanding of what is being done to assist older adult learners to incorporate technology and new media in their daily lives. The study also reported on the motivations of these adults to learn how to use technology and new media. The end goal was to contribute to the literature in the field of adult education, specifically, as it relates to the training older learners about technologies and how to assist them to continue to participate in modern society and provide them with wider access to technology. The focus of the study is on the older learners, their needs, and points of view.

Researcher's Background

As a child, my parents told me many stories using learning as a recurring theme. One story my mother often told was of the time when my grandmother took the United States Citizenship test in English even though she had always been a monolingual Spanish speaker. She attended evening classes to learn English for the test. Another story was about how my grandfather was promoted from working as a fieldworker to ranch mechanic, eventually becoming a certified Chevrolet mechanic. The stories about

my grandparents come to my mind when I think about older adult learners who find life events forcing them to return to education or participate in education initiatives to update their skills. Sometimes a new part-time job or volunteer activity creates a need to learn new skills. In other cases, the responsibility of caring for a family member who becomes ill is the reason for acquiring new technical skills, or it may be a simple desire to keep up with younger relatives as they reach out to their elders through technology. These are some examples of the many reasons adults seek education to fill a gap or achieve a personal goal related to their status in community or job demands.

My interest in new media began when I was a three-year old child attending evening computer programing classes with my mother at the university. The classes were part of a federally funded program called Women in Science. The program was created in an effort to increase the enrollment in the science department, particularly of women who had no background in science. Because of my mother's participation in the computer programing class, I learned how to use computers and the Internet at an early age.

As a middle school English Language Arts and Reading teacher, I use storytelling as a method of instruction. Over the past ten years, I have learned to use a variety of techniques to address diverse learning needs for both students who are native English language speakers as well as students new to the United States and who speak other languages. Narratives in literature use and create interesting, engaging, informative, and practical learning opportunities. I incorporate my background in radio, television, and film to create unique adaptations of the literature using new media. The catalyst for my focus to include older adults in learning and using new media independently developed after meeting my students' extended family members. Older adults often had missed the

opportunity to learn and use technology when they were students in public schools. Oftentimes, older adults are the legal guardians of their grandchildren and do not know how to access the Internet. This is of particular importance because the Internet gives guardians access to their child's academic reports and social interactions. As a teacher, I observed the need for older adults to have opportunities to learn how to be independent new media users.

I believe that including older adults in the use of new media and technology can be beneficial for older adults and for the rest of the community because this technology provides a digital platform for people to share their personal stories and life experiences. This can nurture a deeper understanding of the past and facilitate relationships between oneself and others. Using new media and technology to foster relationships can contribute to an increased quality of life.

Theoretical Orientation

The framework of lifelong learning rests upon the ideals that learning is democratic in nature and seeks liberation from inherited authority (Chapman, McGilp, Cartwright, De Souza, & Toomey, 2006). Lifelong learning theory informed the dissertation by providing the framework to study. I used the lifelong learning framework to analyze the conditions in which instruction on the use of new media and technology was provided to older learners.

According to Chapman, et al. (2006) lifelong learning embraces three overarching principles to keep in mind: "learning for a more highly skilled workforce and strong economy, learning for a better democracy and an inclusive society, and learning for a more personally rewarding life" (p. 152). The first principle emphasizes the connection

between lifelong learning and promoting skills and competencies necessary to develop both general capabilities and specific abilities to perform given tasks. Second, lifelong learning is perceived as an intrinsic element of a healthy democratic society that appreciates the individual worth of its diverse population. Third, the ongoing expansion of one's cognitive range throughout one's life tends to result in deeper levels of satisfaction and positive relationships with others. From this view, lifelong learning offers the opportunity for people to continually expand their learning foundations by incorporating new knowledge and experiences. Lifelong learning embraces the idea that people are living longer with opportunities for creating several sources of income to maintain or improve economic status.

Learning is a process of transitions actualized through experiences (Chapman, et al., 2006). Lifelong learning and development are influenced by three major factors: biological and environmental factors, historical factors associated with the events and contexts of each passing era, and life events specific for each person. Life events are cumulative, and their influence on learning and development increases steadily from childhood to old age. Lifelong learning is a complex and multifaceted process with implications for an aging population that need to be understood more thoroughly. For many older adults, learning occurs in situations and settings far removed from the traditional classroom. As a result, any exploration of lifelong learning requires a broad view of learning that goes beyond formal and institutional learning to investigate learning that takes place among communities or within a variety of social networks (Alfred, 2009). Lifelong learning affects how older adults learn and construct knowledge from their interactions with social networks and ties (Chapman et al., 2006). The concept of

networks provides an approach to navigate new or unexpected issues and stressed the idea of community as the common principle of connection between institutions, organizations, agencies, and people. Alfred (2009) reports that community education is a well-accepted context for adult learning. For example, members of the middle and upper classes have long capitalized on material and human resources characteristic of social networks to advance their interests. Through this sense of community then, we see that lifelong learning produces a sense of belonging, and offers opportunities for personal fulfillment (Chapman et al., 2006).

Learning is a defining, fundamental condition of human growth and development; it is not an optional or incidental function of life (Skilbeck, 2006). Most instructional designs for adult learning reflect a communication paradigm that focuses on data and rationality (Burgess, 2009). However, using innovative, non-traditional, but relevant approaches to literacy and technology strengthens the learning process (Chapman et al., 2006). For instance, technology and new media programs that use social networking give older adults increased access to social support systems, expand their networking opportunities, and contribute to a more satisfying learning experience (Burgess, 2009). The lifelong learning framework enables older adults to enjoy activities which they may have either laid aside or always wanted to do but were previously unable to do. Lifelong learning promotes ownership of learning, which, in turn, fosters self-fulfillment. Participating in network relations reinforces self-identity, and this identity capital has been found to be essential for maintaining mental health and negotiating essential resources (Alfred, 2009). Identifying, creating, and linking older adult learners with opportunities for them to share what each brings to learning expands their

opportunities and improves their experiences (Burgess, 2009). Technology and new media can bring older adult learners together on the basis of mutual professional or social interests (Burgess, 2009).

As people mature, lifelong learning networks remind older adults they are in a process of transition, not an ending (Wolf, 2009). Networking facilitates the flow of information from those with access to those with a need to know. Lifelong learning enables older adults to work consciously at extending their intellectual, vocational, and personal horizons by seeking to understand and grasp some of the more significant advances of recent times, which have done so much to affect and transform their worlds (Chapman et al., 2006). The environment in which people live changes rapidly, and that change makes demands on individuals and groups to learn in order to keep abreast (Jarvis, 2010). The development of knowledge in the context of technology and new media and the practice of social networking throughout life promotes social cohesion.

New media and technology hold great promise to maintain autonomy and increase quality of life (Sleger & van Boxtel, 2013). Older adults are a fast growing consumer segment of new media and technology users (Wager, Hassanein, & Head, 2010), but a substantial majority of seniors express apprehension about using digital tools or devices without assistance (Smith, 2014). A study by Barnard et al. (2013) found that older adults report a willingness to adopt new media and technology; however, some of these adults never learned this technology and do not have the prior knowledge to build on this knowledge, or they lack access to helpful resources to teach them how to use new technology. There is a lack of training opportunities for older adults to help them acquire necessary skills to use new media and technology. Huber and Watson (2014) found little

data about design issues related to technology and older adults who have sometimes been ignored in the design phase of popular information technology products. Few studies have focused on the needs of older adults regarding new technologies and, specifically, on the usefulness of the Internet.

Dissertation Roadmap

Chapter One introduced important aspects such as the purpose of the study, the research questions, the researcher's background, and the lifelong learning theoretical orientation. Chapter Two covers the definition of community-based education and what community-based education offers older adult learners. It also provided a review of efforts to include older adults in the use of technology and new media, and other topics such as older adults' attitudes towards technology and new media, learners' motivation, benefits and challenges of learning technology. Chapter Three, methods, explains the overall study design, data collection and analysis processes. Chapter Four presents the study participants, two instructors and four older adult learners. It also presents study findings in light of three lifelong learning principles of (1) Learning for a more highly skilled workforce and strong economy, (2) Learning for a better democracy and an inclusive society, and (3) Learning for a more personally rewarding life. Next, Chapter five, discusses responses to the research questions and the instructors' and learners' shared perspectives about learning and using technology and new media. This last chapter also offers recommendations for practice for program administrators and adult educators as well as suggestions for future research.

II. TECHNOLOGY AND NEW MEDIA FOR OLDER ADULT LEARNERS

This study seeks to contribute to the lifelong learning knowledge base, particularly as it relates to the experiences of older adults learning to use technology and new media. The study focuses on personal experiences of adult educators and learners in a community-based program teach and learning how to use new media and technology. This review of the literature starts with a discussion on community-based education and what this type of education has to offer to older adult learners. Next, I discuss the literature describing the efforts to include older adults in the use of technology and new media. These efforts include new methodological approaches to design instruction that focuses on the autonomy of older adults and new possibilities for enjoying everyday life. Then, I report on the attitudes of older adults toward new media, followed by a section on their motivation to learn and use technology and new media. Another section of the literature review presents the benefits of using new media and technology for these adults. After this I discuss the challenges older adults encounter using new media and technology followed by a section on government programs available to train older adults. The final section of the chapter presents a summary of the main points discussed in the literature review.

Community-Based Education

Community-based education is typically offered by places such the community center, the local library, the workplace, colleges and universities, public schools, religious settings, military bases, non-profit and cooperative agencies, government agencies, and shelters for the homeless. The main goal of most organizations offering community-based education is to improve the life conditions of a group of people and address a problem

affecting a particular community (Merriam, et al., 2007). Community-based programs often offer free classes to facilitate access to education, and provide services to a wider range of learners (Tisdell, Taylor, & Sprow, 2010). Financing for these programs usually comes from local, state, and/or federal funds, nonprofit institutions, for profit institutions, military institutions, churches, community colleges, cooperative extensions, and labor unions (Tisdell, et al., 2010). In addition, classes are delivered largely in face-to-face meetings, in a variety of integrated face-to-face and online formats. A wide range of images and ideas come to mind about community-based education.

Jarvis (2010) explains "community" as something intrinsically good and right (p. 56). Freire (2000) maintained that educating community should also focus on promoting critical awareness of the learners' false consciousness and their social condition. In becoming aware learners share a common goal focusing on social action and change for the betterment of the community. In addition, Chapman, Cartwright and McGilp (2006) explained that the survival of communities and whole cultures is dependent on the intellectual, moral, and social qualities of their members, fostered and sustained by community education.

Neville, O'Dwyer, and Power (2014) conducted a qualitative study into the social value of community-based education. The data gives an insight into how community education provides adult learners with a sense of self as well as an improved quality of life (Neville, et al, 2014). Attending lifelong learning classes for the elderly allowed them to continue pursuing various education interests. The relationship between participation in community education and secondary benefits for learners' children is apparent in the data. Community education offers the individual learner and families positive influences

on children's education, the transmission of a new view of education in the context of a lifelong process, improved family communication, and affirmative changes in family dynamics. Community education has contributed to effective communication with school teachers and principals, and formal learning being supported in the home environment. Community education would appear to be playing a part in normalizing learning in the family, and also helping families.

In recent years there has been a tremendous growth in non-formal learning for seniors because people are living longer (Jarvis, 2010). In 1975 the Elderhostel was created to organize educational travel for retirees. Elderhostel caters for seniors who want to travel and learn local knowledge at the same time. By 2006 Elderhostel offered some 8,000 programs throughout the world to about 160,000 members (Jarvis, 2010). Its success reflects the significance of globalization and the wealth of current retirees.

Efforts to Include Older Adults in New Media Learning

Appreciating and taking into consideration the learner's prior knowledge and experience is a basic tenet for adult educators (Galbraith, 2004). Following his own research into the effectiveness of new media literacy programs for older adults, Abad (2014) proposes a number of new methodological approaches to their design that focuses on the autonomy of older adults and new possibilities for enjoying everyday life. First, Abad (2014) proposes analyzing the effect new media has on the user. Second, Abad recommends recognizing public and private policies associated with new media literacy be involved in developing programs designed to improve quality of life for older people (2014). "The most critical actions that educators of adults can take are to recognize the equal importance of the various types of adult learning and advocate that people use them

in whatever situation or setting they find themselves" (Merriam et al., 2007, p. 51). Third, Abad notes that the design of training programs should start by selecting members to establish degrees of consensus that will govern decisions about course design and content (2014). This process requires people who are willing to think within a systems framework that emphasizes collective inquiry, dialogue, and action (Merriam, et al., 2007). According to Abad (2014), the main objective of older adults in the information society is to achieve a sufficient quality of life in old age.

In a study based on an intervention program that included concise computer and Internet training for 12 months, Sleger and van Boxtel (2013) found new media and technology usage by healthy older adults to be a safe activity, and suggested older adults should be stimulated to start to use new media and technology. The focus of the study was on the impact of computer and Internet use on several aspects of quality of life and autonomy of older adults. Sleger and van Boxtel (2013) recommend organizers of future intervention programs for older adults to consider the specific needs of their target groups before designing their programs. For instance, the lives of older adults with particular medical needs may become much simpler when using appropriate service (Sleger & van Boxtel, 2013).

Chonody and Wang (2013) found reminiscence programs to be beneficial not only for older adults, but also for the rest of the community as well. A reminiscence program for older adults fosters intergenerational connections through new media. The evaluation utilizes participants' stories, focus groups conducted with group members, and responses from social networking websites. The opportunity to tell one's story can foster a deeper understanding of the past and facilitate relationships between oneself and others

which, in turn, can contribute to an increased quality of life (Chonody & Wang, 2013). Reminiscence recalls memories or stories in order to facilitate adaptation in current circumstances (Chonody & Wang, 2013). The reminiscence program, held at a senior center in the northeastern United States, was designed to empower people aged 50 and older through two primary objectives. First, the program provided a platform for them to share their stories and their perspectives on life. Second, the sponsors wanted to lead social services into the digital age by bridging traditional roundtable interaction and modern digital communication. This program sought to connect seniors to younger generations through storytelling and engage volunteers with an emphasis on digital team building and leadership training. The program successfully facilitated the use of technology by older adults who participated in the program, generated higher levels of intergenerational engagement, and improved the health and wellness of participants by increasing self-esteem and socialization (Chonody & Wang, 2013). A total of 26 older adults participated in the ten-month long reminiscence program. Participants' age ranged from 65 to 85. The authors used content analysis to analyze the narratives of stories to ascertain common elements. Three themes emerged from the stories: a developmental time period, reflections on the present, and other reflections on the past (Chonody & Wang, 2013). Overall, these themes illustrate that the program achieved its goal of intergenerational connection, demonstrating younger generations have a genuine interest in older adults and take pride in their accomplishments. Mechanisms such as blogs, Facebook, and Twitter can be effective ways to memorialize thoughts and memories because they offer a virtual means of access for community members to get to know older adults (Chonody & Wang, 2013). Learning is a lifelong process, and older adults

are capable of learning how to use new media and technology even at a very advanced age **(**Chen, et al., 2013). Older adults should be included in the use of new media and technology because it shows the potential in fostering intergenerational relationships and improvement in their quality of life.

Attitude Towards Technology and New Media

Positive experiences with everyday new media and technology can lead to a positive perception that consequently has the potential to help older adults with some of their age-related problems and assist them in maintaining their autonomy. Being able to use modern, everyday technology is important to the autonomy of older adults (Sleger & van Boxtel, 2013). According to the literature, older adults are very interested in taking advantage of technologies that they perceive to be useful (Huber & Watson, 2014). Perceived usefulness has been reported as the major factor predicting people's acceptance of technology (Wang et al., 2011). Teaching older adults general technological skills may be an effective strategy in improving their use of everyday technology (Sleger & van Boxtel, 2013). Chen, et al., **(**2013) report that many older adults state they are too old to learn new media and technology, have never used it before, it is useless, and it is too complex. The most significant barrier was believing themselves to be *too* old to learn new technologies (Barnard et al., 2013). Following age-related barriers, anxiety and alienation also play a role in preventing older adults to adopt changing technologies (Barnard et al., 2013). Seniors who have never used the Internet report having no interest in learning how to use it and often doubt its usefulness. Older adults with no previous technological experience are easily confused by technology because they do not have a computer, digital mobile device, or Internet connection. They frequently use lack of time

as an excuse for not learning how to use new technology. However, other older adults interested in learning, keeping up to date, and who value communication were more likely to learn about technology (Wang et al., 2011). They began using computers because technology was associated with modern life (Wang et al., 2011). The user's perception of how difficult new media will be to use and how long it will take to learn how to use the system is related to both past experiences and the current need to learn new media (Barnard et al., 2013).

As people grow older, they tend to feel isolated. Fulfilling such basic needs of older adults is often a source of influence in actions and attitude (Chakraborty, Vishik, & Rao, 2013). In a study by Chen, et al. (2013) older adults were found to use information technology to strengthen family relationships and gain positive emotional feedback from their close support network. Chakraborty and collaborators (2013) explain that social media platforms can help older adults overcome their general anxiety, fear of unknown solicitors, or aversion to any kind of technology related risk. Barnard et al. (2013) adds that the user's perception about how difficult it will be to use the application and how long it will take to learn the system is related to factors of compatibility (past experiences and needs), complexity (difficulty of understanding and use), and the ease-of-learning (p.1718). Therefore, positive experiences with everyday technology can lead to a positive perception of new media and technology.

Motivation to Engage with New Media and Technology

The reasons why adults are motivated to engage with new media are many, complex, and subject to change. The Pew Research Center (Madden, 2010) reported that roughly half (47%) of new media users ages 50-64 and one in four (26%) users age 65

and older use social networking sites (p. 2). These results are based on data from telephone interviews conducted by Princeton Research Survey Research Associates International about Americans' use of the new media. Furthermore, Chakraborty, et al., (2013) explain that a strong indicator of the adoption of social media within this age group is the proliferation of several chapters of the American Association of Retired Persons (AARP) on Facebook, bringing older adults together. Chakraborty and colleagues analyzed the privacy-preserving actions regarding information sharing for older adults on Facebook. They analyze the public profiles posted by older adults. Their analysis includes 134 profiles of older adults (aged 55 and above) and the profiles of 50 friends on their respective friends' pages. In total, by including the networks of these initial 184 profiles, the authors analyzed the information sharing behavior of 5,965 friends and conclude that this subculture suggests that aging drives individuals toward a shared community.

Similarly, Madden (2010) indicated those adults ages 50-64 who said they use a social networking site like Facebook or LinkedIn grew between April 2009 and May 2010. This author state: "...social networking users are much more likely to reconnect with people from their past, and these renewed connections can provide a powerful support network when people near retirement or embark on a new career" (p. 6). Madden further explained these renewed connections have the potential to provide a powerful support network when older adults near retirement or develop health issues such as chronic pain.

Another study by Wang, Rau, and Salvendy (2011) investigates variables contributing to older adults' acceptance of new media. Through a paper-based

questionnaire survey, these researchers discovered factors explaining and predicting older adults' new media acceptance behaviors. The participants were older adults (ages 60 to 75) recruited from organizations including Tsinghua Senior College, Tsinghua Senior Photographic Society, and the University of the Third Age of the Railway Ministry in China. The authors were able to collect 233 valid questionnaire responses. The results show that the top items older adults frequently use are: a) digital camera (90.1%), b) desktop computer (89.3%), and c) mobile phone (85.4%). The top activities for older adults' use of new media, are: a) sending or reading emails (87.5%), b) browsing current news and events (74.0%), and c) browsing or surfing the world-wide web (51.0%). According to older adults' self-reported scores, the factors of perceived usability, needs satisfaction, and support availability are relatively more important than public acceptance. "These products were popular and fundamental in the everyday life of older adults" (Wang, Rau, & Salvendy, 2011, p. 1088).

Another motivating factor for using new media relates to social identity. The Pew Research Center published a report about new media use by Americans ages 65 or older as it compares to the rest of the population (Smith, 2014). Two different groups of older Americans emerged as a result of the personal and social factors that influence purchase and use of technologies. The first group identified themselves as highly educated and affluent older adults. This group had relatively substantial technology assets, and a positive view of the benefits of new media. According to Chakraborty, et al., (2013) online social networks like Facebook and education history are a part of social identity for many older adults. Highly educated and more affluent older adults have built up their friends' circles through their years of prior work and professional contacts. Sharing

employment history with the public is a mechanism for reinstating old contacts. Therefore, making the employment history visible to the public in Facebook also contributes to increasing social capital. The second group tended to be older, less affluent, and often had significant challenges with health or disability. They were largely disconnected from the world of digital tools and services, both physically and psychologically.

Benefits of Using New Media and Technology

People need an incentive to consider expending effort to make a change (Melenhorst, Rogers, & Bouwhuis, 2006). Older adults learn and use new media and technology based on their perception of the benefits in using it for information, empowerment, personal development, and health (Baker, Bricout, Moon, Coughlan, & Pater, 2013). New media and technology have become an important link to larger communities of practice and professional connections for older adults. Older adults utilize these new media and technology for social and professional networking (Baker et al., 2013). Older new media and technology users access social networking sites like Facebook and Linkedin regularly to tag, categorize, or comment on online. The Internet is a communication tool, instead of simply an information source (Stellefson et al., 2013). Older adults are willing to share self-care information within selected social networks for the purpose of giving and receiving self-management information. The evolution of e-communities has led to greater opportunities for knowledge acquisition and social support, learning to an improved quality of life (Stellefson et al., 2013).

New media and technology in various formats has demonstrated relief from the pressures of aging. The research (Wilson, 2014) conducted a study to examine the post-

purchase usage of new media by adults aged 65 or older, during a six-month period. The findings revealed that communication was the primary reason for using new media. People reported it was effective at reducing loneliness and aided successful physical aging, particularly at a stage in life when health plays a more dominant role. Overall, reflections in the diaries indicated new media contributes to improved quality of life. Online self-help groups can enhance social capital in ways that in cases strengthen connections between older adults and health providers (Stellefson et al., 2013).

Perceived benefit is the primary incentive older adults learn about and use new media and technology (Melenhorst et al., 2006). New technologies hold potential to help older adults with some of their age-related problems and assist them in maintaining their autonomy (Sleger & van Boxtel, 2013). With respect to many of the everyday activities that may restrict older adults, the Internet facilitates autonomy. For example, the Internet provides practical information and access to health services. In addition to the facilitation of autonomy in everyday routines, the Internet also provides a way to maintain and improve one's social network and communication.

Challenges Using New Media and Technology

Older adults who lack the interest or ability to upgrade their technological skills are at risk of being excluded from adopting technological innovations. The management of new media and technology can present a challenge of older adults leading to their exclusion from participation (Patomella, Kottorp, & Nygard, 2013). Patomella et al., 2013 conducted a study that indicated key characteristics that make new media and technology more or less challenging to manage in everyday activities. The results report that in order for new media and technology to be less challenging for the user, it should

require the user to take fewer actions; provide the user with different modes of feedback that are not overwhelming; consist of a design that requires the user to handle simple commands; a design that requires management of a few components; and a design that is recognizable and intuitive (Patomella et al., 2013). One of the main findings is that more difficult new media and technologies require repeated actions by the user. Which suggests that there is a need for a redesign of new media and technologies so that they require the user to take fewer actions in sequence, as this could facilitate their use among older adults with or without cognitive impairments. Another finding is that different kinds of feedback facilitate the use of new media and technology, but also that too high frequency of visual feedback can hinder their management when many visual commands are presented to the user, this might be confusing and the user can have a difficulty in selecting and responding to commands that are required in order to continue the performance of the activity.

Chen et al. (2013) found that anxiety and lack of self-confidence were main obstacles for older adults to learn and use the Internet. Chen, et al., 2013 summarize the challenges to new media and technology use among older adults are a) frustration in the lack of lessons with learning and using new technology, b) physical and mental limitations, c) privacy and trustworthiness, and d) cost. According to Smith (2014), challenges older adults experience using any kind of technology lead to a disconnection from new media. In spite of the increased adoption of new media, older adults remain the most vulnerable in terms of online security and privacy (Chakraborty, et al., 2013). The Wall Street Journal reported that 2011 was a record year for investment scams for people aged over 50 (as cited in Chakraborty, et al., 2013). Fraud targeting older adults has

become even easier to commit through online channels. Furthermore, the rapidity of change associated with new media further contributes to the vulnerability of older adults.

New media designs are constantly being upgraded. Therefore, older adults must keep up with evolving designs of new media and an ever-increasing level of complex vocabulary. Huber and Watson (2014) report the results of a survey on new technology and education that revealed that the complexity of vocabulary and the design of mobile devices is more of a barrier for older adults than their decline in physical and cognitive abilities. Most older adults do not spend much time on the Internet and are not currently knowledgeable about the rapidly evolving designs that change how one uses iPhones, touch-screens, and web-enabled devices. These swift changes create confusion and make it difficult to keep up with knowing how to use new media (Chakraborty, et al., 2013). Over time, there are inconsistencies in terminology, navigation, and conventions between, or even within, types of new media (Huber & Watson, 2014). This leads to a substantial majority of older adults experiencing trepidation about using new media (Smith, 2014).

In addition, Wilson, Martin, Jones, and Schofield (2014) report that chronic pain is a prevalent problem for many in the older adult population. Their study explores a range of day-to-day living patterns and experiences of older adults suffering from chronic pain. The 19 participants wore a wearable camera to record their activities of daily living (Wilson et al., 2014). Written diaries and a semi-structured interview were also used to gather data. Participants discussed how chronic pain interferes with activities of daily living.

Government Programs to Train Older Adults

The federal Older Americans Act of 1965 has expanded over the decades to provide a broad foundation for aging network services (Kolb & Conway, 2015). Similarly, the growing number of ethnically diverse older adults with health issues points out to the need of providing adult education that keeps in mind these two conditions. Since 2000, the National Council on Aging (NCOA) has worked to promote healthy aging and have supported prevention programs that assist adults to improve their life conditions. Responding to demographic trends, the Obama Administration's $27 million American Recovery and Reinvestment Act (ARRA) will contribute to the Administration on Aging's (AoA) Health, Prevention, and Wellness Program agenda to improve health among older adults. In 2002, SAMHSA initiated funding to expand mental health programs for older adults. The grants are designed to increase, develop, and implement mental health services for people age 60 and older and build infrastructure to support an evidence based service system.

Summary

Lifelong learning through community-based education offers the individual learner to continue pursuing various education interests. Community education provides adult learners with a sense of self as well as an improved quality of life (Neville, O'Dwyer, & Power, 2014). This is a positive influence on the transmission of a new view for education in the context of a lifelong learning framework.

The section on the efforts to include older adults in technology education described the characteristics and approaches that these programs need to keep in mind to be effective. Thus, Abad (2014) highlights the importance of the instructional approaches

that focus on the autonomy of the older learner; recognize the public and private policies designed to improve quality of life; and select highly qualified instructors. Sleger and van Botexel (2013) advise organizers of community education programs for older adults to consider the specific needs of these groups before designing the programs. Being able to use modern, everyday technology is important to the autonomy of older adults (Sleger & van Botexel, 2013).

In regards to the attitudes toward technology and new media and the motivation to use them, the literature suggested that older adults are interested in taking advantage of technologies that they perceived to be useful (Hubert & Watson, 2013). As people grow older, they tend to feel isolated; technology and new media could assist them in providing a support network to fill more connected to others (Chakraborty, Vishik, & Tao, 2013). The literature illustrated the use of technology to strengthen family relationship and gain positive emotional feedback from the close support network when older adults engage in technology and new media usage (Chen, Lee, & Kirk, 2013).

The literature on the benefits of using new media and technology stated that older adults utilize new media and technology for social and professional networking (Baker et al., 2012). Training older adults on technology skills provided them with autonomy and possibilities to use it in everyday life activities (Sleger & van Boxtel, 2013).

Technology and devices to access technology are by nature challenging to older earners who are not familiar with them. In relation to the steps and processes required when using technology, Patomella, Kottorp, and Nygard (2013) suggested that new media and technology should require the older adult user to take fewer steps in

completing a task, handle simple commands, use a few components, and be intuitive or user friendly.

Finally, government programs dedicated to training older adults in the use of technology are still being developed and there are very few programs available. Community-based programs are federally funded but the budget they receive is still inadequate to serve the large amount of older learners and to provide access for all of them

III. METHODS AND OVERALL STUDY DESIGN

The goal of the study was to describe the experiences of instructors and learners in a local community-based program offering instruction on technology and new media for older adults. However, the focus of the study is on the older learners, their needs, and points of view. This chapter describes data collection, data analysis, and the overall study design and includes the following sections: Researcher's role, case study, setting, participants, data collection sources, data analysis, building trustworthiness, and ethical considerations.

Researcher's Roles

The qualitative researcher is similar to a detective because both the researcher and the sleuth experience an adventure ready for a discovery (Merriam, 2009). Qualitative researchers conduct research in natural settings, where things occur. Tolerance for ambiguity and self-reflexivity are essential characteristic for qualitative researchers. These qualities help the researcher understand the impact of factors such as gender, sexuality, ethnicity, theoretical approaches to observation, and analysis (Dewalt & Dewalt, 2011). In the effort to become flexible and reflective, the qualitative researcher was aware of the different roles I played when implementing research. Thus, I discuss the roles I adopted as a researcher.

Researcher as a Researcher

The goal of a qualitative researcher is to understand the nature of the phenomena (Dewalt & Dewalt, 2011). As the researcher, my goal was to build rapport with the participants to gain an understanding of how prior-knowledge influences the older adults' purpose for learning, specifically as it relates to adopting the use of new media. I

introduced myself as a researcher and registered as a FreeTech volunteer to interact with participants in a respectful and thoughtful way to encourage the participants to feel comfortable enough to their own stories. I examined the participants' narratives, specific actions, and products that indicated key concepts and components of the lifelong learning framework.

Researcher as a Learner

The researcher's perspective is also the learner's perspective. Qualitative researchers write their interpretations of participants' understandings of their world. As the learner, I observed and listened with attention to noting non-verbal cues and communication. A keen sense of timing and empathy are characteristics qualitative researchers use to build a foundation of rapport. In addition, I listened actively and wrote notes about the conversations, and sometimes offered a prompt when an aspect of the conversation touched on material important to the study (Dewalt & Dewalt, 2011). In order for the researcher to write descriptions that transport the reader to the time and place of the observations, it is important for the researcher to understand what is not explicitly stated. These are the kinds of data that are difficult, if not impossible, to identify in audio recordings. So, I observed and made notes of the nonverbal aspects involved in conversations, even when they were recorded. I wanted to identify the forces that drive older adults to venture into the use and exploration of new media. My objective was to discover the role of new media in improving the quality of life for older adults.

Researcher as a Tool and Filter of the Information

The researcher is the primary instrument and filter for gathering and analyzing qualitative data (Merriam, 1998). First, the researcher examines his or her own personal biases and understands how his or her authorship of text shapes and influences the ways in which readers understand the messages present in the text. In addition, researchers state their orientation, approach, and the boundaries of the study. I was careful to protect the identity of the non-profit organization and the study participants. I analyzed data through the lens of lifelong learning and the three research questions. Under this analysis, only findings relevant to the three lifelong learning principles and three research questions are reported.

Researcher as a Professional

As a professional, the researcher seeks to prompt change, take action, and understand the phenomenon under study, and often explores issues associated with political and social relations in a community, the structure of action, and the formation and composition of subgroups (Dewalt & Dewalt, 2011). I expected to report findings that can be disseminated among adult educators and used to improve new media training programs for adults. As a professional, I hoped to use the findings of this study to help instructors and program administrators to address the diverse needs of older adult learners, improve the learning experiences of the participants, and guide them into becoming more critically active citizens and users of technology and new media. Qualitative research focuses on discovering meaning and understanding the story as it unfolds. The nature of qualitative research is to get to know what it was like to have been there (Dewalt & Dewalt, 2011; Merriam, 2009). The researcher is the primary

instrument and filter of the information, deciding what is data and what is not (Merriam, 2009). Qualitative inquiry uses a holistic perspective to provide rich descriptions of the phenomenon under study. Merriam (2009) explains that it is important to collect data on multiple aspects of the setting to assemble a comprehensive and complete picture of the social dynamics of the particular situation or program.

Case Study

Case study research involves studying a case within a real-life situation and in a contemporary context or setting (Creswell, 2013). This approach to research involves researchers interacting with participants in their natural settings. Explaining the nature of case study, Merriam (2009) stated that "a case can be a person, an event, a program, an organization, a time period, a critical incident, or a community" (p. 40). Creswell (2013) adds that:

> in a collective case study (or multiple case study), the one issue or concern is again selected, but the inquirer selects multiple case studies to illustrate the issue. The researcher might select for study several programs from several research sites or multiple programs within a single site. Often the inquirer purposefully selects multiple cases to show different perspectives on the issue. (p. 99)

For the present study, I focused on the learning experiences of older adults through interviewing two instructors and four learners. The educators and learners constitute the case examining the experiences of older adults learning to use technology and new media to incorporate them in their daily lives. The organization "New Media Technology FreeTech" (FreeTech from now on) served as the bound system for the case study. It is

important to highlight that all names of places and people used in this dissertation are not the actual names but pseudonyms.

Setting

The overall setting for the study was a community-based education program or "FreeTech". This community-based organization offers two programs in three different locations; the programs are: (1) Tech Starters II and (2) General Technology. The Tech Starters II classes are offered in the morning and evening at the Henry Fernandez Education and Training Center and at the City Apartments. The General Technology class is offered in the afternoon at the Senior Activity Center's computer lab. Even though these are two different programs with different study participants, their concern and focus is the same, which refers to contribute to narrow the digital divide in order to build a more inclusive community in which older adults are able to participate actively, contribute to society, and respond to the demands of modern technology.

FreeTech

FreeTech is a nonprofit organization that receives federal and state funding to provide technology training to the community. FreeTech also offers low cost computer training for nonprofits, small business, and government staff. The population FreeTech served included adults ranging in age from 30 to 80 years old. FreeTech has eighteen sites; however, I only report on instructors and learners from three of those sites. Following ethical guidelines for conducting research, I requested and obtained permission to use FreeTech as the setting for my study. Nadine, the volunteer and outreach manager, assisted me recruiting instructors to serve as participants in my study. As a result, two instructors who were teaching new media and technology classes to older

adult learners volunteered to participate in the study: Andrea and Lori. Andrea taught the Level 2 Tech Starters classes and Lori was a computer lab instructor at the Senior Activity Center.

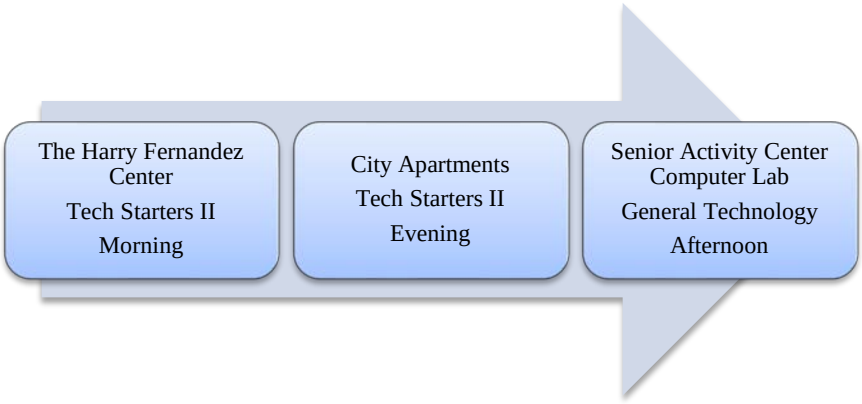

Figure 1. FreeTech Sites Participating in the Study

As illustrated above (see figure 1), study participant came from three different locations offering a variety of technology training courses. The Harry Fernandez Education & Training Center, The City Apartments, and The Senior Activity Center served as the sites where study participants were recruited. All three sites offered classes once or twice a week instructing learners on how to use technology in general, the learners' personal technology devices, and new media. The three sites offered alternative class times and locations for people to attend whichever was most convenient to them.

Harry Fernandez Training and Education Center

This education and training center provided public housing residents of all ages open access to technology through its computer lab and reading room. Six separate classrooms provided space for the Public Housing Authority and its community partners to conduct numerous classes and trainings on basic adult education, literacy, English as a Second Language (ESL), General Educational Development (GED), vocational training,

life skills, job training, homeownership information, and financial literacy training, among others. Additionally, a small amphitheater serves as event space for the community.

The City Apartments

This was one out of eighteen public housing developments managed by the local city Public Housing Authority. They partnered with FreeTech and the Public Housing Authority to bring affordable Internet access, computers, and computer training to families. Thus, FreeTech offered the Tech Starters course, which is a mobile technology program. The classroom at the City Apartments was a one-room building at the center of the apartments site. From the outside the building could be mistaken as the maintenance room for the apartment complex. Inside it had a kitchen for the apartment residents to use for celebrations. Learners used plastic fold out tables and fold out chairs to set up their learning stations. All learners used laptops; there was a projector and a screen, both portable since it was an improvised learning space. FreeTech provided all the technology and access to technology at the Housing Authority provided the physical space.

Senior Activity Center

The senior activity center functions as a recreation and special use resource facility for persons 50 years of age and older. The 26,000 square foot facility was the first to permanently house artwork provided through the city's Art in Public Places Ordinance. FreeTech trainers are available for one-on-one tutoring on a drop-in basis. Instructors help learners create and use email accounts, search hobbies and social services on the Internet, download images, and connect with friends and family using social media. There is no registration, appointment, or ID required. FreeTech offers free computer

training to anyone who wants to use a computer or may not have access to a computer without the help of FreeTech The computer lab trainer offers assistance to senior adults who come into the senior activity center computer lab asking for help with how to access a camera, send and receive photos by text messages, set up an email or a Facebook account, and how to access information from the Internet from various devices). This site is at a senior activity and ages of learners include only senior adults 50-80 years of age.

Study Participants

In an effort to identify potential participants for the study, I asked the instructors for referrals to help me connect with older adult learners since the instructors knew the learners and had access to them more easily than me. The instructors who participated in the study are full-time, paid adult educators working in community-based programs (see Table 1). This is an important factor for the study because it suggests they are in their jobs to stay. Andrea (pseudonym) teaches the advanced computer program called Tech Starters. Lori (pseudonym) is a computer lab teacher at the senior activity center. Andrea and Lori promote the use of new technology and media for older adult learners attending their programs, teach classes on this subject, and offer workshops periodically in the community. The two of them are genuinely committed to the work they do with and for the community.

Andrea is a Program Specialist at FreeTech and teaches the advanced computer program called Tech Starters II. She grew up in the Texas gulf coast. Shortly after graduating from college she started volunteering, then joined AmeriCorps literacy coalition of Central Texas. After her work at AmeriCorps, she stayed in Central Texas to further her time at FreeTech.

Lori is computer lab instructor for FreeTech and a full-time Gerontology graduate student. Originally from the northern part of the United States, she moved to south to complete her second semester of graduate school. During Lori's second semester, she contacted FreeTech and was placed as a computer lab teacher at the Senior Activity Center.

Table 1

Adult Educator Profiles

Educator	Credentials	Experience	Currently Teaching
Andrea	College Graduate Degrees in Business and Sociology	1 year teaching literacy at AmeriCorps 3 years teaching Tech Starters	Tech Starters II teaching Excel, Word, Power Point, Publisher, Google Sites, resume resources, job resources, and advanced Internet navigation
Lori	Undergraduate degree in sociology Master's student in a gerontology program	First year teaching at FreeTech	Computer class for seniors on using devices such as IPhone, tablet, and laptop. Assisting them to set up an email and a Facebook account and helping with job search related tasks such as writing a resume.

Andrea and Lori comprise what Patton (2002) describes as "intensity sampling" because they possess valuable knowledge and insider perspectives about the topic under

study. Intensity sampling requires the researcher to do some exploratory work in order to select cases of sufficient intensity to explain the phenomenon of interest (Patton, 2002, p. 244). I was able to visit and observe a couple of lessons with the two instructors. These exploratory efforts assisted me in narrowing the focus of my research and identifying potential participants for the study. In order to select the older adult learners for the interviews, I asked the instructors for referrals to help me connect with them.

Andrea recommended that I contacted Lisa, Julie, Diana, and Angie to participate as the adult learners for the study. All adult learners participating in the study were between 55-68 years of age. The adult learner participants who participated in the study were enrolled in the Tech Starters II classes. They were retired from the workforce, but continued to look for jobs, or wanted to help others find jobs.

On the other hand, Lori also recommended other students who were attending the computer lab class at the senior center. Unfortunately, even though there were some learners who loved sharing their learning and using new media and technology experiences, they did not want to be interviewed for the study. For example, there was one older adult learner who had lots to share but off the record. To summarize, none of Lori's students were included in this study since the characteristics for study participants included: a) be 55 years of age or older, b) own a digital tablet or any other device, c) want to learn to use technology and new media, d) be enrolled in one of the courses being offered or have attended at least three of the workshops already offered on the subject, and most important, e) they needed to be willing to provide consent to become study participants.

Adult Learners Participating in the Study

Lisa is originally from the Texas coast. She is a resident at a housing authority program in Central Texas. She wanted to live near her children and grandchildren. In October, 1999 Lisa earned her GED certificate and enrolled as a student at a community college in Central Texas.

Julie lived in Central Texas and a resident of the housing authority program. She started to learn about technology to gain better employment. After she completed the Tech Starters I class, she bought a tablet.

Diana is originally from out of state. She has four grandchildren, two great grandchildren, and one great grandchild. Her work experience included working with computers. She is a resident of the housing authority program.

Angie has two daughters and a twenty-two-year-old grandson. She is originally from Central Texas and relocated for her husband's job. Angie completed the FreeTech lab assistant program and became a lab assistant at a FreeTech site.

Data Collection Sources

As the researcher, I collected different types of data to ensure the research is reliable (Merriam, 1998). The data collection sources come from interviews, observations, documents and artifacts, and the researcher's journal. Table 2 on the next page maps out data collection sources and procedures.

Table 2

Data Collection Sources

Interviews	Observations	Documents	Researcher's Journal
Two 1-hour individual sessions with all 6 participants. One individual follow up interview with learners.	Two-hour class observations	Instructional materials, curriculum used, program flyers	Recorded ideas conclusions, and reflections about the research process
Open flexible conversations	Two times per instructor for a total of 4 observations	Collected during interviews and observations	Provide inside as to what went on in the study and the opportunity for preliminary analysis.
Audio taped	Computer typed using an observation protocol	Digital pictures/ or photographs	Notebook

Interviews

Researchers gain new insights into the participant's point of view when they conduct interviews (Dewalt & Dewalt, 2011). I conducted one individual semi-structured interview with each of the six participants and one follow-up interview. The interviews were one hour long and audio recorded (see Appendices A and B for sample interview questions). I also conducted follow up interviews (see Appendix C for sample questions) based on the information gathered previously. As the researcher, I listened primarily to gather information and follow the progression of thought natural to them. I asked open-

ended questions and avoided leading questions that suppose or suggest a specific answer (Patton, 2002). Interviews allow the researcher to collect the participants' experiences. This data collection method gives participants the opportunity to reflect on and share their learning experiences, and discuss questions about the topic at hand (Merriam, 2009). At the time of the follow up interviews, I conducted member checks by clarifying information from the first interviews. At this follow up interview, I also asked information about aspects not covered before and that seemed important once I have heard the audio of the complete interview.

Observation

During an observation, "the researcher is 'on,' with heightened awareness of the context and increased attentiveness to detail" (Dewalt & Dewalt, 2011, p. 137). I observed two-hour technology classes for adults. For example, in preparation to implement observations and to decide on the focus for these observations I conducted a two-hour observation of older adults learning new media and technology at the public library. It made me realize I should look for the following: performance of instructor, teaching atmosphere, learner and teacher interactions, and resources available for use.

Observations took place after the first interview, and I used an observation tool (see Appendix D for an example) based on teaching and learning. For the teaching portion of the observation, I looked at curriculum, instruction, resources utilized. In regards to the students, I wrote notes about the questions they asked, new media and technology they have and use, their participation, and engagement in the class. I used the observations to better understand the learning conditions where the classes took place. I was able to observe the resources provided by FreeTech instructors to conduct the

classes. The observations were also used to cross check data reported by the adult educator, learner and the actual practice. In this sense, the observations served as a triangulation measure for the study. They enhance the description of the context of the study and to better describe instructors and learners.

Documents

Documents are "a wide range of written, visual, and digital material relevant to the study" (Merriam, 2009, p. 139). They are ready-made and easily accessible sources of data that provide historical, demographic, and sometimes personal information unavailable from other sources (Glesne, 1999). For this proposed study, documents included excerpts from on-line curricula and other on-line materials used by the adult educators. The materials include emails, course descriptions, and assignment descriptions. These materials constitute a rich source of information that already exists (Patton, 2002). To implement the analysis of the documents, I used memo writing (Yin, 2011), writing comments and reflecting on the content of the documents to later triangulate what I see in connection to the class observations, and the interviews conducted with the study participants.

Researcher's Journal

A research journal is a product of reflective writing (Borg, 2001). The journal is a forum for reflection where ideas are generated and explored and discoveries made in and through writing. It is acknowledged as a useful tool for understanding the researcher's personal experience of the research process, professional activity, and growth during the study (Borg, 2001). The journal allowed me to recall and reproduce the thinking behind key decisions for the study. I took mental notes of specific words and information,

jotting notes during the conversation, and also noting non-verbal cues. My goal is to become immersed in the data and remain connected to the data while they are still fresh (Merriam, 2009). The journal provided a permanent account of all aspects of the research process to which I referred to at any time. This database of experience greatly enhances the researcher's ability to make informed decisions about the research process, provides a global picture of patterns and themes in the researcher's work and thinking, and also allows for both greater precision and wider use of the researcher's voice (Merriam, 2009). I kept an electronic journal and wrote entries as often as necessary.

Data Analysis

Analyzing qualitative data is an ongoing and recurrent process (Merriam, 2009). Ideal qualitative data analysis requires the data to be reviewed and analyzed as they come. This qualitative study focused on the efforts to include older adults in using technology and new media and used narratives provided by the participants for reporting study findings. I followed a deductive approach by utilizing the study framework as the compass for data analysis.

Once all data were converted to text by transcribing them I followed the five steps suggested by Taylor-Powell and Renner (2003) to conduct data analysis. These steps were: a) getting to know the data, b) focus the analysis, c) categorize the information, d) identify patterns and connections within and between categories, and e) interpret the data to bring it all together.

Getting to know the data involved listening to the recordings several times and reading the transcripts several times. This allowed me to gain a comprehensive understanding of the participants' stories. *To focus the analysis*, I utilized the lifelong

learning principles and the main research questions. This entailed compiling relevant data to illustrate the lifelong principles (e.g., learning for highly skilled workforce, learning for achieving a democratic and inclusive society, and learning for having a more personally rewarding life). *To categorize the information and to identify patterns and connections*, I pulled data from the interviews and the observations to build an individual matrix that would illustrate the three lifelong learning principles and the research questions. Once I was done building the individual matrixes, I examined them to see how they overlapped and determined that there were enough data for each of these categories. Next, *to interpret the data and bring the analysis all together*, I used the data from the matrixes and began constructing the first person narratives to illustrate the study findings.

Therefore, to write the report of study findings I started by constructing the first person narratives to introduce the study participants. The goal with these narratives was to utilize the data collected and provide a description of each participant to envision them as human beings and learners. The narratives attempt to transmit their personalities and unique interests for teaching and learning about the use of technology and new media. This study documented the participants' stories unfolding within their personal, social, and historical contexts.

After presenting the participants' stories I interviewed my insights as the researcher making connections to existent literature. The findings connected to lifelong learning principles were organized thematically into three principles: (1) learning for a more highly skilled workforce, (2) learning for a better democracy, and (3) learning for a more personally rewarding life. The most relevant data connected to the participants'

experiences and lifelong learning principles served to illustrate this portion of study findings.

Building Trustworthiness

Denzin and Lincoln (2005) explain that trustworthiness is established by looking after significant features of research design and implementation such as the credibility, transferability, dependability, and confirmability of the findings. Ensuring credibility of the study involves taking care implementing honest research and makes sure there is no deception on the part of the researcher toward the participants. Some reflection questions suggested by Denzin and Lincoln to establish credibility include: a) are the data sufficient to merit the researcher's claim? b) are there strong logical links between the gathered data and the researcher's argument and analysis? and, c) has the researcher made systematic comparisons between observations and between categories?

Transferability refers to the ability to transfer what is learned in a study to a similar setting and participants. In other words, it addresses the ability to apply findings elsewhere (Merriam, 2009). It is important that the researcher provides rich descriptive data useful for the reader to be able to transfer and extrapolate knowledge. Patton (2002) explains extrapolation as "...modest speculations on the likely applicability of findings to other situations under similar but not identical conditions. Extrapolations are problem oriented rather than statistical and probabilistic" (p. 225). Another measure to ensure the rigor of a qualitative study is through the use of triangulation. Merriam (2009) explains that triangulation "...using multiple sources of *data* [italics in original] means comparing and cross checking data collected through observations at different times or in different places, or interview data collected from people with different perspectives, or from

follow-up interviews with the same people" (p. 216). According to Patton (2002, p. 248), "triangulation can be attained by combining both interviewing and observations, mixing different types of purposeful samples…" The point is to test for consistency of findings. In the proposed study, triangulation occurred by collecting different data sources and by interviewing both educators and learners.

Ethical Considerations

There was little risk participating in the study. Nonetheless, I followed the procedures and guidelines required for ethical research (Patton, 2002). The research was conducted in compliance with the rules and protocols mandated by the Institutional Review Board (IRB). Study participants were informed about their right to stop participating in the study if they felt uncomfortable or decided they did not want to continue participating. With each case, informed consent was provided to, and acquired, the study participants with the understanding that they could discontinue the study at any time. Participants in the study signed the consent form and receive a copy for their personal record. They had time to read the consent form and ask questions so they could sign when they felt comfortable to participate in the study. Pseudonyms for the study participants and the settings of the community programs were assigned to protect the privacy and identity of all involved. All data collected was carefully coded and stored in a secure location for safety purposes.

The Tech Starters morning class had 6 adult learners enrolled. Two learners were older adults, but only one older learner agreed to participate in the study. The afternoon Tech Starters class had three adult learners enrolled and all three were older adult learners who agreed to participate in the study. This is how I got 4 older adult learners. Learners

were comfortable talking off the record, in my observation, but some adult learners did not want to be interviewed for the study.

Summary

This chapter provides a description of the methodology procedures that guided the data collection and data analysis. This chapter focused on describing the methods that were used in analyzing the case study of to discover the role of new media and technology in improving the quality of life for older adults. Chapter four introduces the two adult instructors and the four older adult learners. Excerpts that included information about their experiences as instructors and learners of new media and technology from their responses during the first and second interviews to various questions were interweaved together to construct the first person narratives. In chapter four, I discuss the highlights of the participants' narratives to make connections to existent literature.

IV. PARTICIPANTS' STORIES AND LIFELONG LEARNING PRINCIPLES

This chapter introduces the two adult educators and four older learners who were the study participants. The interviews along with notes taken during class observations, as well as documents collected onsite, allowed me to provide more detail about the context of the study and the study participants. The observation notes were helpful when creating the instructors' narratives to add more detail about the technology classes they offer for older adult learners. In addition, excerpts from the responses during the first and second individual interview were spliced together to construct first-person narratives for all six participants. These narratives provide the reader with the opportunity to imagine the participants as unique individuals. It is important to clarify that I focused on excerpts from the data that included information about their experiences as instructors or learners of new media and technology. Therefore, descriptions do not comprehensively cover their entire life journey or educational experience. In this chapter I also discuss highlights of the participants' narratives to make connections to extant literature. Discussion of the findings reported in the chapter analyzes the information provided by the six participants about the adoption of technology and new media use in the daily lives of older adults.

The second part of the chapter presents the study participants' stories in light of three lifelong learning principles. Excerpts from the learners' responses illustrate these principles looking at the learning and use of new media and technology. Since learning is "the process of making sense of life's experiences and giving meaning to whatever 'sense' is made" (MacKeracher, 2004, p.7), the participants' learning experiences are at the center of the discussion. I also provide guidance to the reader in the form of three

tables outlining salient examples illustrating how lifelong learning principles became evident in the learners' narratives. The three lifelong learning principles discussed here include: (a) learning for a more highly skilled workforce and strong economy, (b) learning for a better democracy and an inclusive society, and (c) learning for a more personally rewarding life. At the end of the chapter I summarize and discuss salient ideas from the narratives in relation to lifelong learning principles.

Adult Educators Participating in the Study

As described in the previous chapter, two adult educators (Andrea and Lori) agreed to participate in the study. They teach a variety of technology and new media classes for older adults under the same organization, FreeTech (pseudonym), in Central Texas. All locations and names provided by the participants have been concealed to protect the identity of individuals and institutions.

Andrea

The digital divide I observed in Central Texas has influenced my decision to help bridge this very apparent problem in our region.

My name is Andrea Price and I am in my late twenties. I was born and grew up in a coastal city in Texas. I moved to Central Texas shortly after graduating from a public university with a bachelors' in psychology and a minor in Sociology and Business Administration. The digital divide I observed in Central Texas has influenced my decision to help bridge this very apparent problem in our city. I'm a Program Specialist at a local non-profit here called FreeTech. I teach the advanced computer program called Tech Starters II. I started volunteering, then joined AmeriCorps literacy coalition of Central Texas

to further my time at FreeTech. Besides teaching with FreeTech, I am also part owner of a residential investing company.

The Tech Starters II program is centered around digital literacy. My students and I communicate via the computer using Gmail and Outlook, and all assignments are related to computer knowledge soft skills and online free resources. The typical students are public housing residents who have basic online skills. We allow people ages 18 and older to enroll, but the trend age ranges between 30-60 years old. The older adult learners in the Tech Starter II program are retired and more drawn to the class for the digital literacy knowledge rather than the incentives. For example, registering for benefits or Social Security is all done online; without the digital literacy knowledge, older adults miss out on financial opportunities. Also, older learners can use technology and new media to connect with their children or grandchildren. An example is Parentcloud. I promote the use of all Google Apps because they are free; I try and keep up to date on the latest new media. Streaming movies, tablets, and phone apps have been new media that I have adopted in my teaching.

My favorite topic to teach would have to be Google Forms or Excel. I like to challenge my students and the end result is always very exciting to see. I know when a lesson goes well if by the end of the lesson the students went from not being interested at all to being highly engaged. Technology is starting to play a more vital role in older adults' lives. Learning how to communicate through social media could mean they could connect with friends and family. Many healthcare benefits are available through the computer and also through phone

apps. Learning Internet navigation opens up doors medically for the individual. Opening their eyes to using the Internet for entertainment is helpful as well; for example, YouTube has instructional videos on how to crochet or play the harmonica. I do understand to be realistic with the lessons and time constraints. We have a lot of clients come for one week then not come back. Some lessons tend to take longer sometimes and everyone has a different learning style.

Looking back at Andrea's account, it is important to highlight her desire to help narrow the digital divide. The older learners she serves are retired and have different personal motivations to take her classes. Engaging the students and keeping in mind the different learner's skills and prior knowledge is another relevant aspect of Andrea's narrative. As Merriam and colleagues (2007) remind us "First, acknowledge prior knowledge and experiences of learners wherever gained, as important to the practice of adult educators" (p. 51). As described by Andrea, the adult learners enrolled in her classes start with basic online skills and she tries to engage them so they learn at their own pace and stay enrolled in the class.

The learners' motivations mentioned by Andrea are congruent with the literature stating that access to the Internet is increasingly critical for health information retrieval, access to certain government benefits and services, connectivity to friends and family members, and an array of commercial and social services that directly affect health (Yang & Chen, 2015). She is realistic and has a practical approach to teaching older adults. She perceives connecting with friends and family, healthcare, and entertainment to be the main motivators to engage older adults to learn technology and new media.

Lori

We offer many programs for older adults but these adults need to have more access to be able to participate in the programs.

My name is Lori Jones and I am currently a full-time gerontology graduate student. I am originally from a city in the Northeast and I moved to the South to complete my undergraduate degree in Sociology. After graduating a year early, I decided to change scenery and move to the South to complete my second semester of graduate school. During my second semester, I was required to complete a graduate practicum and decided to go outside the box to explore modern technology and aging. I got in contact with a member of the FreeTech and was placed as a computer lab teacher at a Senior Activity Center.

Here, I offer assistance to adults who come into the lab asking for help with their personal technology needs. In addition, FreeTech offers free computer training to anyone who wants to use a computer or may not have access to a computer. My teaching services at FreeTech range from helping someone set up an email or Facebook account to helping adults search for a job or write a resume. The Senior Activity Center offers an abundance of services that range from computer training and field trips to arts and crafts, and meal dining. I met with the recreation program supervisor at the Senior Activity Center and we discussed the type of classes that the seniors within the community asked for. We both noticed that many seniors did not know how to access certain things on their phones such as the camera, text messaging, and attaching photos. I noticed that although many adults may know how to do the basics, like calling, more and more

adults are attempting to learn how to attach photos to their email through their phones or how to download apps and pay the bills on their phones. I love the fact that FreeTech has noticed the digital gap between our youth and our older Baby Boomers and is trying to level the playing field. I think the most important thing is to not solely focus on teaching technology to seniors, but to also give those who may not have access to digital resources the opportunity to be involved in using technology to learn more about themselves and the world.

Since being in the computer lab at the Senior Activity Center, I've seen a great variation of seniors. By a great variation I mean different races and ethnicities, different knowledge levels as far as how to access the Internet and use the computer, and different genders. I don't think there is a typical older adult learner. I've met and worked with seniors from all different socioeconomic backgrounds. Meeting so many seniors and seeing how different they are from one another is amazing. Although they may live in close proximity to one another, these seniors have different education levels, family structures, morals, values, personalities, work ethic, and even questions regarding the computer. The main thing they have in common is that they are considered to be within the older adult population and live in this community.

I think I've always been interested in helping seniors learn more about new media and technology. Once I decided to pursue a graduate degree in gerontology and was granted the opportunity to freely choose my site; I came across FreeTech. I love non-profits and I love what FreeTech does for their community, so being able to work with them was such a blessing. I think many

younger individuals form certain thoughts and society, as a whole, tends to have certain stereotypes about older individuals that are often not true.

I am a firm believer in lifelong learning and I think that FreeTech and the Senior Activity Center give seniors and all individuals the opportunity to continue to learn. Learning and teaching technology, in my opinion, is a form of lifelong learning. I think that's a primary reason as to why I became so interested in teaching it. I've been teaching technology and modern technology to my grandmother and her friends for years. I greatly enjoy it. Since I've been here, I noticed that the culture in Central Texas is completely different from the Northeast, where I was born and raised. Here, we definitely have many more programs and activities for older adults. However, I do believe that older adults need more access. Age-associated illnesses and conditions can cause older adults to feel like they no longer have a role in society. In my opinion, I believe that having access, whether its transportation, meals, or other community resources, is necessary for full engagement and successful aging.

In the computer lab, we use their personal mobile phones to learn and be able to use what they learned when I am not around and when they are no longer in the classroom. As far as learning more about the computer, I always ask each individual what they want to learn. I think this is important because not every senior wants or even needs to learn the same thing. For example, one learner wants to learn how to edit and paint pictures while another learner wants to learn how to create an email. I think it's important, as a teacher, to maximize their

personal wants and needs. I think this is how seniors retain more and are able to apply the information they learned to their own life.

Seniors ask for help in searching for certain styles of music, certain artists, gossip and popular culture, newspapers and news ads, politics…etc. I let the learner tell me what they want to learn and then I help them in any way I can. My mobile phone class includes technology and media that relates to their phones and their ability to communicate. Using smart phones that are popular today, many seniors can use their phone like an actual computer. Each week they will learn a different topic that is geared toward the type of phone they have.

Currently, my favorite topic to teach is how to access music and popular culture. It's very fun! The other day I helped a learner who wanted to know who the richest woman in the world was. Before I taught him how to do that I asked him whom he thought it was. He said he thought it was Oprah. But we both found out that Oprah wasn't even on the top 10 list. He then wanted to find the richest man. Although it may seem small to some, he was very happy to be able to search for other topics related to popular culture via the Internet on his own.

I also helped this one wonderful woman who always comes to see me. Her husband bought her a new laptop and she came to me to learn everything about it. She was so grateful and wrote me a thank you note about how much of a blessing I was. It really warms my heart to know that I can share what a teacher once taught me to someone else. It also makes me realize how thankful and patient I should be towards others. I am very grateful that most of the experiences I've had working with older adults have been positive.

The biggest challenge is creating a lesson plan that can be useful to all of the older adults. The fact that none of them may have the same phone poses an even greater challenge. Learning to use technology is very important because we use it in our everyday lives. Whether we are watching television, using a crosswalk, or calling a family member from a landline, the use of technology has become inevitable in our current society. As senior assistant housing becomes much more popular, learning new technology that is applicable to increasing our knowledge of medicine, health, and longevity is important. I also think that modern technology is what has created an even bigger gap between our youth and our senior population. Our youth is receiving information on modern technology every day, whereas seniors aren't. Keeping older adults engaged in how fast the world is moving is important.

From my experience, advice to teaching new media and technology includes being patient and knowing your population of learners. Older adults and the elderly require different teaching techniques. How they process the information they learn and how their brains respond to learning and applicability is very different than younger persons.

I also think it is important to ask older adults what they want to learn and take away from the course. This will help the instructor learn more about learner interests and how the learner sees this course affecting their personal life. I would recommend a follow along or guide instead of solely lecturing. I think older adults retain more when they have something that they can follow along or read while they are not in class.

As far as media, try and get the older adults to interact with one another and learn from each other. The main thing is that you want the older adults to walk away from the class having learned more about the topic, the instructor, their peers, and themselves.

Examining Lori's narrative, it became evident that her teaching approach is similar to Andrea's. Both instructors claimed to be student centered. Lori described her students as a diverse population who should continue participating in learning. The type of learning she recommends is interactive and one on one. Lori has passion for the work she does teaching technology and new media to older adults. She emphasized the importance of keeping in mind what her students need or want to learn to offer relevant instructions so they can continue learning by themselves.

Assertions made by Andrea and Lori are congruent with research by González, Ramirez, and Viadel (2012) who point out that in order to design specific programs of learning, it is necessary to consider the attitudes and needs of the elderly. Previous research illustrates the importance of keeping in mind older adults' goals, abilities, and expertise levels when designing instruction for them to learn to use computers (Mayhorn, Stronge, McLaughlin, & Rogers, 2004). Adams, Stubbs, and Woods (2005) claim that facilitating the use of technology by older adults generates higher levels of intergenerational engagement, improved health literacy skills, and socialization.

An important aspect that Lori brought up in her narrative relates to the barriers that older adults face to access technology and new media. She spoke about barriers such as health conditions to handle devices and lack of transportation to attend classes. According to Lori, access also refers to not having the economic means to afford

computers and technology. In addition, the literature presents other barriers. Huber and Watson (2014) reported that many older adults have a desire to use new technologies but face difficulties while purchasing, utilizing, and troubleshooting new devices (Huber & Watson, 2014). Studies by Satariano, Scharlach, and Lindeman (2014) and Yang and Chen (2015) report that older adults are generally less familiar with technology and have less access to information technology than younger users.

Adult Learners Participating in the Study

Four adult learners volunteered to participate in the study: Lisa, Julie, Diana, and Angie. All of them were enrolled in a Tech Starters II class at FreeTech. Their ages ranged from 55 to 65 years old. The following section presents the learners' narratives. Each narrative provides brief information about the participants' background and family history followed by their perceptions of the Tech Starter II class. They tell about how they got involved in participating in the program, their motivation to attend, what they are learning, and at times they provide suggestions to improve these classes. After presenting their narratives I provide highlights of the four participants' stories and make connections to extant literature.

Lisa

Don't rush the teaching. Show me and let me do it.

I'm originally from a city on the coast of Texas, but I have lived in Central Texas most of my adult life. I'm in my later fifties. I left my home at age 15 years old. Later in 1999 I got my GED. My mom left at young age too. I think it is the generational curse because both my children left home at 14 years old. When my daughter got pregnant I had to really get on my knees and pray for God to break

the generational curses. Praise God that my 21-year-old granddaughter graduated from college last year. I use my android to kind of keep up with the kids and join the younger people. I try not to use Facebook very often because it really does kind of consume you. Last night I was only going to spend twenty minutes on it and next thing you know it's forty minutes. You get caught up.

I mostly watch to see how to do things because sometimes things are too simple that people don't like to explain it. That's why I'm in the Tech Starter II right now. I heard about Tech Starters through the housing authority at my property. It's kind of cool to share what I learned from class to people who want to learn how to use this new technology. I use the Internet several times a day because it's so easy with my phone. I just wish my phone had a bigger screen. The classes could be better if we had more time too. They try to get too much information in a short amount of time and when you ask for help and the aid or the teacher just does it. I think good advice is to people who want to teach you about this topic is to be slow and let learner do it.

I started learning about the Internet when I got a Wii game system because I don't want to get Alzheimer's. My grandmother, mother, aunt, and great-grandmother had Alzheimer's. The Wii game system can play video games that are endorsed by the American Heart Association. I get to exercise when I play it. My perception of using new technology has gotten better after taking these classes. I'm a lot more relaxed and I don't get as nervous about trying to do something. This new technology can be aggravating, but I just relax and figure

out the next step. I guess that learning is a lifelong process and I want to continue to learn forever.

Julie

I understand what I'm doing while we're doing it; forgetting what to do frustrates me.

My name is Julie and I've been living Central Texas for quite a bit of years. I graduated high school here and so have my kids. Later on I took some classes at the Urban League. The Urban League helped me with getting skills to get a job or enroll in college. I had to get a laptop when I took classes there. My sister in-law and my kids would come over to the house and use it all the time. My kids and their friends just whiz through technology, but I'm not confident to just whiz through it and do whatever. I'll try to look up certain things on the Internet and if it requires me to do a little more I don't go the extra mile because of my fear that the screen will freeze.

I first heard about the Tech Starters program when I got an email from Ernesto. Ernesto took Tech Starters I with Diana and me. He's now a teacher's assistant for the class. When FreeTech called to tell me that they were having Tech Starter II, I agreed to go ahead and do it because the Tech Starters II class is close to where I live and I want to keep up with my kids. When my kids and their friends see me send texts and update my Facebook profile they are like "What? You know how to do this?" *They tease me and it does make learning and using these new programs and devices uncomfortable.*

I like these classes because the classes show me different ways of using my phone. I use my phone for everything. The phone pings when there is Wi-Fi in the area. I get to Google, Facebook, Pinterest, check for classes on my email, and Craigslist from my phone. Somebody else might need something and I could look and see what is on Craigslist or Pinterest. I like to look up and share on Facebook recipes, hairstyles, and nail styles to my friends and family.

I can use my phone and understand what I'm doing while we're doing it, but it's that I can't really keep it. I learn very slowly. I forget what to do and then it comes back to me. Forgetting what to do frustrates me. When I am told how to do it I can figure it out, but I don't comprehend it if it is done for me. It's a lot of information to take in. I get frustrated at being able to do the programs that we are asked to do without forgetting the steps on how to get there.

Diana

There are so many different programs, technologies available, and new information coming out that you have to keep up or you'll lose it.

My name is Diana, originally from a southern state along the Gulf Coast. I have four grandchildren, two great grandchildren, and one great grandchild on the way. I've always liked to read and fix stuff using my hands. I've taken classes at the City Urban League and other computer classes off-and-on since the seventies. Learning new media and technology is easy for me because I used computers at all the places I've worked. The problem is using it because I can't bend my thumbs. It's a physical barrier that I can't use my thumbs when I type.

I'm taking the Tech Starters II class to work on myself, and to help my grandkids and others. In this day and age, using new media and technology is a must in the workplace and at home. There are so many different programs and technologies available and new information coming out that you have to keep up or you'll lose it. My perception is that you have to keep up with new media and technology because it's always changing. The constant changes in technology give you more choices on what you can do with it. When I use new media and technology it's to learn information and to keep up with my grandchildren. I had to get adjusted to how to use social media to help my grandkids. I don't want to invade my grandchildren's space, but I do check to see what they're doing on Facebook. I'm careful about not believing everything out on Internet because there is a lot of misinformation.

Learning and using technology is like reading a book. You take the time to read it and you'll find your way through it. It does take time to learn and retain the information. I like to know what is going on in the community, in the neighborhood, in the city, and in the state. I use my Gmail and Yahoo accounts to send emails with links to information about federal programs for teachers and parents. The more time given for me to practice what I learned, the better I retain the information.

I attend this location because of Andrea, the teacher. Teachers who teach new media and technology need to have a form for all the students in the class to complete. The form is to know exactly where each student stands and how you can help each person individually. Everybody is not going to be on the same page.

Some learners are advanced and some are beginners. If you have a beginner who's a slow leaner, you put an advanced learner next to the slower one so they can help each other. Everything changes. Technology today will be different six months from now. Everything is going to have to be learned all over again six months from now.

Angie

Learning about new technology helps me. I learn more while using it.

*My name is Angie and I have two daughters and a 22 years old grandson. I am originally from Central Texas, but we moved to this city because my husband's job was here. My children motivate me to use new media and technology, especially my grandson. "*Grandma you have to learn this.*" He wants me to learn everything. I just went through the lab assistant program. As a lab assistant, I go in and help when people come in the lab and need help. I come to this location and take the afternoon class because my lab assistant-hours conflict with the Tech II morning class.*

My perception of new media and technology changed after taking these classes. It's made me see how fast everything changes. I have a computer at home, but I mostly use my phone for the Internet. I like using the Internet because I can find out different things. I look up different recipes, renewing my nursing license and stuff on my home computer every once and a while, but I use my cellphone every day. Every time I am not at home I use Instant Google. It's connected to my phone. I get alerts and messages all the time when I am playing

games or something. My phone has a tracking system that helps me determine my location and the time and distance from my home.

Learning about new technology helps me. I learn more using it. The only barrier that I've come across is I sometimes get a little scared, but it passes after I start using it. Overall I'm okay with using the Internet from my cell phone. When I know what I'm doing, I feel good, but sometimes I'm a little afraid because it just disappears and comes back by just touching it. Sometimes I get it and there are times I have to do it two or three times before I can get it. I don't get frustrated because I got very good advice to not be scared and take my time. My advice for people learning new media and new technology is to not be scared. Just try it. You're not going to break the machine. You aren't going to break it. It's okay. I also recommend having a notebook to take notes because some people go home and they don't use it because they don't remember the steps to get to the stuff.

Highlights of the Learners' Narratives

Lisa uses technology to keep up with current society. The main ways in which older adults use the Internet are for e-mail, searching for news, health information, shopping and product information, and family research (Huber & Watson, 2014). Lisa pursued community education throughout life to improve her skill set. Huber and Watson (2014) report frustrations in using various technologies were attributed to design issues, which Lisa brought up in the visual barrier of wanting a larger phone screen. Lisa's interest with technology began with her desire for a healthy life. This is discussed by Adams et al. (2005) who report that the availability of easily understood learning material

and access to general health or specific medical condition information is what initially motivates Internet use among older adults.

Next, Julie took classes at the City Urban League to improve her skillset and purchased a laptop to do her assignments. These were her efforts to be valuable in the workforce. However, Julie also expressed fear of exploring technology, which is not uncommon in older learners. To this end, Chui, Hu, Lin, Chang, Chang, and Lai (2016) found that older adults were perplexed about how to handle the operating systems, worried about how to resolve problems they encountered with technology, and feared they might break an expensive device. According to Huber and Watson (2014) age, education, technical knowledge, and technical anxiety affect interest in new technologies. Another study by Adams et al. (2005) claimed that computer anxiety has been found to predict withdrawal from Internet participation by older adults. In Julie's case, the Tech Starters II class helped her understand how to use her phone for a variety of purposes. She expressed frustration in remembering all the steps required for a task. However, she is persistent and continues to attend the classes and use social media sites.

Diana continued to take community education classes throughout life to improve her skillset. She described technology to be constantly changing. This is true of all technology. Terminology, navigation, and conventions between and even within, types of devices keep changing (Huber & Watson, 2014). Diana's work history of using technology gave her confidence in learning new media and technology. Her grandchildren also motivated her to learn new technology. Diana recommends providing learners with more time to practice in the classroom because not all learners are on the same page. This is supported by the literature. Chui et al. (2016) explain that older adults

tend to have self-directed learning needs, require more time and practice, and they need technical assistance when learning application-based training.

Angie's grandson motivated her to learn and use new media and technology. Communication between grandparents and grandchildren is no longer confined to face-to-face interaction, with social technologies offering mechanisms and opportunities for increased contact and understanding through social networking sites (Tsai, Chang, & Ho, 2016). Due to her background, Angie became a FreeTech lab assistant and described enjoying helping her peers with technology. According to Shedletsky (2006), older adults enjoyed having a mentor help them learn to use the Internet. Thus, Angie recommends for learners and users to have a notebook to write the steps to complete a task and use it for reference. To this point, Mayhorn et al. (2004) recommend a systems approach that uses training techniques such as the provision of well-organized written instructions to assist in reconciling the differences between task requirements and personal limitations.

Overall, the main motivations for the four learners participating in the study for learning technology were to keep up with family, improve their skills, and access information. Adams et al. (2005) found communication with friends and family, and exploration of hobbies as main motivators to Internet use. Older adults are very interested in taking advantage of technologies that they perceive to be useful (Chiu et al., 2016). Current interest among the elderly is to learn and use information and communication technologies that can help them with their gradual demand for social integration and adaption to their life situation as grow older (González et al., 2012). All learners expressed that they liked their experience and felt better after having taken the Tech Starters classes. To avoid feeling excluded from our increasingly technological society,

older adults are actively seeking training programs that can teach them how to use computers in general, and the Internet in particular (Mayhorn et al., 2004). According to the literature, exposure to using new technologies through certain educational interventions can generate positive changes in attitude and in the feeling of self-confidence in the elderly toward the use of computers (González et al., 2012). Learners do best when treated according to their unique needs (Shedletsky, 2006). Older adults, who may lack the interest or ability to upgrade their technological possessions and skills, are at risk of being excluded from using new media and technology.

Study Findings in Relation to Lifelong Learning Principles

The following section presents the study participants' stories in light of three lifelong learning principles: (a) learning for a more highly skilled workforce and strong economy, (b) learning for a better democracy and an inclusive society, and (c) learning for a more personally rewarding life. A table outlining salient examples illustrating how these lifelong learning principles became evident in the learners' narratives appears before each narrative. Next, the participants' stories are followed by a discussion of each lifelong learning principle in connection to the literature. Finally, I summarize and discuss salient ideas from the narratives in relation to lifelong learning principles.

Learning for a More Highly Skilled Workforce and Strong Economy

This principle highlights the connection between lifelong learning and the promotion of skills and competencies necessary for the development of general capabilities and specific performance on given tasks (Chapman et al., 2006). Likewise, Diaz-Lopez, Liria, Aguilar-Parra, and Padilla-Gongora (2016) explain that to continuing to obtain education and training later in life can improve productivity and provide a

broader range of employment opportunities for older adults. Staying economically active is a motivating factor among seniors to continue learning regardless of their age (Istance, 2015). Lifelong learning offers the elderly the possibility of continued full participation in society, strengthens their employment possibilities, allows them to actively contribute through volunteerism, and to live independently (Diaz-Lopez et al., 2016).

Table 3

Learning for a More Highly Skilled Workforce and Strong Economy

Participant	**Personal Example**	**Becoming More Highly Skilled for Workforce and the Economy**
Lisa	Dropping out of school was a generational curse.	Earned her GED certificate. Enrolled in college.
Julie	Took classes at the urban league.	Acquired technology skills.
Diana	Used technology at all the places where she worked. Took auto mechanics class for work.	Used the professional networking site LinkedIn.
Angie	Used computers as a schoolteacher. Renewed her nursing license online.	Became a FreeTech computer lab assistant.

Lisa left her home at age 15 and described dropping out of high school as a generational curse in her family. After Lisa earned her GED certificate, she enrolled as a student at a community college in Central Texas. She described the challenges of being a single mother going to college.

> *It was not until 1999 that I got my GED. I was going around bragging* "Oh I got my GED for my birthday!" *It was so cool! After graduation, I had a couple of*

appointments somewhere for some services and the ladies would say, "No, you're going to go to college!" *and I thought, I'm going to receive that. Then, I went to college but I got sick about the time I was graduating. My son and daughter were teenagers and running away from home. I think it just got overwhelming having to go through all of that stuff. I sometimes think it is the generational curse because I know my mom left at a young age. I left home at 15 years old. Both my children left home when they were teenagers. I don't know why. When my daughter got pregnant I had to really get on my knees and pray for God to break the generational curses. After graduation, I got an internship in the semiconductor industry. I thought that being in the research and development department would be a good for me. I just want to learn more stuff, as much as I can.*

Julie took classes at the Urban League to learn skills for employment. The City Urban League required her to purchase a laptop to complete class assignments. Julie explained that her fear of using new media and technology continued, even though the classes helped her learn technology skills.

I took classes at the Urban League. It's an organization that helps people and they helped me. They help people with getting jobs, getting into school, and learn technology skills. When I first started taking classes I bought a laptop. The classes did help me with learning technology skills and getting a job, but I am scared to do a lot of things that might mess something up. I'll try to go into certain things because I've learned a lot more with the extra help from the classes. It's just that if I see it requires me to do a little more, I don't go the extra mile. I'll just shut it down because I don't want to try it because I'll mess it up.

Diana was required to use computers at all the places where she worked. She took an auto mechanics class for work. The experience working with machines gave Diana confidence in her ability to learn and use new media and technology.

> *After I graduated high school I went to an automotive trade school. It seemed like a good fit for me because I like to fix stuff with my hands. I like to break things apart and put them back together. I had to learn how technology and machines worked so later on I took computer classes at the Urban League. It is easy for me to learn new technology because I had to use technology and machines at all the places I've worked since the 1970's. Learning more about computers and different technology is a must in this age. I just created my own LinkedIn profile to network. That site is good to promote yourself.*

Angie used computers from when she was a schoolteacher. Her lesson plans and communications were done on the computer. She wanted to learn more about new media and technology to access new information and used the example of renewing her nursing license online. After she completed the lab assistant program, she became a FreeTech lab assistant.

> *I became interested in using technology way back when I was a schoolteacher. I had to do lesson plans, enter in grades, and communicate on the computer. Now, my motivation to learn more about technology is to find out different things. For example, I did Pinterest to look up recipes yesterday. I usually use my computer for things like to renew my nursing license online. Recently, I completed the lab assistant program and now I am a lab assistant at FreeTech. As a lab assistant, I help people when they come in the lab and need help. I help them.*

The examples discussed in this section illustrate the lifelong learning principle regarding “learning for a more highly skilled workforce”. Here, all four learners talked about the need they saw for learning and using technology to obtain and keep a job. They each actively sought learning opportunities about technology and updated their technology and new media skill set for employment or to help others get a job. Even though they were retired, they wanted to feel they were developing the skills needed to be employable. The learners described their interest in taking advantage of the online employment opportunities to receive supplemental income from using technology and new media. Their experience they gained working with technology gave them confidence in their ability to learn and use new media and technology. They recognized the importance of continuing to study and update their knowledge and skills for life.

Learning for a Better Democracy and an Inclusive Society

The second principle views that society has an obligation toward its citizens to provide them with learning initiatives (Formosa, 2012). Learning needs to be present in the lives of as many citizens as possible right into old age (Istance, 2015). This principle emphasizes the values of social leveling, social cohesion, and social justice to prioritize the “democratic citizen” (p. 287). National and international organizations are being forced to reconsider the needs of the elderly and to implement strategies and mechanisms that will allow them to get actively involved and continue to participate in society (Diaz-Lopez et al., 2016). Government and related documents recognized the importance of older adults to have abilities and opportunities to use new technologies to support and improve their quality of life and their participation in society (Boulon-Lewis, Buys, Lovie-Kitchin, Barnett, & David, 2007). The Americans with Disabilities Act was

designed to guarantee older adults and persons with disabilities equal access to employment, retail, and other places of public accommodation (Yang & Chen, 2015). Expanding one's cognitive repertoire and increasing one's competencies are undertakings that continue throughout life and are necessary parts of one's growth and development as a human being and as a citizen in a participative democracy (Chapman et al., 2006).

Table 4

Learning for a Better Democracy and Inclusive Society

Participant	**Personal Example**	**Learning for Participation in Democracy and Inclusive Society**
Lisa	A person can feel out of place without a cell phone.	Felt empowered when she shared information
Julie	Enjoyed accessing and sharing information.	Classes showed different ways of using phone.
Diana	Took the Tech Starters II classes to improve her skills. Limited access to information and technology.	Used Gmail to share current information.
Angie	Learned more when she used technology because practice helped with technology use.	Phone tracking system and researched how it worked.

All study participants' shared that socializing online was a motivator to learn and use new media and technology. They all valued access to information and technology. All describe a change in their perception about new media and technology after having taken the Tech Starters Class II.

Lisa described that a person can feel out of place without a cell phone. Referring to Google microphone, Lisa described that she felt empowered when she shared information. She was proud to know how to use Google microphone and to know what *bcc* means.

> *It's funny when we go to restaurants and are sitting around talking, then next thing you know it gets a little quiet. One person picks up the phone and then the next. Like really? Like the domino effect, everyone picks up the phone. It's crazy. So if you don't have one, you are really not in place. Even grandma gets hers out too. I'll just look at them at first and then I'll take mine out too. I like to use my Wells-Fargo and Chase apps on here. I use those things mainly. Then they try to talk to me and I'll say,* "Excuse me?" *I love it. Might as well join the younger people.*
>
> *You feel empowered. You feel great. I mean when I saw that they had the Google Microphone on there I said,* "Okay, I'm ready for a new android again." *I just love sharing that feature with people. When they're trying to look up something or ask me how you spell something I say,* "Just say it. Just tap that Google microphone and just talk to it." *It's just so exciting to see them empowered. You know you could just touch the microphone when you're on Google Maps or when you are anywhere. Sometimes it doesn't pick up what you say. You have to watch it before you send it because of the autocorrect. It's amazing. I'm learning this to kind of catch up with the kids because they are so good with computers. It's kind of cool that I learned a few things that I can go back to them and tell them* "Do you know what bcc someone on your computer

when you compose an email?" *They're like,* "No." *It is a blank carbon copy. You can send it to different people but they won't know you are sending it to other people. It's like at least I had something to pull out of the bag. Something that I know, that they don't know.*

Julie used Craigslist and Pinterest to look up and share information. She enjoyed searching for recipes, hair and nail styles, and random ideas to share to her family and friends.

Every day I look up stuff just to keep up with my family and friends. I use Craigslist to see if there is anything out there that somebody else might need. I see what they have on Pinterest for recipes. My friends and family sometimes put up nail styles and hairstyles on Facebook. I'll look it up. It's interesting and I enjoy it. It's a lot of information to take in, but I like it. It gets frustrating being able to comprehend what I'm doing and being able to do these programs without forgetting the steps on how to do them. I do check for classes on my email and stuff on my phone. I use my phone for everything. This class is showing me different things the phone can do.

Diana did not have the Internet where she lived. She attended the Tech Starters classes to improve her technological skillset and stay up to date with new technology. Her motivation was to help her grandchildren and other people.

Right now, the property where I live does not have Internet. The only time I use technology is when I go to the workforce commission, the library, or to class. I'm taking the Tech Starters II class to work on myself so that I can help my grandchildren and others. I'm motivated to learn because there are so many

different programs coming out. There's all this new information coming out about Title I funding for parents and teachers. You have to keep up with it or the money won't be spent in the right way. I use Google. I don't use social media to share this information. I use my Gmail account to send information about all the different programs to parents and teachers.

Angie described that practice helped her feel comfortable with learning and using technology. The phone tracking system performs an important function for Angie. She intentionally uses her phone to overcome her anxiety of technology.

It helps me because my phone has a tracking system on it. When I open it up, it says you are such and such miles away from home and it will take you this amount of time to get home. I want to know how it knows this. I guess it has a GPS on it or something like that. I learn more using it. I try to use my phone more often so I won't get so scared to use it. Sometimes, I'm a little afraid of it because the screen can just disappear and then it comes back again by just touching it. It's strange I have no idea how it works. I sometimes get a little scared but it passes after I start using it.

The examples from the study participants in this section illustrate the learning principle of "learning for participation in democracy and a more inclusive society". Technology and new media access are both a necessity to participate in democracy in modern society. Older learners should be able to actively participate and be included in society and the economy; they need to be able to use technology and new media to do so. Study participants reported that technology served as a resource to survive in our society. For example, they explained how the phone tracking system performed an important

function for them to feel safe. Internet access was not available for all the learners in their homes and attending technology classes helped them actualize their knowledge of new and assisted them to find ways to participate in society.

Learning for a More Personally Rewarding Life

The third principle views successful aging to include psychological and spiritual well-being (Merriam & Kee, 2014). This lifelong learning principle speaks to the expansion of intellectual, vocational, and personal horizons (Chapman et al., 2006). People get to experience the joy of personal growth and a deeper understanding of what interests them (Skilbeck, 2006). Older adults themselves defined successful aging as multidimensional including physical, functional, psychological, and social health (Boulton-Lewis et al., 2007). Merriam and Kee (2014) describe this lifelong learning as wanting to become creators of knowledge and learning rather than being passive consumers of knowledge.

Table 5

Learning for a More Personally Rewarding Life

Participant	Personal Example	Learning for Personally Rewarding Life
Lisa	Keep up with her family.	Searched for ways to improve health using online games endorsed by the American Heart Association.
Julie	Enjoys keeping up with her family but forgets steps to complete tasks	Overcoming fear of learning and using about new media and technology.
Diana	Monitor her grandchildren.	Practiced technology skills to help others understand

		technology.
Angie	Used new media and technology at grandson's request.	Purchased technology with family to stay connected with each other.

Lisa described how her granddaughters shared information about extended family members from Facebook updates. Lisa's son set her up to stream videos on Netflix, HBOGO and Amazon Prime. Lisa started learning about the Internet when she got a Wii game system to improve her health and prevent the Alzheimer's disease.

> *My granddaughters are always telling me what my niece's Facebook updates. They'll show their phone's screen and they'll ask,* "Grandma when are you get your own Facebook?" *When somebody shows me how to do it,* "Oh, Grandma it's so easy." *So Haley the second granddaughter she said,* "Okay Grandma here," *and we did it right there at the dinner table. I use the Internet at my house. In fact, I stream Netflix HBO, HBOGO, and Amazon Prime videos on my phone. My son pays for the accounts so that I don't have to. I did buy a Wii game system because you can play video games that are endorsed by the American Heart Association. That is when I started to learn about the Internet providers because I had to get the Wi-Fi in order to use the Wii game. I get to exercise playing the Wii games. I bought the Wii system and set up the Internet all because I don't want Alzheimer's. My, mother, aunt, grandmother, and great-grandmother had Alzheimer's. They say that keeping your mind active prevents those types diseases.*

Julie expressed interest in using technology to be connected with her family but also experienced anxiety over remembering the steps to use technology. She enjoyed

using technology in her daily life preferred to be guided through the steps to complete a task using technology. One to one technology instruction helps Julie learn at her own pace.

> *I am interested in technology but I am kind of scared of it too. I use it to keep up with my kids and family. I like using Pinterest and Facebook to see what is happening with my family, friends, and stuff. My kids and their friends laugh at me when I send them texts and update my Facebook status. They're like* "What? You know how to do this?" *I mean my kids just wiz through technology. They get it with no problems. I don't ever use my kids' phones because they get mad at me. They say,* "Ma, we know what we're doing. Don't mess with my phone. You'll tear it up, don't mess it up!" *I freak out. I'm not confident to just wiz through the technology and do whatever. I'm persistent and continue to look for ways to stay connected to practice technology.*
>
> *Normally I go to where there is Wi-Fi. My phone will ping when there is Wi-Fi in the area. We have Wi-Fi at the grocery store. I like the Tech Starter II classes because they're showing me different ways of using my phone, but at the same time I can't really keep it. I can do it while we're doing it, but if you ask me to go back and redo it it's like oh my, I forgot! Then it starts to come back to me but it frustrates me. When I ask for help, Andrea or one of the other assistants will come and do the steps for me and say* "Oh no, you do this." *Well, I don't learn when it is done for me. I just want them to tell me and let me do it. That is the only way I can comprehend it. I want to feel the satisfaction of learning.*

Diana used social media to monitor her grandchildren and see what they are doing when participating in social media. Diana wanted to practice and improve her technology skills. She underscored the fact that new media and technology change regularly.

> *Right now I'm using social media to keep up with my grandkids. Checking to see what they are doing is not easy because I don't want it to seem like I'm invading their space. I log in to Facebook every six months to see what they're doing. I don't want it to seem like I'm invading their space. There are so many different programs available. I remember there was only Microsoft and Power Point. Now we are in the Clouds. You have to keep up with all the new programs and updates because technology is always changing. You don't have to save anything on a stick anymore. Everything is saved in the cloud. You can be on anyone's computer or phone and see what you saved. The technology today it's going to change six months from now and will have to be learned all over again. Like for my sewing machine, I'll check on Google for my Singer Sewing machine for the new adapters that are coming out. So when I'm looking for some new products I'll go and look for them.*

Angie's grandson motivated her to use new media and technology because he wanted her to learn everything. Purchasing a new technology device is an activity to do with her family.

> *My grandson wants me to learn this. He wants me to learn everything. I'm thinking about buying a laptop. So, I'll take my grandson or my oldest daughter because that is their thing. They both have degrees in computer science. So I'll*

take my grandson or my oldest daughter because that is their thing. They go with me to buy technology because they both have degrees in computer science

Angie was motivated to learn and use technology to stay connected with her family. This way she did not feel left out.

The participants' examples described in this section illustrate "learning for a more personally rewarding life" lifelong learning principle. All learners described communicating and connecting with their family as two important goals for to them and technology was helping them achieve that goal. Through the use of technology and new media they felt more connected with their family by sharing information. Connecting with family was very important for having a better quality of life. All learners described feeling happy to share information that might help their family and friends. The learners also described that technology and new media allowed them to pursue and practice their personal interests. They each used technology and media as a resource to continue their joy in learning about their personal interests. This new learning helped them overcome anxiety and fear of technology.

Discussion in Light of Lifelong Learning Principles

Aspin and Chapman (2000) explain that a lifelong learning approach to adult instruction embraces and interrelates vocational training, personal development, and citizenship education. The older learners participating in the study were searching for personal development and growth and educating themselves to not be left behind in the use of technology and new media. They considered this type of learning as critical to continue being active participants in the different circles of their social and personal lives.

Therefore, this section examines the narratives of the four older adult learners participating in the study in relation to lifelong learning principles.

The four adult learners were aware of the importance of using technology in the workplace and the need to know technology to stay relevant and valued in this environment. Another important aspect that repeats across the participants' stories relates to the high value they assigned to continue to pursue educational opportunities regardless of their life circumstances. The education of older adults is currently the fastest-growing branch of adult learning, and the most crucial issue facing educational planning (Formosa, 2012) for a better economy. Modern times require people to continue to learn and participate in the social and economic lives of their communities.

Research on older adult learners indicates elders often engage in lifelong learning programs based on an interest to learn about a certain topic or issue and enjoy meaningful social interaction when learning and engaging with others (Dauenhauer, Steitz, & Cochran, 2016). The study participants manifested a clear desire to learn technology and new media. They accepted the invitation to enroll in the program to develop or improve their technology skills and access information for health purposes, social interaction, and overcome their fears of using technology. These findings are congruent with research reported by Boulton-Lewis et al. (2007) that older people vary in their need, desire, and ability to learn technology (p. 253).

The adult learners in the study manifested a need to feel included and participate in social media. Social participation ensures that individuals interact with others, thereby increasing their self-esteem and sense of belonging (Lopez, Lopez-Liria, Aguilar-Parra, & Padilla-Gongora, 2016). Communication technologies help to minimize social

isolation, resulting in an improvement in the quality of life (Boulton-Lewis et al., 2007). Social relationships play a large role in determining personal success (Lopez et al., 2016). Online communities for retirees address questions such as financial decisions, healthy lifestyle, management of disabilities and illness, friendships, relationships, passions, hobbies, work, and connection with family and friends (Boulton-Lewis et al, 2007).

In relation to access to new media and technology, Boulton-Lewis et al. (2007) found retirees were the group most likely to remain without an Internet connection. Older adults, particularly those with disabilities, are at risk of being left behind in this growing age- and disability-based digital divide (Yang & Chen, 2015). In this study, Lisa expressed a visual barrier that prevented her to access information. Diana did not have access to the Internet and also had a physical barrier (manual dexterity) that at times caused limited access to technology use.

Older adults' level of confidence using technology is determined by the motivation behind their interest in learning how to use new media and technology (Hur, 2016). For example, Lisa loves to help people understand how new media and technology works. Also, Diana's interest in identifying federal funding for public education continues to motivate her to email related useful links to teachers and parents at different campuses even though she does not work for them. The literature also suggests that older adults return to learning because they want to help their children learn. Both Lisa and Diana took the Tech Starters II class to improve their skills in order to help their family or other people.

Furthermore, study participants spoke about overcoming anxiety and fear related to learning technology and new media. Julie described her anxiety of using technology in

front of her kids. It is first necessary to break down the mental barriers, which tend to limit these individuals (Diaz-Lopez et al., 2016). Older adults are frequently described as technophobic (Hur, 2015). The literature identified attitudinal barriers to learning including feeling too old, being embarrassed, short-term memory loss, and declining manual dexterity and visual acuity (Boulton-Lewis et al., 2007). Lisa and Diana described physical barriers that limited their access to new media and technology. Julie and Angie discussed psychological barriers that limited their use of new media and technology. At times Julie felt uncomfortable learning and using new media and technology and Angie reported practicing to overcome her anxiety of technology.

Lastly, participants talked about different ways in which they personally use technology to have a more rewarding life. As Merriam and Kee (2014) remind us, psychological and spiritual well-being are characteristics of successful aging. As an example, Lisa started learning about the Internet when she got a Wii game system to improve her health and prevent getting Alzheimer's disease. This was her attempt to take care of herself and take preventive measures for better health and graceful aging. In addition, in a lifelong learning approach, people get to experience the joy of personal growth and a deeper understanding of what interests them while pursuing learning (Skilbeck, 2006). In this case, Julie and the other participants used social media to share information with friends and family and stay connected with them. Julie's persistence to learn and use technology has been helpful to overcame self-doubt and conquer the anxiety caused by dealing with technology. In general, older adults want to be active learners rather than passive consumers (Merriam & Kee, 2014). Diana used social media to check up on her grandchildren and monitor what they were doing by participating in

social media. She underscored the importance of keeping up with all the new programs and updates “because technology is always changing”. Similarly, Angie explained that her grandson was the main motivator for her to learn more about technology and new media. Using technology was an activity to do with her family. All in all, study participants had a positive attitude about the need to continue learning and exploring technology uses and new media for a better quality of life and to not be left behind. Regardless of their life situation, they all accepted the invitation to attend technology classes to keep up to date and relevant.

V. HIGHLIGHTS OF STUDY FINDINGS AND CONCLUSION

Building upon lifelong learning principles this qualitative research examined the narratives of two adult instructors and four older adult learners working at or attending FreeTech (pseudonym), a local community-based program offering instruction on technology and new media for older adults. The study documented the instructors and learners' experiences teaching or learning technology and new media. The study also reported on the forces that drive these adults to learn how to use technology and new media.

The present chapter presents highlights from the findings to provide responses to the research questions formulated for the study. To summarize study findings, I discuss the points of intersection between instructors' and learners' perspectives in relation to learning technology and new media. I also present the tensions and challenges faced while conducting the study followed by a discussion of best practices as presented by study participants. Next, I offer recommendations for practice for program administrators and adult educators. After that, I provide suggestions for future research and concluding thoughts.

Research Question One

What can we learn from looking at the educational efforts of a community-based program offering technology instruction to older adult learners?

The community-based program, FreeTech, gave older learners the opportunity to use and learn technologies and new media through educational opportunities. It provided free adult computer training to the public through 18 different locations all around the city. The learners were able to choose the location and program that best fitted their needs

and goals. Courses were offered in a variety of schedules and learners were allowed to become volunteer trainers and role models once they had mastered the skills required for them to do so.

FreeTech worked with different partners around the city to focus on serving low income adults in the community to make technology learning available. For example, the City Housing Authority partnered with FreeTech to provide computer training for populations struggling toward employment. The Tech Starters program is part of an initiative to bring affordable Internet access, computers, and training to these families. Tech Starters II is a self-paced education program that teaches computer proficiency through one-on-one instruction and independent-study exercises. Learners worked at individual laptops and desktop workstations. The Tech Starters II program offers Excel, Word, Powerpoint, Publisher, Google Sites, resume resources, job resources, and advanced Internet navigation training.

Typical students Tech Starter II serves are residents of the City Housing Authority who have basic online and file skills. These opportunities generated positive changes in the attitudes and self-confidence of older learners toward the use of technology and their learning capability. FreeTech collaborated with different organizations in the area to support initiatives that provide older adults access to using technology outside the classroom to narrow the digital divide.

Another important aspect relates to the qualifications of the instructors providing instruction. As evidenced by Andrea and Lori's narratives, they are both academically and professionally prepared to provide quality instruction to older adults. FreeTech hires

professionals who know how to use technology and who have an interest in serving this specific population, older adult learners.

Research Question Two

What is the role of new media and technology in changing older adults' lifestyles?

The study participants described different ways in which they use technology and new media in their personal lives to feel included, to socialize, and to have a more rewarding life. Technology helped the learners with accessing online activities to prevent the decline in mental and physical health. For example, learners used technology to access activities to exercise, monitor their health, and to play on-line games to activate their memory. Learners said they learned more about their specific interests when they used technology. These older adults valued lifelong learning and developing technology skills.

Technology provided ways for older adults to experience the joy of personal growth and a deeper understanding of what interests them in their daily life as social beings. Learners expressed happiness researching their interests and learning about the different ways technology and new media can be used in their life. Their curiosity to understand how technology works increased as they learned more about the different uses for technology. Technology was a resource to access information relevant and convenient to the learner.

Learners used social media to share information with friends and family and as a platform to connect with them. Technology is always changing and the learners underscored the importance of keeping up with all the new programs and updates. Learners wanted to keep up with technology updates in order to experience the best

functions and features that technology has to offer. Their persistence to learn and use technology demonstrated that they wanted to become independent users and active learners.

The study participants reported a positive change in their attitude toward technology use and they also reported overcoming feelings of fear and anxiety. They were proud to share their learning with family and friends to show what they were capable of doing after participating in the technology program.

Research Question Three

What are the motivations of older adults to venture into the use and exploration of technology and new media?

Prior to enrolling in technology courses, the learners expressed feeling anxious when exploring technology on their own. These feelings and frustration became a motivator to seek out learning opportunities related to technology to overcome these negative emotions. Thus, the learners were persistent and continued to attend the Tech Starters II classes to understand how to use technology for a variety of purposes.

Throughout their lives all learners pursued community education about technology. Learners described technology to be constantly changing and these were their efforts to be valuable in the workforce. They wanted to stay relevant and employable. Their work history using technology motivated them in learning new media and technology.

All learners in this study valued learning throughout life. They actively sought out training programs that would teach them about technology and how to use it. The adult educators also emphasized that the older learners enrolled in the classes for the digital

literacy knowledge. These older adults understood the importance of learning how to use and adopt technology in their daily life. They all spoke about the encouragement from their family to learn and use technology. They all wanted to improve their skillset to be valuable employees. They wanted to be included in accessing and sharing information using social media. Social media sites such as Facebook, Pinterest, and Craigslist were popular among the learners. They all wanted to be present on these sites sharing information with their friends and family.

Contact with family and friends motivated learners to learn and use new media and technology. Communication between grandparents and grandchildren with social technologies offered mechanisms and opportunities for increased contact and understanding through social networking sites. Overall, communication with friends and family, and exploration of hobbies via the Internet were the main motivations for the four learners participating in the study to learn technology. In summary, they were interested in taking advantage of technologies that they perceived to be useful.

Instructors' and Learners' Shared Perspectives

This section presents both the instructors' and learners' perspectives about learning technology and new media. So far the adult educator's point of view and the learners' perspectives have been presented in separate sections. Thus, this section of the chapter will highlight the intersecting points or commonalities between the instructors' and learners' perspectives about teaching and learning technology and new media.

As illustrated in Figure 2, the first priority for both adult educators, Andrea and Lori, was to help narrow the digital divide. They believed that technology plays a vital role in the lives of older adults. Andrea and Lori shared a positive attitude about teaching

technology and new media to older learners. As adult educators, they challenged their students and made sure all learners received access and information about technology. They also designed instruction relevant to the learners' everyday lives as to engage them in using technology and stay enrolled in their class.

Figure 2. Intersecting Points of View.

On the other hand, the learners expressed that technology is time consuming. All learners reported taking extended time to practice using technology in order to retain information. They all described experiences when family members or teachers pressured them to recall and perform tasks using technology at a fast pace. The learners described feeling frustrated when they forgot what they had learned in class. This was why they wanted more time to practice individually in class to improve their skills and learn the material. However, these were also motivating factors to learn technology and social

media. They described a desire for user-friendly devices. In addition, the learners talked about overcoming their fear of using technology and adopting a more positive attitude as a result of participating in the technology classes.

Looking at the intersecting points or shared perspectives between the adult educators and learners, one size does not fit all. They all explained that instruction for older learners needs to be individualized and specific to their learning needs. For example, each learner had a unique personal interest that they regularly checked on the Internet to keep up with the latest information update. They also had different devices to learn how to use and learning goals for using them. The adult educators and learners described the importance of student centered instruction. They all agreed for the adult educators to keep in mind the learners' pace of learning. They said that older adults learn at different pace and require extra support and patience from the instructor.

Furthermore, all study participants recognized that access to technology and new media were still issues to be solved. In addition, older learners faced physical barriers (hand dexterity), visual barriers (seeing), transportation, and financial barriers that prevented them from fully accessing and using technology. Despite economic, health, and transportation barriers all learners had a desire to learn and valued lifelong learning. Both instructors and learners appreciated the value of lifelong learning and shared the common goal for the learners to become independent technology users. Thus, the learners recommended instructors plan for more class time to practice using technology independently. All study participants were well aware of the fast changes in technology. They discussed their efforts trying to keep up to date with technology and new media to be able to participate and share interests with their friends and family members.

Tensions and Challenges

There were several tensions and challenges associated with conducting this study. Recruiting participants was a challenge because the senior center was strict in protecting the privacy of the seniors. The senior activity center only allowed family, friends, and program volunteers to enter the center. In order to receive access to conduct the study at the senior center I had to become a volunteer at FreeTech. Lori, the FreeTech adult educator at the computer lab inside the senior activity center, recommended potential learners to participate in the study. Even though all the learners loved sharing their experiences learning and using new media and technology, not all of them wanted to be participants in the study. This is why I was not able to include all data collected through the class observations when writing up study findings. Thus, I mainly focused on using the data related to the instructors and their practice when using data collected though these class observations. In the end, I was able to recruit four study participants, Lisa, Julie, Diana, and Angie who agreed to participate in the study and provided written consent. Another challenge was recruiting male participants. I was concerned that the participants in my study were all women and the male learner's perspective was absent. However, at the time I conducted the study all learners in one of the courses were female and even though the other course had a mix of male and female students only female students were willing to volunteer to participate.

Best Practices as Presented by Study Participants

Both the adult instructors and learners recommended giving learners a needs assessment to identify learning needs, skill levels, and the type of technology the learner uses. This information can help the instructor design instruction that is relevant to older

adults' life styles. The adult educators said that designing a relevant lesson for all older adults was challenging because each learner uses different types of technology. The learners expressed they wanted to be grouped with learners who matched their level of technological proficiency. Information from the needs assessment can help the instructor plan with grouping the learners based on technological proficiency and type of device.

Another best practice discussed by both groups was to have small size classes. Older learners benefit from one-on-one instruction. They felt a sense of security of having available immediate support from the instructor. Likewise, adult educators acknowledged the importance of keeping class sizes small because learners rely on the one-on-one support when practicing using technology. Another reason to have small class sizes was that learners use different types of technology. One explanation did not help all. Working in small groups helped the instructor facilitate learning technology.

Adult educators must keep in mind that older learners need time to practice using technology. The adult educators described running out of time to practice a task because there was too much content planned to learn and not enough time to practice in class. Adult educators can over plan and get too ambitious with the material to cover. Time is an important factor to consider when designing instruction for older adults. The learning pace could become an issue and older adults require patience from their instructor.

Another best practice related to having community programs provide access to technology outside of class. Not all older learners have technology at home. This means learners benefit from receiving access to technology outside of class. The learners in the study expressed having to purchase technology to complete class assignments. However, not all learners will have the financial means to purchase technology.

Older learners described their appreciation for steps to be repeated and patience from their instructor. Repetition and patience are two best practices for adult educators to be mindful about when teaching technology to older adults. Learners expressed their inability to learn when the instructor completed the task for them. All learners agreed that they learned best when the instructor talked them through the steps while they completed the task. According to the learners, at times the instructors completed the task for them in order to save time. This is not recommended.

Recommendations for Practice

The following recommendations for practice pertain to program administrators and instructors. There is a need to improve accessibility to programs about technology and new media to lead to long-term participation in technology. Long-term participation in learning about technology is important because there is a reciprocal association between lifelong learning and participation in learning activities among older adults (Yamashita et al., 2015). All participants in this study described feeling personal fulfillment when they helped their peers use technology. Lisa described accessing technology and helping her peers access technology as empowering. After completing the Tech Starters I class, Angie became a FreeTech volunteer to help her peers access technology. The feeling of satisfaction among older learners of accessing technology from long term participation in technology classes can lead to them volunteering and helping other people learn. This will multiply the organization's efforts and will motivate others learn when they see that a peer can serve as role model.

Understanding the conditions under which older adults participate to learn is important to keep in mind when designing a program in learning technology and new

media. The program and administrators' role is to assist in removing or lowering barriers and improving environmental conditions to promote learning. These efforts should align with what adults choose to learn, how they organize and conduct their learning, and where learning takes place for them (Skilbeck, 2006, p. 47). Access was a significant barrier identified by instructors and learners. According to the literature (Horrigan, 2016) the digital divide centers on people's access to digital technologies and also on the degree to which people succeed or struggle when they use technology to try to navigate their environments, solve problems, and make decisions. A recent report by the Pew Research Center showed that adoption of technology for adult learning varies depending on people's socio-economic status, race/ethnicity, and level of access to home broadband and smart-phones (Horrigan, 2016). Programs can accommodate participants' interests and learning ability, and be in accessible locations and familiar settings to be satisfactory to participants' needs (Yamashita et al., 2015). All learners in the study expressed an appreciation for the classes to be at a location in close proximity to where they live. Providing multiple locations helps learners chose the most convenient location for them. Access to transportation is a potential barrier for some learners. It would help if the organization partnered with the local bus system or transportation agencies to provide free of cost or affordable transportation options. Program schedules may be organized to enable participants to take multiple courses at one visit as well.

Moreover, older learners have different capabilities and limitations (Mayhorn et al., 2004). It is critical to consider older adults' capabilities and limitations when evaluating the success of programs and instructors. For example, physical hand dexterity, vision, health, and financial status are capabilities or limitations older adults face when

accessing technology. These are challenges that should be studied and solved to improve access. Another aspect relates to not having access to technology outside of the classroom. The city where this study took place was rich in technology rich environment, with multiple universities, an abundant amount of technology related industry and jobs. Furthermore, this city has a mainstream population that is up-to-date with technology. This context provides an extreme contradiction when looking at the lack of technology access for older learners.

In relation to recommendations for instructors, it is necessary to consider the attitudes and learning needs of older adults. The learners in the study expressed that they experienced anxiety using technology, which is important for the instructor to know before designing a lesson. Learners do best when treated according to their unique learning needs (Shedletsky, 2006). The learners from the study indicated that they would prefer to learn in a one-to-one situation; they valued having the instructor to support them while they practiced using the Internet.

Adult educators working in programs similar to FreeTech can help older learners overcome feelings of inadequacy while learning technology. By keeping in mind the learners' different learning paces and styles, adult educators help improve the negative attitude and instill self-confidence towards the use of technology. Likewise, the learners' motivations to use and learn technology are important for the adult educator to engaging and keeping them enrolled.

The social aspect is a motivator that instructors can exploit when trying to engage the students in learning technology. As González et al. (2012) remind us, the motivation to learn these technologies on the part of the elderly emerges mainly in those social

contexts where one sees collaborative learning process based on the support and help among peers.

The older adult learners participating in the study recommended adult educators provide written instructions to complete a task using technology. Providing well-organized written instructions may assist in reconciling the differences between task requirements and personal limitations (Mayhorn et al., 2004). All the learners described their experiences of going through anxiety when trying to remember steps to perform a task using technology. Feelings of anxiety and fear can be reduced or completely eliminated from the process of learning how to use technology as a result of having a set of well written instructions to serve as a reference or guide for the learner in and outside the classroom.

Future Research

I began this research journey looking for answers to bring meaning and an understanding about older adults using and learning technology and new media by telling their stories. The present study is just the beginning of my research agenda and constitutes a minimal contribution to a larger inquiry topic. There is a need to investigate the positive experiences and factors that promote long-term participation in lifelong learning for older adults enrolled in technology classes. The following are suggestions for future research that other investigators interested in the topic may find useful.

- Design research that includes several community-based programs around the nation in a larger qualitative study on older adults learning technology and new media.

- Investigate and document the different initiatives that are taking place at the national level in order to make progress toward a technological inclusive society.
- Research the effectiveness that community-based programs have on the community in narrowing the digital divide among older adults and younger people.
- Conduct a study that includes the older male adult learner perspective.
- Conduct a study with wider range age

Concluding Thoughts

During this research journey, I have discovered that I will always be a lifelong learner and the importance of the role of community-based programs. The narratives of the study participants seeking out classes to learn how to use technology brought to my attention the importance of conquering our personal fears. I agree with Formosa (2012) that learning initiatives must be made available, free of charge, to relatives and volunteers involved in the care of older persons. Technology programs for older adults help our seniors learn how to be citizens in our technology society. Due to technological advances, there are now so many new ways for older adults to explore and learn technology and new media at their own convenience.

Community-based programs provide access to technology for older adults who would otherwise not have it. The older learners described feeling confident when they shared their recently acquired knowledge with friends and family. Their successful experiences using technology helped these learners further develop their love for lifelong learning. Learning about technology and new media continues outside the classroom as

society creates situations for using technology in such a way that older learners are motivated to seek out to stay connected with others. I have come to understand that older adults learn dependently through interaction with others. Hearing and seeing the ideas and experiences of others, sharing ideas, discussing, and learning from each other produce authentic learning experiences. Using technology helps to foster meaningful support for these learners.

I learned that when older learners question why they are asked to learn something, it is because they have a genuine necessity to understand the relevance and usefulness of the concept. This project has forced me to reevaluate how I want to be as an adult educator and researcher. The goals I set out to accomplish during this project were accomplished. I was able to conduct the study and answer the research questions. This project enabled me to get out of the environment where I work to learn about older adult learners' experiences, challenges, and motivations learning technology and new media. It also gave me professional and personal satisfaction knowing that I was making the learners feel important and proud of themselves for completing the technology programs. The learners' efforts were multiplied because they learned what they wanted to learn and more. They are eligible to continue enrolling in the higher technology programs which leads to more learning opportunities.

My personal experience as a researcher throughout this project has been transformational as well. This project has given me a greater respect for community-based program instructors and older learners and has transformed my views of how to educate older populations about technology. I understand that older learners experience barriers to adopt new technology use in their daily life. The learners attend the classes to

overcome their anxiety or fear of technology. They end up feeling satisfied and proud of their work learning and applying the new learning to continue to participate in the social and democratic spheres of their lives.

APPENDIX SECTION

APPENDIX A

SAMPLE QUESTIONS INTERVIEWING ADULT EDUCATORS

1. Please tell me about yourself.
2. Please describe the program.
3. What types of services does the program offer?
4. How do you do needs assessment to determine what classes to offer or what workshops to design for adults learning to use to technology and new media?
5. Who is the typical student you serve in this program?
6. Who is the typical older adult learner (55+years of age) attending technology/new media classes and/or workshops offered by your program?
7. What are some of your job responsibilities besides teaching?
8. How did you become interested in teaching new media and technology?
9. How long have you been teaching adults to use of technology and new media?
10. What technology and new media needs do you see in the community in relation to older adult learners?
11. How do you incorporate technology in your teaching?
12. How do you incorporate the use of new media in your teaching?
13. What is your favorite lesson/topic to teach technology/new media?
14. Please describe a time when you realized that your technology/new media lesson went really well?
15. What challenges are involved in the design and delivery of these classes/workshops?
16. What do you see is the importance of learning to use new media and technology for the learners you serve and for older adults in particular?
17. What advice can you give to instructors interested in designing lessons for older adults learning technology?
18. What advice can you give to instructors interested in designing lessons for older adults learning new media?
19. What else would you like to share with me in this interview today?

APPENDIX B

SAMPLE QUESTIONS INTERVIEWING ADULT LEARNERS

1. Please tell me a little about yourself.
2. What classes or workshops are you currently attending (or have you attended) related to using technology or new media or both?
3. Why do you attend this learning center/library?
4. How long have you been attending the program/workshops?
5. What specific new media and technology do you use?
6. When did you become interested in using technology/new media?
7. What motivates you to learn how to use technology?
8. What motivates you to learn how to use new media?
9. How do you feel when you use new media and technology (e.g., iPhone, tablet, or the Internet)?
10. What social media if any do you use?
11. How often do you use any of your devices or social media?
12. Do you know what Wi-Fi is? Do you use it outside of your home? When?
13. How confident do you feel using technology?
14. How do you feel about buying a new device?
15. How has your perception about technology changed as a result of attending classes/workshops?
16. How do you describe your learning using technology/new media?
17. Would you attend a class on how to buy new devices/technology?
18. What advice you wish someone would have given you in learning how to use new media/technology?
19. What is the role of technology in your daily life?
20. What benefits do you see in using new technology?
21. What barriers have you faced learning to use technology?
22. What is your advice for instructors teaching new media/technology?
23. What else would you like to share with me in the interview today?

APPENDIX C

SAMPLE QUESTIONS FOR FOLLOW UP INTERVIEWS

1. 2nd Round of Interview Questions for Adult Learners
2. Please describe your educational background. For example, were did you go to school and what is your highest education degree? What connections do you see between your level of education and your interest in using new media and technology?
3. Please describe your occupation or profession. What do you do for a living?
4. Were you required to use technology and/or new media in the workplace?
5. What technology and new media did you use and how?
6. What training did you receive in the workplace for using technology?
7. How if in any way did your job/occupation push you to use new media and technology?
8. Let's change gears now. How has the use of new media and technology helped you to participate in society and democracy? How if in any way does new media and technology get in the way of your participation in society?
9. How do you incorporate what you learn from these classes about new media and technology into your daily life?
10. Do you practice after class?
11. How do you practice what you learn in class?

APPENDIX D

TEACHING OBSERVATIONAL PROTOCOL

Research Questions Guiding the Observation:

Date: 2/3/2016 Time: 9:00-11:30am Class: Tech Starters

Instructor: Andrea Number of learners in attendance: 3 males and 3 females

Observation item	Comments
Instructor uses a variety of materials /resources to support instruction such as handouts, curriculum, and lessons. Make a list. Assignments and handouts are sent via email and posted on Google-Site. Curriculum and lessons were not available for the learners to review.	Teacher Assistant, Rudy, helped learners while instructor was lecturing, modeling, or helping another learner. The older adults in this class lacked confidence using new technology without assistance. Scaffolding was required the entire class time.
The instructor uses Technology to support instruction. **Type(s) of Technology** Computer with stand, Power Point, One Drive, Gmail, Windows, Projector**,** Projector Screen	Video tutorials, example, Introduction to Slide Layout. Each learner used a laptop and the Internet to create their own individual assignment.
The instructor uses New Media to support instruction. **Type(s) of New Media** Email sends update	Video tutorials, One Drive,Office 360 Email. Andrea had OFFICE2013/POWERPOINT2013 displayed on the screen. Andrea modeled to the learners how to download and save the file on the One Drive. The projector displayed Andrea's screen for the leaners. Learners checked the One Drive and saved blank presentation to their One Drive account.
Instructor identifies the learners' needs **How?** Walks around the classroom to check learners are on same page.	Andrea asked learners if they know about the topic to be learned. Andrea took requests from learners, an example is the second podium provided for Eduardo.
Instructor implements activities to address these learning needs. Which ones? Make a list. Stand	Eduardo has a back brace and cannot sit down. He was not required to walk around or move to another area.

Observation item	Comments
for students who cannot sit down. Learners do not have to walk around because their activities are done on-line.	
Instructor's Teaching Approach: **Dialogic,** X **Interactive,** X **Lecture,** X **Modeling** **Other:**	The lecture is a video. The learners have to receive and send emails (assignments). Class began at 9:06am. Andrea emailed the update to her students' Gmail account. Students logged into their Gmail accounts to receive the class's agenda of assignments and power point. Eduardo expressed that he wanted learn about power point. Andrea played a video to a tutorial about Power Point. Students watched the video without interruption. After the video finished, Andrea directed students to go to Office 360. Andrea had OFFICE2013/POWERPOINT2013 displayed on the screen. Andrea modeled to the learners how to download and save the file on the One Drive. The projector displayed Andrea's screen for the leaners. Learners checked the One Drive and saved blank presentation to their One Drive account.
The instructor implements learning activities so that the learners have time to practice how to use technology/new media. **Types of Activities Make a list.** **1.** Challenge 1 Make a Power Point **2.** Challenge 2 Create a business card **3.** Access personal email using gmail 4. Upload and access information from One Drive	They ran out of time to start the 3rd challenge. All class information was located on the One Drive. Learners independently logged into their laptop. Learners independently logged into their email and One Drive accounts. The assistant and instructor helped learners who forgot their passwords and usernames.
Learners brought their own technology to the lesson. Make a list.	Students used the laptops available.

Observation item	Comments
1. iPhone **2.** androids	
Learners use Technology in the classroom **Type(s) of Technology**	Each student is given a pc laptop. The audio and visual systems were controlled at the instructor's podium. The instructor's computer desktop screen was projected on the large white screen.
What class activities have potential to changing older adults' lifestyles though the use of technology or new media? **1.** Accessing the Internet and online sites **2.** Emailing projects **3.** Following instructions online helps with other online only procedures	The Power Point software was helpful for career advancement and effective communication. Using email to send attachments. Online video tutorials and instructions
Learners use New Media in the classroom **Type(s) of New Media** Google-Sites for Tech Starters Gmail	Learners used the laptops for all projects. All instructions, assignments, and videos were available online only. Fast speed Internet was a necessary.
Learners are able to activate prior knowledge? **How many times?** I I **How?** Questions, Email online,	Chris practiced the vocabulary when he asked for help resizing the layout. Chris said that he wanted to change the layout to the slide.
Learners ask relevant questions? **_____ Questions directed to Instructor (make a list)** "I'm not sure if I saved the presentation on my One Drive."	Lisa said out loud that she did not remember how to access Office 365. Scaffolding was required the entire class time. Rudy (teaching assistant) talked Lisa through the process of accessing Office 360. Andrea set up the laptop for Chris when he asked for help about Office 360. Andrea and Rudy assisted the learners. There were five adult learners

Observation item	Comments
Learners' questions directed to classmates related to the use of technology/new media (list them below) Learners would hear side conversations and ask questions about the topic.	in total. Two were women and three were men. There were technical difficulties uploading, dragging the files and saving their files on-line. The five learners asked the two instructors for support throughout the class time.
Learners are exposed to problem solving activities? **Which ones? Make a list.** They make/ create their own power point. Remembering passwords	She needed help assembling how to get into Austin 360. Assistance was important to have in a class. The older adults felt confidence using new technology with assistance from Rudy and Andrea. The leaners worked to access the files on-line. Chris asked where was the copy and paste button. Chris figured out that "control c" is copy and "control v" is paste. Andrea asked Sarah if she remembered her username. Sarah said she just copied and pasted the information.
Student work…	Worked individually the whole time Number of times learners use technology while in the lesson The entire time Number of times learners use New Media while in the lesson The entire time
Unexpected class events	Not this time

REFERENCES

Abad, L. (2014). Media literacy for older people facing the digital divide: The e-inclusion programmes design. *Comunicar, 42*(21), 137-145. doi:10.3916/C42-2014-13

Adams, N., Stubbs, D., & Woods, V. (2005). Psychological barriers to Internet usage among older adults in the UK. *Medical Informatics & the Internet in Medicine*, *30*(1), 3-17.

Alfred, M. V. (2009). Social capital theory: Implications for women's networking and learning. *New Directions for Adult and Continuing Education, 2009*(122), 3-12.

Aspin, D. N., & Chapman, J. D. (2007). *Values education and lifelong learning*. Rotterdam, NL: Springer.

Baker, P., Bricout, J., Moon, N., Coughlan, B., & Pater, J. (2013). Communities of participation: A comparison of disability and aging identified groups on Facebook and LinkedIn. *Telematics and Informatics, 30*(1), 22-34.

Barnard, Y., Bradley, M. D., Hodgson, F., & Lloyd, A. D. (2013). Learning to use technologies by older adults: Perceived difficulties, experimentation behavior and usability. *Computers in Human Behavior, 29*, 1715-1724. doi:101016/j.chb.2013.02.006

Borg, S. (2001). The research journal: A tool for promoting and understanding researcher developments. *Language Teaching Research, 5*(2), 156-177.

Boulton-Lewis, G., Buys, L., Lovie-Kitchin, J., Barnett, K., & David, L. (2007). Ageing, learning, and computer technology in Australia. *Educational Gerontology, 33*(3), 253-270.

Chakraborty, R., Vishik, C., & Rao, H. (2013). Privacy preserving actions of older adults on social media: Exploring the behavior of opting out of information sharing. *Decision Support Systems, 55*(4), 948-956.

Chapman, J., McGilp, P., Cartwright, P., De Souza, M., & Toomey, R. (2006). Overcoming barriers that impede participation in lifelong learning. In J. Chapman, P. Cartwright and E. J. McGlip (Eds.), *Lifelong learning, participation and equity* (pp. 151-174). Rotterdamn, NL: Springer.

Chen, Y., Lee, B. D., & Kirk, R. M., (2013). Internet use among older adults: Constraints and opportunities. In Zheng, R., Hill, R. D., & Gardner, M. K. (Eds.), *Engaging older adults with modern technology: Internet use and information access needs* (pp.124-125). Hershey, PA: Information Science Reference.

Chiu, C., Hu, Y., Lin, D., Chang, F., Chang, C., & Lai, C. (2016). Full length article: The attitudes, impact, and learning needs of older adults using apps on touchscreen mobile devices: Results from a pilot study. *Computers in Human Behavior, 63*, 189-197. doi:10.1016/j.chb.2016.05.020

Chonody, J., & Wang, D. (2013). Connecting older adults to the community through multimedia: An intergenerational reminiscence program. *Activities, Adaptation & Aging, 37*(1), 79-93.

Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches*. Thousand Oaks, CA: Sage.

Dauenhauer, J., Steitz, D. W., & Cochran, L. J. (2016). Fostering a new model of multigenerational learning: Older adult perspectives, community partners, and higher education. *Educational Gerontology*, *42*(7), 483-496. doi:10.1080/03601277.2016.1157419

Denzin, N. K., & Lincoln, Y. S. (2005). *The SAGE handbook of qualitative research*. Thousand Oaks, CA: Sage.

DeWalt, K., & DeWalt, R. (2011). *Participant observation: A guide for fieldworkers*. London, UK: AltaMira Press.

Díaz-López, J. D., López-Liria, R., Aguilar-Parra, J., & Padilla-Góngora, D. (2016). Keys to active ageing: New communication technologies and lifelong learning. *Springerplus, 5*(1), 1.

Formosa, J. (2012). Lifelong education for older adults in Malta: Current trends and future visions. *International Review of Education, 58*(2), 271-292.

Freire, P. (2000). *Pedagogy of the oppressed*. New York, NY: Continuum.

Galbraith, M. (2004). *Adult learning methods: A guide for effective instruction*. Malabar, FL: Krieger Publishing Company.

Glesne, C. (1999). *Becoming qualitative researchers: An introduction* (2nd ed.). Longman, NY: Pearson.

González, A. A., Ramírez, M. P., & Viadel, V. (2012). Attitudes of the elderly toward information and communications technologies. *Educational Gerontology*, *38*(9), 585-594. doi:10.1080/03601277.2011.595314

Horrigan, J. (2016). *Digital Readiness Gaps.* Retrieved from http://www.pewinternet.org/2016/09/20/digital-readiness-gaps/

Huber, L., & Watson, C. (2014). Technology: Education and training needs of older adults. *Educational Gerontology, 40*(1), 16-25.16-25. doi:10.1080/03601277.2013.76804

Hur, M. (2016). Empowering the elderly population through ICT-based activities: An empirical study of older adults in Korea. *Information Technology and People, 29*(2), 318-333.

Istance, D. (2015). Learning in retirement and old age: An agenda for the 21t century. *European Journal of Education, 50*(2), 225-238. doi:10.1111/ejed.12120

Jarvis, P. (2010). Adult education and lifelong learning: Theory and practice (4th ed.). New York, NY: Routledge.

Kolb, P., & Conway, F. (2015). Roles for education in development and implementation of evidence-based practices for community programs for older adults. *Gerontology & Geriatrics Education, 36*(3), 226-241. doi:10.1080/02701960.2015.1031895

MacKeracher, D. (2004). *Making sense of adult learning*. Toronto, Ont, CA: University of Toronto Press.

Madden, M. (2010). *Older adults and social media.* Retrieved from http://pewinternetInternet.org/Reports/2010/Older-Adults-and-SOcial-Media.aspx

Mayhorn, C. B., Stronge, A. J., McLaughlin, A. C., & Rogers, W. A. (2004). Older adults, computer training, and the systems approach: a A formula for success. *Educational Gerontology, 30*(3), 185-203.

Melenhorst, A. A., Rogers, W. W., & Bouwhuis, D. D. (2006). Older adults' motivated choice for technological innovation: evidence Evidence for benefit-driven selectivity. *Psychology and Aging, 21*(1), 190.

Merriam, S. B. (1998). *Qualitative research and case study applications in education*. San Francisco, CA: Jossey-Bass.

Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation*. San Francisco, CA: Jossey-Bass.

Merriam, S. B., & Kee, Y. (2014). Promoting community wellbeing: The case for lifelong learning for older adults. *Adult Education Quarterly, 64*(2), 128-144.

Merriam, S. B., Caffarella, R. S., & Baumgartner, L. M. (2007). *Learning in adulthood* (3rd ed.). San Francisco, CA: Jossey-Bass.

O'Brian, D., & Scharber, C. (2010). Teaching old dogs new tricks: The luxury of digital abundance. *Journal of Adolescent & Adult Literacy, 53*(7), 600-603. doi:10.1598/JAAL.53.7.7

Patomella, A., Kottorp, A., & Nygrd, L. (2013). Design and management features of everyday technology that challenge older adults. *British Journal of Occupational Therapy, 76*(9), 390-398 9p. doi:10.4276/030802213X13782044946229

Patton, M. Q. (2002). *Qualitative research & evaluation methods*. Thousand Oaks, CA: Sage.

Satariano, W., Scharlach, A., & Lindeman, D. (2014). Aging, place, and technology: Toward improving access and wellness in older populations. *Journal of Aging and Health, 26*(8), 1373-1389.

Shedletsky, L. J. (2006). Internet training for older adult learners: An intergenerational mentoring approach. *LLI Review*, 1, 34-43.

Skilbeck, M. (2006). Participation in learning: Why, what, where and how do people learn? In J. Chapman, P. Cartwright & E. J. McGlip (Eds.), *Lifelong learning, participation and equity* (pp. 47-78). Rotterdam, NL: Springer.

Slegers, K., van Boxtel, M. P. J., & Jolles, J. (2007). The effects of computer training and Internet usage on the use of everyday technology by older adults: A randomized controlled study. *Educational Gerontology, 33*, 91-110.

Smith, A. (2014). *Older adults and technology use*. Retrieved from http://www.pewinternetinternet.org/2014/04/03/older-adults-and-technology-use/

Stellefson, M., Chaney, B., Barry, A. E., Chavarria, E., Tennant, B., Walsh-Childers, K., & ... Zagora, J. (2013). Web 2.0 chronic disease self-management for older adults: A systematic review. *Journal of Medical Internet research, 15*(2) e35.

Taylor-Powell, E., & Renner, M. (2003). *Analyzing qualitative data*. Madison, WI: University of Wisconsin Program Development & Evaluation.

Tisdell, E., Taylor, E. W., & Sprow, K. (2010). *Financial literacy education for adult learners in community based programs*. Retrieved from: http://www.nefe.org/LinkClick.aspx?fileticket=CpQ83--pkBA%3D&tabid=1040http://www.nefe.org/LinkClick.aspx?fileticket=CpQ83--pkBA%3D&tabid=1040

Tsai, T., Chang, H., & Ho, Y. (2016). Perceptions of a specific family communication application among grandparents and grandchildren: An extension of the technology acceptance model. *PloS ONE, 11*(6), 1-23. doi:10.1371/journal.pone.0156680

Wagner, N., Hassanein, K., & Head, M. (2010). Understanding web site satisfaction for older adults. *SIGHCI 2010 Proceedings*, Paper 18. Retrieved from http://aisel.aisnet.org/sighci2010/18http://aisel.aisnet.org/sighci2010/18

Wang, L., Rau, P. P., & Salvendy, G. (2011). Older adults' acceptance of information technology. *Educational Gerontology, 37,* 1081-1099. doi:10.1080/03601277.2010.500588

Wilson, C. L. (2014). *Ageing technologically: Exploring the motivating operations of technology use by older adults*. (Doctoral thesis.) Retrieved from http://ethos.bl.uk/OrderDetails.do?uin=uk.bl.ethos.614430http://ethos.bl.uk/OrderDetails.do?uin=uk.bl.ethos.614430

Wolf, M. A. (2009). Older adult women learners in transition. *New Directions for Adult & Continuing Education, 2009*(122), 53-62.

Yamashita, T., López, E., Keene, J., & Kinney, J. (2015). Predictors of adult education program satisfaction in urban community-dwelling older adults. *Educational Gerontology, 41*(11), 825-838. doi:10.1080/03601277.2015.1050909

Yang, Y. T., & Chen, B. (2015). Web accessibility for older adults: a comparative analysis of disability laws. *The Gerontologist, (5*), 854. doi:10.1093/geront/gnv057

Yin, R. K. (2010). *Qualitative research from start to finish*. New York, NY: Guilford Press, 2010.

Zheng, R., Hill, R. D., & Gardner, M. K. (2013). *Engaging older adults with modern technology: Internet use and information access needs*. Hershey, PA: Information Science Reference, c2013.