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Adult Public Library Patrons' Perceptions of an Academic Library E-Learning Resource

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This is to certify that the doctoral study by

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has been found to be complete and satisfactory in all respects,
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Abstract

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by

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MS, Dominican University, 2009

MS, Chicago State University, 2000

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Doctoral Study Submitted in Partial Fulfillment

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Abstract

Many Americans lack the skills required to use public access computers and the Internet at public libraries (PLs). Staff members of a PL in the Midwestern United States provide basic computer training to support patrons' Internet and public access computer use. However, adult patrons who are beyond the basic skills level and those with sensory-disabilities are underserved. The purpose of this qualitative single-case study was to understand how an academic library's information literacy e-resource affected the PL's adult patrons' learning based on the perceptions of adult patrons at a PL. Kling's social informatics served as the study's conceptual framework and the research questions centered on how academic library's e-resource affected the participants' learning. Purposive homogeneous sampling was used to identify 10 participants over the age of 18 who were patrons at the target site. Data were collected using observations, semi structured interviews, and document review. The data were analyzed using coding and structural analysis. Themes supporting the findings of an academic e-resource affecting the participants' learning included standards-based e-resource sharing across library types, digital exclusion, digital inclusion, change, and innovation. A white paper was developed including a summary of the findings and the recommendation that library leaders adopt the academic library's e-resource system to improve access and to support individuals who have sensory disabilities as well as patrons beyond the basic skills level at the study site. The implications for social change include enhanced e-services and the potential expansion of the patron base to include underserved stakeholders within the urban PL community.

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Dedication

To the digitally excluded in our knowledge society: Education, research, and collaboration will provide you with the needed support to reach your destinations, on or off the World Wide Web to facilitate self-directed and lifelong learning.

Acknowledgments

Dr. Mario Castro, Dr. Cathryn White, and Dr. Karen Hunt, my doctoral study committee, thank you for your collaborative support and feedback as I completed my doctoral journey. Dr. Nora J. Bird, associate professor at University of North Carolina at Greensboro, Library and Information Studies, thank you for your feedback and external expert opinion regarding the validity of the research questions and the self-developed instruments for this study. The librarians at the University of Idaho Library (academic library) provided consent for me to use their e-resource for this study and the administrators at the research site (public library) provided consent for me to complete this study at the central library, thank you for your collaborative support. Last but not least, I am grateful for my family and friends who were a constant source of inspiration and motivation throughout my doctoral journey.

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Section 1: The Problem

Introduction

The information age has demonstrated socioeconomic paradigm shifts in information and communications technologies (ICT) and the Internet. Further, Internet usage and information literacy has changed dramatically during the 21st century, and new platforms for information creation and delivery have transformed the fabric of society (Eylem & Ali, 2013). Moreover, the Internet has surpassed the traditional modes of communication, offering social media tools that provide political and socioeconomic empowerment facilitated by collaboration and interaction (Desouza, & Bhagwatwar, 2014; Zhao, Truell, Alexander, Sharma, & Smith, 2013). For example, the election of U.S. President Barack Obama owed much to his staffers' effective use of digital media to connect to supporters and raise millions of dollars (Vaccari, 2010). The effective use of the Internet during the 2008 campaign was credited by some as the primary reason for the successful election of the first Black president of the United States (Cardoso & Lamy, 2011). The election demonstrated how the Internet could be used to address societal change and empower historically marginalized groups (Cardoso & Lamy, 2011). In addition, during his 2012 reelection campaign, Obama described the Internet as a product of government research and an example of a worthwhile investment of public expenditures (Haigh, Russell, & Dutton, 2015). These are a few of the socioeconomic changes that have occurred as a result of the effective use of the Internet and ICTs.

The Internet allows users to locate volumes of information as needed. In addition, the knowledge society age (or the information age) is driven by current information and

innovation, which produces new knowledge but has the potential to cause an overload of information from Internet-based communications (Banyen, Viriyavejakul, & Ratanaolarn, 2016). For example, many users are able to locate information on the Internet using Google or other search engines (Luh, Yang, & Huang, 2016). Internet usage in North America more than doubled between 2000 and 2018, increasing from 108,096,800 to 345,660,847 (Miniwatts Marketing Group, 2018). Internet users worldwide query Google over 3 billion times daily (Ridgway, 2017). In 2013, the revenues for Google were approximately $38 billion (Park & Skoric, 2017). Furthermore, Google is the most popular search engine available today because every search yields some result, and some yield as many as 200,000,000 results (Cahill, 2008). *Googling* has become synonymous with *Net research and* search engines, are used by many individuals globally to locate information about subjects ranging from health to finances (Cahill, 2008). The Internet and search engines such as Google provide the platform for individuals to locate information as it is needed at increasing rates.

As these numbers suggest, many individuals are living in an information age, and information literacy has become part of the foundation for lifelong learning and a democratic society (Harding, 2008). However, deficiencies in analytical and critical thinking skills among users has been linked to an over dependence on search engines such as Google and the Internet (Arshad & Ameen, 2013). Many experts and other observers are concerned about users' ability to navigate Internet technologies and critically evaluate the information they receive from them. The concern, search engines and Google in particular, require that users navigate through excessive amounts of

unwanted information in order to find the specific information they need (Rheingold, 2012). Public librarians, who have traditionally been tasked with assisting library users in finding the information they need, are on the front line in helping persons understand how to navigate the Internet and evaluate the results of user searches (Rheingold, 2012). While search engines such as Google have allowed users to locate large amounts of information, public librarians are needed to demonstrate how to effectively manage and use search engines.

Primarily, librarians develop programs to address an individual's specific query efforts by first understanding and evaluating strategies to address the goals of patrons (LaGuardia, 2011). In addition, public libraries make technology available to patrons through their provision of public access computers (PACs) with Internet connectivity and other networked resources; these resources are essential for individuals who do not have computer and Internet access in their homes (Chaudhuri & Flamm, 2006). In addition, librarians assist patrons by providing them with access to information and by offering information literacy instruction that is designed to help patrons effectively evaluate and use information (Gerding, 2011). Further, in recent years, online information literacy tutorials have been offered by academic librarians at universities to support students' learning (Tooman & Sibthorpe, 2012). Librarians (academic and public) provide information literacy instruction using different types of resources.

Definition of the Problem

The availability of PACs in the United States has allowed public libraries to become an integral part of the nation's educational system and has facilitated efforts of

public librarians to provide digital instruction to as many as two thirds of their users (Nishi, 2011). In addition, public libraries provide Internet access as well as *point of need* (physical location) service and training (Radsliff Rebmann, Te, & Means, 2017). As part of this effort, a public library located in the Midwest region of the United States (hereafter referred to as the PL) provides an adult computer training program (hereafter referred to as an ACTP), which offers one-on-one assistance and basic computer instruction for those adult patrons who use the PL's 2,800 PACs. However, only 42 out of the 79 branch locations, or 53%, provided the ACTP for patrons (Williams, 2010a). The PL's 2014 annual report, documented that 48 ACTP staff provided 99,700 basic computer training sessions during 2014.

The high demand for basic digital instruction in public libraries is not unusual. In 2010, researchers conducted a national study and found that an estimated 38% of public libraries provided digital instruction while only 30% provided online tutorials (Clark & Visser, 2011). The national statistics are relevant to the PL's ACTP because, while it is among the estimated 38% of public libraries that provided digital instruction, it is also among the 30% that did not incorporate online tutorials in its ACTP. Thus, although it provides basic computer training to adult patrons while they use PACs at the PL, it is not providing ACTP service to those patrons who have more a more advanced skills level and who do not use the PACs. Clark and Visser (2011) posited that everyone should have access to adequate broadband technology, as well as age-appropriate digital literacy instruction, in the United States. The primary core value of librarianship is equitable

access for all library constituents to all library resources in various formats using direct and indirect delivery (American Library Association, 2018; Ballard, 2016).

In reviewing the scholarly literature for this study, I identified a gap in the literature and practice concerning equal access to ACTPs among adult patron at U.S. public libraries. The purpose of this qualitative single-case study was to understand how an academic library's information literacy e-resource affected the PL's adult patrons' learning based on the perceptions of adult patrons at a PL. In addition, I aimed to introduce an academic library's e-resource to a group of adult patrons at the PL, provide a voice regarding their perspectives about how the University of Idaho's (UI's) information literacy e-learning resource (University of Idaho Library, 2015) affected their learning.

Rationale

Evidence of the Problem at the Local Level

The plans for the PL began to develop in 1916 when the then chief librarian introduced the notion of a citywide library system that would consist of individual libraries located in each community within the city. By 1950, in addition to the number of buildings offering library services, bookmobiles were used to transport an estimated 100,000 books to communities in the city under the direction of the chief librarian serving at that time. One central and two regional libraries were erected in the 1975 and 1985. In 1987, the central library provided administrative oversight for the library system while the two regional libraries functioned as the administrative offices for the community branch libraries. The year 1995 was a landmark year of the PL for several reasons. It was in that year that PL staff automated their operations with an online catalog

and circulation system shared by all branches and the central library, allowing for the sharing of collections among the various branch libraries. In addition, PL staff launched an Internet website that allowed patrons to access library resources after library hours.

While these efforts resulted in PL patrons having Internet access, it became apparent to policy makers that patrons lacked the knowledge and skills required to fully use computers independently, and that Internet access alone was not enough to bridge the digital divide (differences in the ability of those who can access information using newer technologies and those who cannot) (Swan et al., 2013). By the year 2010, 20% of Americans were still disconnected from the Internet, and approximately two thirds of this group had never experienced using the Internet (Chen, 2013). Leaders of the PL launched the ACTP to address this issue in the following phases: an experimental phase from 1999-2007 that was funded by AT&T during 1999-2002, an implementation phase that was funded from 2008-2009 by the Bank of America, and an expansion phase that began in 2010 and was funded by the PL Foundation (Williams, 2010a). Staff for the ACTP worked 20 hours per week at a rate of $14.00 and provided basic computer training for patrons who used PACs at more than half of the branch locations throughout the PL system (Williams, 2010b).

The PL's leaders assigned ACTP staff to 42 of the 79 PL branch locations to address the gaps between what was required in terms of digital literacy to function effectively in society and the current skill levels of adult patrons at the PL (Williams, 2010a). Additionally, ACTP instructors provided 1 hour of basic computer classes in which adult patrons were taught basic keyboarding skills, how to use a mouse, how to

send and receive e-mails, and how to effectively use social network media (Williams, 2010a). Instructors also provided face-to-face technical assistance for adult patrons who requested assistance while using the PACs with Internet connections at 42 branch locations (Williams, 2010a).

Strengths, weaknesses, opportunities, and threats analysis of the PL's adult computer training program. The strengths, weaknesses, opportunities, and threats (SWOT) organization framework was developed by the Harvard Business School in the 60s primarily as a strategic management tool that was developed to understand and link the internal characteristics of an organization to its external expectations (Bell & Rochford, 2016). The ACTP staff demonstrated the PL's mission by providing this particular service for their adult patrons. However, the available funding and staffing resources are limited. The strengths of the ACTP include the following:

- The placement of bilingual ACTP staff in ethnic communities where the patrons often are native speakers of foreign languages, most notably Chinese and Spanish;
- A strong customer service focus with professional development for users;
- Close collaboration between ACTP staff and the PL's reference librarians;
- A minimum of 20 to 30 minutes of one-on-one assistance and basic computer classes for adult patrons who use the PL PACs with Internet access on demand; and
- A commitment to continue to fund the ACTP program by the PL's Foundation (Williams, 2010a).

The weaknesses of the ACTP program include the following:

- Only 42 out of 79 PL branch locations have been assigned ACTP staff.
- The ACTP's staff members are not provided with their own personal computer or workstation. Even in libraries with ACTP staff, these members only work 20 hours per week, which means that all of the branch libraries are open when digital support for users is unavailable.
- The ACTP addresses only basic computer skills (Williams, 2010a).
- There is too little in the way of instruction or assessment programs to address the needs of the 40% of Americans who report that they do not use computers nor access information using the Internet because the systems are too difficult to use (Bill & Melinda Gates Foundation, n.d).

PL leaders have the following local opportunities if appropriate e-learning resources can be found to strengthen and expand the ACTP:

- An opportunity to begin a dialog about the value of an online information literacy tutorial for library users based on a working model, specifically the UI's information literacy online core curriculum, allowing the PL's adult patrons to examine that program to determine whether it might serve their learning needs;
- An opportunity for the PL and the UI's academic library to share resources and expertise, adapting an existing program for use by a different population and enhancing the PL program using an inexpensive option that can be mounted quickly while offering the UI an external critique of its program. In addition, partnerships between organizations produce mutual benefits, such as increased

knowledge, resources and networks, as well as assistance to the users within their communities (Struck, Staloch, Kirschmann, McGhie Kao, & Choua, 2014);

- An opportunity for the PL to expand its program to include online tutorials and information literacy instruction beyond the current basic computer skills curriculum using techniques that are new to public libraries based on techniques that have proven to be successful on college campuses;
- An opportunity to provide support to the PL's branch locations that do not have ACTP instructors assigned to them, as well as online self-directed learning for a wide array of users at an affordable cost; and
- An opportunity to enhance programs for lifelong and self-directed learning offered to the PL's adult patrons throughout the PL system at a modest cost (Firat, Sakar, & Kabakci Yurdakul, 2016).

The threats to the ACTP if no additional efforts are mounted to address information literacy include

- Unequal distribution of digital assistance to all the PL branches,
- Instability based of funding based on fluctuations in the economy,
- Inability to take the risk and time required for change and improvement,
- Limited online resource availability for adult patrons through the ACTP, and
- Lack of support and funding necessary to expand or improve the program.

My understanding was enhanced regarding the internal and external characteristics of the PL's ACTP as a result of completing the ACTP SWOT analysis.

Evidence of the Problem from the Professional Literature

The history of the Internet provides a timeline for the development of the digital divide and offers insights into why this phenomenon has been a major focus of research since the mid-1990s (Sparks, 2013). Although there is a substantial amount of published research regarding information literacy in school and academic libraries, very little is available relating to programs in public libraries and, specifically, to how these libraries are addressing the needs of adult patrons (Harding, 2008), which has contributed to the development of a digital divide.

Advances in technology and the Internet have contributed to the digital divide. Mardis, Hoffman, and Marshall (2008) parsed the digital divide, a term used generically to describe differences in levels of access to information technology based on economic and social status. Further, poverty has been identified as a primary cause of the digital divide (Jayasundara, 2016), as well as other social justice issues related to the information age (Wookjoon Sung1, 2016). In addition, inadequate education, health, and quality of life are systemic concerns relating to poverty and are perpetuated by it, which is why it is difficult to break the cycle (Roche, 2016). However, technological advances, including the introduction of cell and smart phones and other digital devices, the offering of computers in public places, and a wider distribution of hot spots, have made it easier for many individuals to access the Internet (Warf, 2013).

Mardis et al. (2008) posited that the digital divide has four different levels. First, there is a need for access to computers and mobile devices offering Internet access without which access to electronic information is impossible (Mardis et al., 2008). The

second level is described as the information literacy divide and includes recognition of the importance of digital skills, the capacity of individuals to use computers, and navigate online (Mardis et al., 2008). The third level involves policy and the development of curriculum for, and the implementation of, information literacy programming initiatives that are designed to make sure that users understand the relative value of the information available to them, have the capacity to retrieve needed information, and understand how to evaluate and use that information to their benefit (Mardis et al., 2008). The fourth, and final, level is considered informal because it involves the cultivation of individual interest in and individual choices for using the Internet based on an understanding of the information found there and its value (Mardis et al., 2008).

Rustad and D'Angelo (2011) provided additional history about the digital divide and chronicled the evolution of the Internet beginning in 1974. In that year, computers began to communicate with each other using a transmission control program, a system initially used primarily by computer scientists to communicate within their group. This evolved into a practical tool for ordinary users in 1990 when Harvard University's Tim Bernier-Lee provided a platform for virtual space with the development of a graphical user interface, something which came to be called the worldwide web. For the first time, millions of Americans could send e-mails and instant messages at any time. Thereafter, the "U.S. government and private corporations shaped the evolution of the Internet as a technology accessible to all Americans" (Rustad & D'Angelo, 2011, p. 5), marking a rapid expansion of the Internet. This change also marked the beginning of the digital divide, as access to the Internet became an increasingly important tool critical to success

that was provided at a cost to users. In addition, it has become a key component of discussions regarding the socioeconomic impact of the commercialized Internet and the lives of the adult patrons who are becoming increasingly dependent on it (see Li, O'Brien, Snyder, & Howard, 2015).

Mardis et al. (2008) contended that, as computers became part of life in general and education in particular, an information literacy divide has developed as the need for individuals, particularly teachers and students, to build the technological competencies and skills required to use computers effectively and to evaluate and use the information computers made available to them. More recently, a recognition that this divide also applies to adults served by public libraries has led to the development of programs like the ACTP. This more detailed definition of user needs makes it critical to document the divide that exists and reveals how free public access to computers and the Internet alone cannot eradicate this problem. It also indicates the need for libraries to develop policies that are designed to address the information needs of their clients and the incorporation of the necessary skills required to successfully use the Internet.

Public libraries have an established niche in offering services to the public as information providers or facilitators in the use of information. The efforts to improve information literacy, represents a natural extension of those elements of its mission. The primary goal of public libraries is to provide the resources and support that patrons need to understand how to acquire, evaluate, and use information, and part of this includes addressing the need of users to operate online (Harding, 2008). Public libraries serve as community resources with a mission to provide equal access to knowledge and offer

access to the digital resources needed to empower individuals to become successful, informed participants in public discourse (Horning, 2010). Public libraries are an invaluable information resource for an estimated 44 million American adults who lack reading proficiency, and they also provide resources and support for adults who need to access the Internet, both by providing connectivity and by offering assistance in using the systems available (ALA, 2012). Public libraries also offer informal adult education that supports self-directed and lifelong learning (Lai, 2011).

However, technology has changed both our means of communication, as well as instruction and learning, as we have known them historically (Li & Lester, 2009). Therefore, information literacy and lifelong learning have become requirements for survival rather than an option in a global society (Snavely, 2008). In the past, public library programs focused on helping patrons develop effective workforce participation skills (McShane, 2011) in a digital age, that has expanded to include training to empower patrons to find and effectively use information both on and offline (Harding, 2008). As part of this mission, the Bill and Melinda Gates Foundation (n.d.) reported that 95% of the public libraries in the United States now provide PACs with free Internet connection, but "40% of Americans do not regularly use the Internet due to barriers to access and lack of skills" (p. 2). Public libraries are essential when it comes to providing access to information for the general public (Bill & Melinda Gates Foundation, n.d.).

The discussions regarding the digital divide in our society identify it as a gap between those who are comfortable working online and those who are less able to use the Internet to take advantages of opportunities that provide social and economic equality

(Sparks, 2013). Further, Lloyd, Lipu, and Kennan (2010) argued that there is a correlation between information poverty and social exclusion as it relates to the lack of information literacy skills and an inability to effectively use social networks to prevent disfranchisement, alienation, and marginalization within communities. Further, public libraries have been actively trying to address this divide and empower socially disadvantaged Americans (Smith, 2012).

The inability to overcome socioeconomic disenfranchisement resulting from exclusion from an information literate society due to a lack of access to technology and limited digital skills is referred to as the digital divide (Stevenson, 2009). Increasingly, this inability to access and use technology effectively has created a cycle of alienation from mainstream society and has left many without an effective way to overcome social and economic disadvantages (Lloyd, Lipu, & Kennan, 2010). The increasing pervasiveness of technology in the workplace has resulted in phase-outs of old forms of work and the creation of ones that require new skills, refocusing work opportunities on higher skilled technical jobs that require workers to build, maintain, repair, and use machines that increase their productivity. This widespread shift creating a demand for skilled technical workers (sometimes referred to as gold collar workers) has left many of those who find themselves on the wrong side of the digital divide and unable to take advantage of these new opportunities behind (Stevenson, 2009).

The purpose of this qualitative single-case study was to understand how an academic library's information literacy e-resource affected the PL's adult patrons' learning based on the perceptions of adult patrons at a PL in the Midwest. In this study, I

aimed to introduce an academic library's e-resource to a group of adult patrons at the PL, provide a voice for the adult patrons at the PL, document their opinions about their experiences during and immediately following their engagement with the UI's information literacy e-learning resource, and present a summary of the findings with recommendations in the form of a white paper to the policy makers at the PL.

Definition of Terms

Benchmarks: Tools that are developed and implemented to gauge the results or outcomes of a program, incentive, or activity and which are considered to be necessary in evaluating performance (Spaulding, 2008).

Computer literacy: "The efficient ability to know how to use and operate computers as information processing machines" (Sturges & Gastinger, 2010, p. 200).

Digital divide: A pervasive gap that is characterized by a disproportionate distribution of effective information literacy programs, resources, and information literate teaching and learning environments based on race and social-economic status (O'Brien & Scharber, 2008).

Digital literacy: The ability to read, write, and create new formats such as web pages and desktop publishing and critically analyze electronic information (Horning, 2010).

Formal education: Teaching and learning that takes place in academic settings such as elementary, secondary, and postsecondary institutions in which the completion of prescribed course work usually leads to the earning of a degree or some sort of credit (Merriam, Caffarella, & Baumgartner, 2007).

Informatics: A term used to describe human interaction with information technology to manage communication and data as well as the use and the exchange of information (Ralph, 2012).

Information literacy: A "set of abilities requiring individuals to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information" (The Association of Colleges & Research Libraries [ACRL], as cited in Lili, 2007, p. 145).

Information poor: Individuals who are adversely affected by the digital divide due to their lack of an appropriate facility to use new technologies to their advantage (Thompson, 2007).

Information society: A term used to describe a society that is based on the rapid exchange of information where knowledge is the main source of labor productivity and lifelong education is expected throughout one's professional life (Mandusic & Lucija, 2013). The term has come increasingly into vogue as Internet usage and other technologies for the exchange of information have become safer, cheaper, and faster (Mandusic & Lucija, 2013).

Internet: A global network framed by a standard Internet protocol suite that serves millions of private and public industries, as well as government networks worldwide while simultaneously accommodating billions of users in the twenty-first century (Ibarra-Esquer, González-Navarro, Flores-Rios, Burtseva, & Astorga-Vargas, 2017).

Lifelong learning: Adult training that continues after formal education (e.g., professional development or self-directed learning) that affects individuals' careers and quality of life (Mahieu & Wolming, 2013).

Nonformal learning: Learning that occurs outside of formal academic institutions such as universities and provided by participating in community and cultural institutions such as museums and libraries (Merriam, Caffarella, & Baumgartner, 2007).

Self-directed learning: Autonomous learning that is self-directed based on four of the following characteristics: (a) technical skills to complete the task, (b) understanding of the subject matter, (c) a sense of personal competency, and (d) personal commitment to the task at that time (Merriam, Caffarella, & Baumgartner, 2007). These factors are dynamic and change from situation to situation (Merriam et al., 2007).

Social informatics: A category of empirical research in which the impact of technology on behavior, as well as the quality of work within organizations, is explored and which has social change as the primary goal (Kling, 2007).

Significance of the Study

This study is significant because it was designed to assist the PL's administrators in their efforts to close the gap between patrons who have access to a formal online information literacy program mounted at the university level and patrons who only have access to informal learning face-to-face programs offered by and through the PL. In seeking to close the gap in patrons' access to computers and the appropriate software, and by eliminating these barriers, it has allowed the clear identification of strategies to support the expansion of information literacy instruction that is provided for adult patrons

at the PL. Further, the PL's administrators may be able to provide opportunities for equal access to information literacy instruction for all of the adults who desire to participate in an information-based society. While this study focused on adult patrons at the PL and efforts to address their needs, some of the results provided insights that might be useful to other institutions considering an academic library developed e-learning resources of this sort within public library programs to support information literacy among patrons.

A necessary first step would be to adopt the shared use of a tested academic library's technology in a public library setting. However, in order to facilitate true social inclusion, the digital literacy divide between those who can identify, acquire, evaluate, and use information must be purposefully addressed. Limited budgets, staff, space, and hours in public libraries have created unmet needs as the demands of the unemployed, students, and those seeking to improve computer skills using PACs increased (Warf, 2013).

The ACTP at the PL offers instruction relating to basic computer skills. Although adult patrons who have a PL library card have the option of using two one-hour PAC sessions per day, the one-on-one ACTP sessions are limited, lasting only 20 to 30 minutes. In addition, the ACTP does not provide opportunities for self-directed information literacy instruction because the program now in place was designed only to address the immediate digital needs of adult patrons who ask for assistance while working on PACs within a specific time frame. Consequently, the ACTP only respond to questions that are raised by the adult patrons regarding the use of PACs and the Internet and do not take users to the point where they fully understand and appreciate the potential

of the information sources available. Therefore, the PL's ACTP is less effective than it might be in closing the digital divide because adult patrons are not encouraged to expand their horizons in terms of the quality of sources they use. Further, it is common for adult patrons to have free PACs with Internet connection without ever discovering the vast array of resources available to them (Sturges & Gastinger, 2010). Moreover, researchers have found that even when patrons used PACs routinely, they continued to experience barriers related to Internet use due to lack of skills (DeMaagd et al., 2013).

During the course of the review of the literature, I noticed the similarities and differences between the approaches used to improve information literacy in academic library settings and those used in public library settings, specifically the use of technology. In addition, I sought to identify information literacy programs designed for use in academic library settings that might be adapted to facilitate equality of access to address needs within the PL's ACTP. It is not a usual practice within public libraries to seek solutions to digital training service problems with the e-learning resources developed and used by academic libraries. The PL's ACTP design did not include any form of self-paced and self-directed information literacy online tutorials, and there were no descriptions of comparable programs in public libraries found in the literature; therefore, the perspectives of the PL's adult patrons regarding the UI's information literacy online curricula or components of it to meet their needs, and whether it should be adopted for use as a supplement to existing program, is critical. This study provided opportunities for collaboration between an academic and a public library's policy makers to discover the perspectives of the PL's adult patrons regarding the type of affect an e-

learning resource such as the UI's information literacy online core curriculum could have on their learning. Consideration of this option will be based on the perceived capacity of the University of Idaho program to address the following needs:

- The use of social advocacy to improve the opportunities for self-directed learning in a public library setting.
- The utilization of technology to address the digital divide and empower patrons to become independent lifelong learners.
- The elimination of barriers that exist between academic and public library information literacy online curricula and introduction of public library patrons to self-paced independent online learning formats that have been successful in higher education environments.

After completing the literature review, I sought remedies to address these differences as a researcher by first browsing the *Tools for Real-Time Assessment of Information Literacy Skills* (TRAILS) (see Appendix D) website and resources where I located a link to the UI library information literacy online core curriculum. The UI's information literacy self-paced tutorial modules and assessments were developed around the year of 2003 and serves as an e-learning resource for the university's students. There are six modules that provide information literacy lessons followed by assessments and a seventh module that provides information about how to use UI's online catalog. The self-directed modules include: locating, searching and sharing information, topics, and assessments. All of the topics were applied both to the needs of users of academic and public library users. Subsequently, based on the concept of social informatics, I focused

my attention on how an e-learning resource such as UI's information literacy online core curriculum (see Appendix G) affected the adult patrons at the PL.

After that, I completed the UI's information literacy online tutorial with the self-assessments and found them to be easy to use and understand. Further, I concluded that they might be useful to adult users in at the PL and the ACTP there. After a brief telephone conversation and an e-mail inquiry regarding the possibility of using the UI's information literacy online core curriculum within the PL's ACTP to improve information literacy among adult patrons, I began to work with the UI's reference coordinator. The UI's reference coordinator immediately agreed to allow me to study whether their e-learning resource could be used to address the needs of the PL ACTP, that it was worth investing time and money to make that happen, and that the UI's staff would cooperate in this endeavor. Currently, the UI's information literacy online core curriculum can also be found on the UI Library's Evaluating Sources website and is one of the e-resources provided.

After I conducted a thorough search, I identified two published studies regarding the PL's ACTP through Google Scholar using the keywords *the PL* and ACTP, Williams (2010a) and Williams (2010b). The first study provided an overview of the program while the second specifically examined the role of the ACTP staff and instructors in relation to the term *informatics* as it is defined at the PL (Williams, 2010b).

I used a qualitative approach in this case study to document how the PL could better address the needs of their adult patrons while offering an opportunity to improve equal access to information literacy instruction using an online tutorial like that used at

the UI to address the digital divide that exists among the adult patrons they serve. Further, I included a literature review to develop a better understanding of current trends in K-20 education--a concept that speaks of K-12 education, postsecondary schooling, and graduate school as a single continuum, as well as, public libraries in efforts to address information literacy instructional needs. It took into account the fact that K-20 education routinely utilizes self-assessments and standardized tests to improve information literacy within their communities while public libraries generally mount programs that are less focused when addressing the information literacy needs of their adult patrons.

I sought to better understand the perceptions of the PL's adult patrons regarding how an e-learning resource such as the UI's curriculum affected their learning. I also sought to create a dialogue with the PL's leadership regarding how an e-resource of this sort could be used to support information literacy instruction for the branch locations and other adult learners not served by the ACTP. Moreover, the notion of understanding that is co-created or a *collective truth* emerged from Dewey's pragmatism philosophy, which posited the following: interactive dialogs between the members of a community, as well as their engagement with tools and other resources within the community can be used to illuminate understanding and solutions through *community inquiry* to address relevant community-based concerns rather than discovery (Bruce & Bloch, 2013). It also offered an opportunity to introduce an academic library developed online information literacy resource to the patrons at the PL and give them an opportunity to have a voice regarding

their perspectives about how an academic library developed e-learning resource affected their learning.

Guiding/Research Questions

The purpose of this qualitative single-case study was to understand how an academic library's information literacy e-resource affected the PL's adult patrons' learning based on the perceptions of adult patrons at a PL. In this study, I aimed to introduce an academic library's e-resource to a group of adult patrons at the PL, provide a voice for the adult patrons at the PL, document their opinions about their experiences during and immediately following their engagement with the UI's information literacy e-learning resource, and present a summary of the findings with recommendations in the form of a white paper to the policy makers at the PL. Another benefit of this study was the prospect of fostering more collaboration, cooperation, and resource sharing between a university and a public library to facilitate digital inclusion among the adult patrons at the PL.

There is a possibility that the findings from this study may serve to inform policy change at the PL as a result of the white paper recommendations that I will provide to the key decision makers at the PL, which could also extend the value of the study beyond the PL and provide an example for educators, librarians, and others in other parts of the United States who are concerned about insuring that those who need information can access, evaluate, and use the Internet in a way that will empower them to effectively function in society. In undertaking this study, I also sought to expand the body of

knowledge relating to library and information science, social informatics, and digital inclusion research. The three research questions that I used to guide this study were

RQ1. What are the perceptions of the PL's adult patrons regarding how the UI's information literacy online core curriculum affected their learning?

RQ2. What are the PL adult patrons' perceptions of the necessary modifications that should be made to the UI's information literacy online core curriculum to positively affect their learning?

RQ3. What are the PL adult patrons' perceptions of the potential deterioration of the PL's ACTP if an e-resource such as the UI's information literacy core curriculum were to be implemented?

Review of the Literature

Conceptual Framework

Social informatics (SI) and resource sharing are the two concepts that are relevant to this qualitative case study. Kling's (2007) concept of SI served as a focal point around which to frame the central research questions and data analysis of this study. Primarily, SI is defined as the study of social change based on empirical research that is designed to help understand the social impact of information technology within a cultural context, which is accomplished through an examination of the impact that technology has on the quality of work and social life through gathering facts within real organizations to provide findings that can be used appropriately to inform public policy and professional practice. Further, it includes reflection on the relationships, consequences, and the

interaction of social groups involving information technology (McLoughlin & Lubna Alam, 2014).

Hales (2012) described resource sharing as a kind of cooperative effort that has developed in libraries within the last forty years to optimize access to information using new technologies at an affordable cost. Cooperation of this sort is viewed as the best way to remove barriers related to finding and acquiring information wherever it is located in order to expand access to educational knowledge and information opportunities for all. Moreover, resource sharing provides libraries with a means to enhance their e-resources and programs (Turner, 2014), offers a collaborative platform, and common experiences among partners to expand programming in libraries while incurring less expense (Sarjeant-Jenkins & Walker, 2014). This case study involves an effort to encourage resource sharing specifically designed to effect social change.

How the search was conducted. I queried Walden University Library's EBSCOhost, Academic Search Complete, Education Research, Eric, and Library Information Science and Technology Abstracts for full-text, scholarly, peer-reviewed articles that were published within the past 5 years in 2013 and 2017 using the following key words: *information literacy, public libraries, user-centered services, academic libraries, e-learning,* and *the digital divide.* In addition, the PL's *administrative staff* website provided historical and current information regarding all the libraries within the network of community branches as well as the contact information for the administrators working in its administrative offices. Further, the information that was available on the PL's website provided relevant data about the research site, which allowed me to identify

the administrative staff, and access information to gain permission to conduct this study, as well as, gain access to the archived documents.

Digital Divide

DiMaggio and Bonikowski (2008) highlighted the idea that the digital divide is a problem in the United States that can be resolved by improving information literacy opportunities. They also made the argument that information literacy has a significant impact on the wage earning capacity of individuals. However, the authors did not provide any suggestions as to the nature and content of information literacy instruction programs that might be offered outside of schools to address the needs of adult learners and others within the general population.

Stevenson (2009) provided an analysis of the digital divide that focuses on public libraries and the projects supported by the Bill and Melinda Gates Foundation to address universal access to the Internet and information literacy. According to Stevenson, "Bill Gates stepped up late in 1996 and announced his plan to provide Internet access in America's public libraries" (p. 12), but he argued that, while this program provided a start, it did not completely resolve the problem. Stevenson argued that the digital divide makes inequalities based on class, race and gender worse than ever. In addition, the author reinforces the views of others that a new divide has emerged in quality of access, suggesting that "Access to the Internet and ICTs [information communication technologies] is insufficient in itself to significantly improve life-changes of populations at risk from technology change" (p. 2). He argued that providing computers and Internet access is a start, but that an understanding of how to use them is also required. Stevenson

also provided examples to explain how the commercialization of the Internet has changed job markets. In addition, credible information was difficult to access during the pre-Internet era but in our knowledge society volumes of credible information is available at no cost via the Internet for individuals who understand how to access it (Høivik, 2014). Access to credible information is essential to survival because a failure to acquire credible information often results in negative consequences such as unemployment, homelessness, and the lack of legal counsel (Buck, 2016).

Further, the pervasiveness of the Internet has led to the replacement of manufacturing jobs with others associated with e-commerce and e-government, and this has led to limited opportunities for employment for many Americans who do not have appropriate information literacy skills and computer and Internet access to information. The persons being displaced often lack the skills required to make this transition, and, therefore, cannot be considered for jobs that increasingly require computer and Internet access and the skills to use them to their advantage (Stevenson, 2009). Further, less than 44% of the top retailers in the United States accept paper applications in their stores for employment (Visser & Ball, 2010).

Those who speak of a digital divide also describe differences between those who are computer and information literate and those who do not possess the essential twenty-first century survival skills that are linked to finding and using information (Bill & Melinda Gates Foundation, n.d.). Several researchers have also documented unequal access to various benefits that were once available to every United States citizen because they now require that personally access them via the Internet (Mardis, Hoffman, &

Marshall, 2008). Many people who would qualify for benefits and opportunities such as assistance in gaining employment, housing, and other basic living essentials can no longer access them unless they have access to a computer with Internet connectivity and the ability to effectively use it (Bill & Melinda Gates Foundation, n.d.). To address this need, many academic and public libraries provide free public access to computers with Internet connectivity, but this can be frustrating for those who lack the skills to complete tasks without assistance or the training required to access and use the needed information (Sturges & Gastinger, 2010). In addition, government spending to support programming is expensive but employable skills through lifelong learning provide substantial returns (Elliot, 2013).

However, researchers have reported a significant decrease in the digital divide in regard to physical access to digital technology (Cohron, 2015; Robinson et al., 2015). Removing the barriers related to participating in the net society due to lack of skills, motivation, and efficacy is now the focus of research (Cancro, 2016; Cohron, 2015; Matzat & Sadowski, 2012; Robinson et al., 2015).

For example, in 2010, Portland State University received an award of $3.3 million from the Institute of Museums and Libraries to expand an e-learning website that the university had developed to reach six regions and implement a new program that would help adults who were underserved and had low-skills at an urban public library, a workforce development site, and an adult learning center over a period of 30 months. Two researchers from Portland State University conducted the case study during the implementation phase to understand the strategies required using a blended approach

[one-on-one tutors along with the website] (Pendell, Withers, Castek, & Reder, 2013). In addition, the researchers allowed the stakeholders or the coordinators at the various sites to recruit the participants and tutors for the study. The site coordinators also trained the volunteer tutors and monitored their progress. The data collection consisted of observation field notes gathered while observing the one-hour tutoring sessions at the three sites. The researchers also interviewed the lab coordinators and tutors to gain their perceptions about the effective strategies that were used to help the adults who were underserved with low-skills using the blended approach. The adult participants were not interviewed. The website was described as self-paced and offered the option of English or Spanish. It also provided preparation for the General Education Development exam, employment skill development, as well as, digital literacy. The researchers found that the blended approach effectively provided the guidance that adults with low-skills needed to avoid frustration that would lead to feelings of failure and provide opportunities for progress. However, the researchers reported *selection bias* because the stakeholders who were responsible for training also recruited the volunteers for their case study (Pendell, Withers, Castek, & Reder, 2013).

New Digital Role of Public Libraries

Librarians working in public libraries offer programs and services such as information literacy, reference services, and library loans, but if their constituents do not patronize libraries the library and its programs would be of no value (Ilesanmi, 2013). Moreover, libraries have been considered to be a dependable resource to access credible information in our society with librarians as the facilitators of information (Delaney &

Bates, 2015). Historically, public librarians have provided solutions to information seeking challenges. Primarily, librarians have been responsible for developing programs to address their constituents' research needs by first understanding what patrons need and then finding appropriate ways to meet those needs (LaGuardia, 2011).

While developing new programs can be useful, the extensive work published regarding information literacy in schools and universities could conceivably provide a cost effective alternative for those willing to draw upon and expand on concepts discussed to meet the needs of other groups of users (Harding, 2008). Harding noted that there was a lack of published research regarding information literacy initiatives or user instruction programs in public libraries even though these libraries have been quick to provide equipment to access Internet resources for adult patrons and assistance in getting started with computers.

Public libraries also have a long history of providing continuing education for patrons, but for the most part libraries like the PL have only offered beginning courses relating to the use of information technology. Self-reliance among users has always been viewed as a hallmark of library services, but increasingly appropriate information access requires that library services refocus user expectations away from sole reliance on defined collections to include information accessible within a less well-defined universe of Internet based information, mandating that users acquire a more sophisticated understanding of the resources available (ALA, 2012). Leung (2010) argued that the needs for basic literacy skills of past decades such as reading and writing have now expanded to include twenty-first century skills such as technology and information

literacy. Therefore, the clients' ability to actively and successfully participate in a competitive global economy and make positive societal contributions is often determined by their success in acquiring technological information literacy skills (Leung, 2010).

The primary focus of public libraries has been expanding from encouraging the reading of printed text and the circulation of books to include access to and use of digital resources and technology, and this must be reflected in information literacy training programs (Senville, 2009). Prior to the digital age, the librarians' primary responsibilities related to acquiring and maintaining the best collections of books and journals possible and providing help to patrons in using these collections (Zabel, Shank, & Bell, 2011). The new role being assumed by librarians has expanded this to include an understanding of how to access, use, and evaluate information using new technology and demonstrating the ability to teach multiple literacies to include the skills to use both collections controlled by the library and those available outside it in a much broader information environment (Armone & Reynolds, 2009). Staff in public libraries provided computer or wireless assistance to 67% of their patrons who were over the age of 14 years old (Becker et al., 2010). Providing instruction to people who are not enrolled in formal educational programs can make a real contribution to social justice (Merriam, Caffarella, & Baumgartner, 2007).

Information age librarians have developed as information specialists who facilitate the use of physical resources and information that is available on the worldwide web (Zabel, Shank, & Bell, 2011). Instruction in public libraries has changed as well, from a reliance on indirect and informal strategies to direct and formal ones (Harding,

2008). This move towards formal instruction has always been valued in school and college libraries, but it has gained new importance in public libraries as librarians there are called on to address the needs of users in the digital age. Further, public libraries provide the space, resources and assistance for individuals to become collaborative creators of culture instead of non-participating consumers (Rheingold, 2012). However, the development of appropriate information literacy programs for patrons in public libraries has proven to be challenging (Lai, 2011). Further, many public libraries in America have reduced staff, employees, hours of operation, and other resources due to limited budgets (Smith, 2012). However, the digital divide, lifelong learning, and the equitable access principal, provided the basis for the continued demand for public libraries in our society (Yilmaz & Cevher, 2015).

Lifelong Learning and Public Libraries

Public libraries have long been centers for lifelong learning activities, and there is a direct correlation between lifelong learning and the acquisition of knowledge for successful and purposeful living (Harding, 2008). The primary purpose of lifelong learning is to "improve the skills and knowledge that is required to participate in our society and it also serves to ensure that competence levels do not become dated over time based on the *human capital theory"* (Castaño Muñoz, Redecker, Vuorikari, & Punie, 2013, p. 171). Information literacy is a critical component of this because it equips individuals with the skills necessary to meet societal and employment demands (Maitaouthong, Tuamsuk, & Techamanee, 2010). However, most of the research about information literacy program development has related to the programs in higher

education establishments designed to support teaching and learning. In these academic settings, programs have historically been based on sets of competencies like those developed by the Association of Colleges and Research Libraries (ACRL).

Cooke (2010) described libraries as an ideal place for lifelong learning where the role of librarians has been transformed to include technological information literacy instruction for adults who are returning students, distance learners, and graduate students. Further, the new role of librarians is that of user-centered professionals, as their work has shifted to focus on questions about how to make the best use of electronic resources, information retrieval, and improved technological skills (Cooke, 2010).

Primarily, *nonformal* learning opportunities are provided to constituents through public libraries (Sandlian-Smith, 2016). Public libraries meet the demands of diverse learning needs and have been slower to adopt academic standards, resulting in an unmet demand for an information literacy framework for adults not enrolled in formal educational programs (Harding, 2008). Few public librarians view public libraries as academic institutions, and a result, there is little evidence that librarians have used formal instructional models to bridge the digital divide. Further, the primary role of those working in public libraries has been to assist patrons with those questions that can be answered immediately, one patron at a time, during what the ACTP staff identified as an *informatics* moment (Williams, 2010b). Public service philosophies in these libraries focus on either a self-service model or one in which specific questions are asked or specific problems addressed through one-on-one interaction. However, as information changes and the vehicles used to deliver it are not universally understood, it is becoming

more difficult to assume that users are equally equipped to take advantage of the resources available (Lai, 2011). There is a need to develop programs designed to address the individual needs of users of public libraries in general and those at the PL in particular to develop a capacity to address additional questions when they return to the library later.

A typical public library reference desk offers one-on-one, walk-in service or digital reference service in which patrons contact librarians utilizing e-mail, telephone, or live online help from anywhere (Tyckoson, 2012). For example, 70% of patrons who walk into the library use PACs to complete a variety of online tasks, to include: employment inquiries, access to government and academic programs, banking and shopping, as well as for social networking, e-mailing, and entertainment (Clark & Davis, 2009). Further, a national public library impact study that utilized approximately 45,000 online surveys, hundreds of interviews, and telephone surveys revealed that patrons over the age of 14 used PACs and the Internet to access the following: government and legal services—26 million, health and wellness information—28 million, employment and careers resources—30 million, educational activities—32 million (Becker et al., 2010). In addition, public libraries have served as a tool of empowerment for many socially disadvantaged Americans (Smith, 2012).

The AASL's *Standards of 21st Century Learners* suggested that information literacy is more than a skill set. The AASL standards contain a requirement for effective lifelong learning, and which are defined as "a personal, self-directed process that begins with self-generated questions and curiosity, including self-directed inquiry, exploration,

and concludes [with] self-measured success" (Donham, 2010, p. 14). Sturges and Gastinger (2010) argued further that information literacy instruction is necessary because access to the best information available is a human right. Their article defined information literacy differently than does the American Library Association, stating that "Information literacy is a basic condition for: learning for life, the creation of new knowledge; the acquisition of skills; personal, vocational, corporate and organizational empowerment; social inclusion; participative citizenship; and innovation and enterprise" (p. 197). This definition extends beyond traditional ones to include the promise that closing the digital divide can expand empowerment and social inclusion, key concepts in social change.

Travis (2008) did not specifically mention information literacy but adds a discussion about the need for and the development of critical thinking and problem solving skills to the conversation. "The American Association of Colleges and Universities (2007) stated that these outcomes reflect an important emerging consensus among educators and employees about the kinds of learning needed for a complex and volatile world" (Travis, 2008, p. 19). The author suggested that information technology and lifelong learning opportunities should be used to address the needs of public library users in terms that parallel language in the ACRL standards. Lifelong learning opportunities are enhanced through the collaborative efforts of higher education institution administrators and public library administrators to deliver educational resources to constituents who live in remote areas (Ackerman et al., 2016).

Public libraries provide opportunities for the general population to continue to engage in lifelong learning while developing information literacy skills (Horning, 2010). The PL provides opportunities for basic self-directed learning that are patron centered such as providing PACs with Internet access, one-on-one technical assistance, and basic computer instructions. Academic libraries and public libraries have some of the same needs in relations to providing organized professional assistance and adult digital literacy programs. However, public libraries have not historically, required users to complete assessment of their information literacy skill levels or learning activities routinely as in academic libraries. The public library community is not as defined, and even the assessment of the patrons needs by library staff is challenging because of the wide variety of skill sets and literacy levels that individual users present. While students enrolled in colleges and schools are required to demonstrate a common skill set, public libraries can only invite patrons to participate, and those who take advantage of the programs will self-select (Chaudhuri & Flamm, 2006).

As Clark and Davis (2009) noted, public libraries make available online catalogs, digital collections, express computers, computer labs, and technical assistance, but users must be provided with opportunities to develop the skills needed to use these tools at a cost that the library can afford if they are expected to use them effectively. This fits well within the philosophy underpinning public library service programs. Andersen (2008) discussed some of the guiding principles behind the service philosophy of a public library and the challenges that present themselves to those working there. Andersen also suggested that in public libraries, librarians should be able to talk to everyone from

children learning to read to the patron with advanced postgraduate degrees. Writing specifically about the PL, he argues that, "In recent years, the role of the library as a tool for economic development has been seen in many cities" (p. 316). Given this role, public libraries are being asked to define their clientele more precisely, and, while they are still likely to serve more diverse groups than other libraries, they need to develop service programs that help all of their users satisfy their information needs. Therefore, information literacy instruction is a growing need within the public library setting. However, the collaborative efforts between libraries across library types and other community organizations will provide opportunities for libraries to fulfill their commitment to offer relevant programs to enhance information literacy skills among their stakeholders and constituents (Cooperman & Antell, 2013).

Collen (2008) also argued that public libraries should be involved in developing information literacy, specifically for children, so that they might apply and further develop research skills taught in academic settings. However, this researcher did not address information literacy programs and resources for adult patrons at a time when the universe of information and libraries were changing dramatically. Further, an American Library Association (ALA) website entitled *21st Century Literacy at Your Library* (2012) provided a clear description of literacy programs that might be mounted in public libraries, and a rationale for utilizing public libraries as a site to analyze adult information literacy skills development programs in the United States. Further, many adult constituents owe their first experience with using computers and the Internet to public libraries. ALA as a group has also refined the definition of the library and its mission. In

so doing, its members have identified those 21st century information literacy skills that are needed for individuals to fully participate in an information literate society, providing a basis for information literacy programs in public libraries. It noted that,

> Libraries are permanent institutes located within communities that are accessible specifically for adults, public libraries are places where [users] can learn and practice new skills. One in 3 public libraries sponsors literacy programs for adults to improve their reading skills. These include one-on-one tutoring, small group instruction and programs to help immigrants improve their English literacy skills. (ALA, 2012, par. 10)

However, the primary focus of this case study was to understand the perceptions of adult patrons of the PL regarding the applicability of an online tool that could enhance their information literacy. Developed in the 1990s following a survey among Association of Research Libraries institutions, many academic libraries developed information learning commons that most often combined traditional library service programs with different types of study areas, audiovisual and IT support, tutoring services, placement centers, and other student support services (Heitsch & Holley, 2011). However, "one major issue that the commons model faces in the public library setting is the issue of the 'digital divide' between the technological 'haves' and the 'have-nots'" (Heitsch & Holley, 2011, p. 67). They sought to develop a more inclusive service model in this space, offering one stop shopping for those seeking to use information, combining traditional library services with others offering help with computers, writing and homework assignments, tutoring, tax

advice, and specific needs of the local community. Self-directed study learning is often the focus of learning commons (Nelson, Morrison, & Whitson, 2015).

Public libraries have an established niche in the area of public service as information providers or facilitators in the use of information, and the efforts to improve information literacy represents a natural extension of those elements of its mission. Lifelong learning is also prevalent among information professionals such as librarians to facilitate a constant understanding about how to meet the informational needs of their constituents (Popp, 2013). Harding (2008) explained why public libraries are regarded as ideally suited to promote the development of information literacy and encourage lifelong learning in their communities. In his view, information literacy is a survival requirement for living in an information age, critical for a thriving democracy, and a vital underpinning to lifelong learning. Past efforts to make library use more effective consisted of bibliographic instruction focused on questions relating to how to find, use, and evaluate resources more effectively to complete academic course assignments. However, information literacy is different in that it focuses on developing a person's ability to learn how to learn, something that provides a foundation for lifelong learning. The idea of exporting this kind of program to public libraries is relatively new, and, generally speaking, "there is a lack of literature about information literacy and the public library, especially compared with that of school and academic libraries" (Harding, 2008, p. 157). However, there are information literacy models that have been developed and used in adult education to ensure lifelong learning.

Information Literacy Programming

Constant changes in technology, as well as, the mission of public libraries provide the motivation that public libraries need to meet informational expectations of constituents (Pedersen, 2016). Library programs provide constituents with opportunities to learn and socialize for diverse cultures (Grover & Miller, 2016; Houghton, 2014). Further, the needs of all constituents serve as the basis for the programs and services that are offered at public libraries (Jain & Saraf, 2013).

Lifelong learning programs and information literacy models, along with other professional development efforts in the United States, provide opportunities for individuals to acquire skills that can be used effectively to seek, evaluate, use, and create appropriate information in various formats (Li & Lester, 2009). It is suggested that when developing information literacy programs in libraries, the following should be considered: the type of curriculum or the content to be offered, its delivery, and the appearance of the presentation of the content that is included (Collen, 2008). The primary assumption of Knowles' (1968) andragogy theory is the increasing need for self-directedness of adult learners when compared to those of pre-adult learners (Merriam, Caffarella, & Baumgartner, 2007).

In addition, self-assessment is viewed as the key component involved in developing self-directed skills and habits (Donham, 2010). Further, principles of andragogy stipulate that self-directed learning opportunities allow adults to learn more effectively than instructor-centered ones (Xie & Bugg, 2008). Moreover, critical learning theory goes through a simple transfer of knowledge from teacher to student (O'Connor,

2009). Information literacy is a key component of lifelong learning and is required for self-directed learning that is necessary to maintain employment as well as independent living (Bond, 2016). Therefore, it is critical that mechanisms be found to help adults develop a variety of skills, to include: critical literacy, digital literacy, visual literacy, media literacy, and a kind of multicultural literacy that insures that information literacy is inclusive and demonstrates fluency of skills involving reading, writing, using technology to communicate with diverse cultures effectively (Horning, 2010).

Information Literacy Assessment

The availability of a variety of Internet search engines has affected how and what information literacy skills should be taught (Abilock, 2007). Further, "89% of college students begin their digital searches for information by utilizing a web search engine while only 2% begin with a library website" (Ivanitskaya, DuFord, Craig, & Casey, 2008, p. 50). This is an important indication that there is a widespread need to determine whether students and others can acquire information from sources that are unfiltered and may or may not be reliable. Therefore, these students need to be able to critically assess what they find if they are to use this information effectively. In addition, making digital choices requires educators and those they teach to understand the various types of assessments that are available and the benefits of each so that they can responsibly use information that is freely available (Abilock, 2007). The same skills are required by adult learners outside of the educational establishment, and, in fact, may be more critical to them than to students in that they are needed to address real life situations rather than curricular requirements. In addition, while college students have large stocks of research

level printed materials and specialty databases available to support their work, the general public does not.

The ACRL has established national standards to develop information literacy assessment tools. However, three components are required to ensure accountability and the effective progress of students, which are: the assessment tool can actually measure student progress, accurate results are provided as needed, and the constant evaluation of assessment tools to improve them (Sobel & Sugimoto, 2012). Further, information literacy assessment tools are used on college campuses to quantify, inform, improve instruction, and provide evidence regarding student acquisition and retention of information literacy skills (Radcliff, Jensen, Salem, Burhanna, & Gideon, 2007). These include the information communication technology (ICT) assessment and the Standardized Assessment of Information Literacy Skills (SAILS). In addition, Abilock (2007) provides examples of assessment tools such as the *Tools for Real-Time Assessment of Information Literacy Skills* TRAILS and the *Network of Illinois Learning Resources in Community Colleges Toolkit for Success* along with examples of summative assessments and suggestions about how best to use each of these tools.

The Institute of Museum and Library Sciences sponsored a 3-year project called the *Rubric Assessment of Information Literacy Skills* (RAILS) during the 2010-2011 school year with a $400,000 grant. This project allowed librarians to participate in training to utilize rubrics to evaluate college students' information literacy skills from institutions described at a private faith-based and a liberal arts college, a public, workforce focused university, a liberal arts university, and, a focused land-grant research

focused university (Oakleaf, 2011). The RAILS project reportedly produced one hundred artifacts that were scored by ten raters with each rater scoring 100 artifacts. The rubric allowed students to define information needs, revise searches, and apply new information to address specific research needs. The concept was based on the assumption that self-assessment offers students the opportunity to provide feedback and motivation to progress independently. Rubrics provided opportunities for the students to evaluate the quality of their own work, as well as, the use of authentic projects to assess students' ability to apply content knowledge to a real task (Oakleaf, 2011).

In contrast, backwards assessment designs such as the SAILS project, an online assessment used in grades K-20 utilized pretests to first identify areas of weakness in information literacy skills and then base the students' ongoing instruction on those results. There are also informal assessment tools to test the skills students bring to the library, to include anecdotal observations, task checklists, and learning logs (Abilock, 2007). While these formative assessments have been developed for use in K-20 academic settings and as tools to identify student deficiencies (Seymour, 2007), they can also be modified for use in identifying information literacy deficiencies among adult patrons in a public library setting with some changes.

Assessments currently used in public library settings are not used to measure the performance of cohorts as they are in academic institutions but rather to provide resources for identifying and addressing individual needs using a lifelong learning model (Horning, 2010). An example of an assessment tool that is currently used is the Public Library Association's *Edge Initiative,* which consists of online evaluation tools that

provide opportunities for public libraries that utilize benchmarks to measure and improve library performance. This initiative is funded by the Bill and Melinda Gates Foundation and supported by several library organizations, universities, and public libraries in the United States (PLA, 2013). Information literacy assessment tools have also been examined to understand whether they can be used at the college level. For instance**,** evidence based library information practice was described as the collection of artifacts used to evaluate the effectiveness of outcomes such as portfolios, reflection and process journals and rubrics (Booth, 2009). Coordinated efforts can contribute to a consensus on goals, responsibility, and methods that are essential to the establishment of organizations that value the need for universal information literacy and are prepared to work to encourage it among those it serves (Allen, 2007). There is consensus within the international library community concerning the importance of information literacy, and many libraries have acted on its conclusions by utilizing a third kind of assessment tool called the Information Communication Test (ICT) (Allen, 2007).

The ICT, SAILS, and RAILS are online information literacy assessment tools serving different functions. Abilock (2007) described SAILS as a backward formative tool that utilizes pretests and ongoing assessments with multiple-choice questions to determine the areas within information literacy in which college students are deficient. Further, Abilock described ICT as a tool that is utilized to determine the individual and overall class information literacy competency based on the ability to complete a set of tasks and demonstrate problem solving and information analysis ability in a K-20 academic setting. In contrast, Oakleaf (2011) described RAILS as a college leveled

information literacy tool that can provide individual as well as instructional feedback regarding the application of content knowledge based on real tasks that are often encountered in a college setting. These three models: RAILS, SAILS, and ICT are widely used in school and college settings.

In addition, Ivanitskaya, DuFord, Craig, and Casey (2008) studied the effects of pretests and posttests on information literacy attainment. They found that students exposed to pretests prior to the initiation of library instruction and posttest intervention afterwards demonstrate a stronger propensity to use libraries rather than to Internet browsing to meet their information needs. Research Readiness Self-Assessment pretest and posttest feedback may also serve to inform students of discrepancies between their perceived information literacy abilities and their real capabilities, to objectively measure literacy, and to motivate them to learn. These authors administered pre and posttests to 14 masters' level students during library instruction at Central Michigan University. The students' instruction scores were compared, and it was found that students who completed the pretests were more likely to use library resources, possessed a better attitude, and were more knowledgeable than students who did not participate in the pre-test assessments.

E-Learning

The e-learning model has become the modern preferred learning environment among lifelong learners because of its flexibility in our knowledge society (Mouzakitis & Tuncay, 2011). Moreover, student enrollment for online courses is in higher demand compared to the various alternative course selections on university and college campuses

in North America (Calhoun, Green, & Burke, 2017). E-learning resources are described as flexible tools that could be used to facilitate self-directed or instructor-based learning (Benson & Donnelly, 2012). In contrast, the traditional teaching model is described as a closed classroom and is not connected in a manner that represents the real world (Fisher, 2010).

Moreover, contemporary learning environments endeavor to include some form of e-learning, which involves student engagement with the Internet, as well as asynchronous or synchronous forums to access learning material (Bricknell & Muldoon, 2012). For example, online tutorials are interactive tools that simultaneously allow student engagement and assessment while they are learning a concept (Burke & Tumbleson, 2016). Although various forms of technology can be used to assist with meeting instructional needs, the technology chosen can also be an unintended distraction if it is not used effectively (Sharkey & O'Connor, 2013). E-learning resources must be user-centered and designed to accommodate multiples learning styles (Markus, 2011).

Implications

Although the PL has made PACs with Internet connectivity available to adult patrons to use at least twice a day, they are of limited benefit to those who are deficient in information literacy skills. In contrast, instruction regarding how to locate, evaluate, and use information is widely available in academic settings. There is a clear need to understand if and how e-learning programs like the one available at the UI can help programs like the PL's ACTP meet the needs of their adult clients. These tools can also provide credible recommendations that can inform the PL's librarians about how their

information literacy efforts targeting adults can be improved. Furthermore, if the PL's ACTP offers an online information literacy tutorial to its adult patrons that include assessment tools, it could provide a mechanism to increase patrons' knowledge production and encourage greater participation in an information rich society.

The PL's ACTP has been developed to provide basic assistance at almost half of its library locations, but, to date, it has not been able to fully address the need for self-directed and self-paced information literacy instruction that is needed to allow adult patrons to progress from basic to advanced information literacy levels as described in Grow's staged self-directed learning model (1991, 1994) (Merriam, Caffarella, & Baumgartner, 2007). It appears that the UI's online information literacy core curriculum might provide a bridge between the beginning computer literacy skills of many the PL's adult patrons and the level of information literacy skills required if adopted by the PL. Adopting a program of this sort might provide opportunities to improve information literacy skills among adult patrons who have widely differing skill levels while addressing these 3 learning goals. However, irrespective of the resources that are used to improve information skill levels, it is still critical for public libraries to have a mechanism to address shortcomings found among adult users in this area in a cost effective manner.

I designed this qualitative single-case study to understand how an academic library's information literacy e-resource affected the PL's adult patrons' learning based on the perceptions of adult patrons at a PL. As a result, I will introduce an academic library's e-resource to a group of adult patrons at the PL, provide a voice for the adult patrons at the PL, document their opinions about their experiences during and

immediately following their engagement with the UI's information literacy e-learning resource, and present a summary of the findings with recommendations in the form of a white paper to the policy makers at the PL.

During the course of the study, I documented the perspectives of 10 PL adult patrons regarding how the UI's online information literacy core curriculum affected their learning. In this way, I sought to understand the perspectives of the adult participants at the PL regarding the offering e-learning tools of this sort to adult learners served by the PL. A white paper will be developed in which the findings and recommendations were presented to leaders at the PL regarding the UI's program affects on the learning of their adult patrons or one that is similar to address the digital divide.

Summary

Six prevailing themes emerged after I read and evaluated over 100 peer reviewed scholarly journal articles during the literature review. The first theme was about the prevalence of a digital divide separating people who were well prepared to mine the current and developing information universe and those who were not. This is the fundamental problem the ACPT is designed to address and the basis for this study. The second theme was the role of the public library and its staff in the new digital age as it moved from programs based on the use of printed tools and lending resources to one that aims to facilitate the use of information in various formats. Lifelong learning and the public library emerged as the third theme. It provided insight in to the user-centered focus of public libraries and the resources offered to support lifelong learning. The fourth theme was information literacy programming which explained the need for digital

training to systematically address the uneven levels of information literacy among adult public library patrons, which is something that represents a generally accepted solution related to the digital divide problem. Information literacy assessment emerged as the fifth theme and explained how and why various types of assessment tools are essential to improve information literacy skills. The sixth theme was e-learning. The literature available regarding e-learning provided an explanation regarding the use of a self-paced online tutorial to facilitate learning among adult patrons in a public library setting.

Saturation was achieved in the literature review primarily due to the scarcity of published scholarly articles on the topic of information literacy programming offered in public libraries. Information literacy has gotten much attention in the literature relating to school and academic libraries, but programs aimed at adults in public libraries have garnered scant attention, begging the question of whether observations made in academic settings applied in public library settings.

In addition, as I completed the literature review, I was able to examine the research and the conversations that have been used to address the digital divide that exists among adult patrons served by the PL's ACTP. The most significant concept that emerged during the course of the literature review was the persistent use of online assessment tools in academic settings to improve information literacy programs for students in a way that contrasted sharply with public library practice. It also suggests that the reach of the PL's ACTP might be improved and expanded if all or part or the UI's information literacy online core curriculum is adopted as a resource to be used within the ACTP instructional program to encourage users to improve their capacity to access, use,

and evaluate information. To test this, a case study approach was used to explore the perceptions of the adult users of the PL who might find the e-learning resource useful in improving their digital literacy.

Further, after completing the literature review, I concluded that, in addition to the gap in practice relating to developing online tutorials in public library information literacy programs, there is a gap in the literature relating to the digital literacy programs that have been developed by public libraries for their adult patrons to access and effectively use information. While the traditional philosophy in libraries has been to make available stores of information in an orderly collection to users based on universal principles, this is no longer possible when many of the best resources are publicly available through the Internet and may not be owned or controlled by the library. Further, I realized the significance of introducing user information literacy assessment and the potential need to explore online information literacy tools that could be used to address the information literacy development and information assessments for adult patrons in a public library setting. An overview of how this qualitative case study was conducted and the results of the data gathering efforts are provided in Section 2, which includes a detailed description of the rationale for the study, an outline of the sample selection criteria, the instruments, data collection and analysis, and a summary of the findings.

Section 2: The Methodology

Introduction

There is very little published research on the subject of information literacy instruction in public library settings (Harding, 2008) and even less about the value of sharing academic library information literacy resources to augment public library services and programs. This void has resulted in a gap in practice, as well as a lack of information about how an academic e-learning program affected adult patrons' capacity to access and use information at the PL. The purpose of this qualitative single-case study was to understand the perceptions of adult library patrons regarding how an academic library's information literacy e-resource affected their learning. The three research questions that I used to guide this study were

RQ1. What are the perceptions of the PL's adult patrons regarding how the UI's information literacy online core curriculum affected their learning?

RQ2. What are the PL adult patrons' perceptions of the necessary modifications that should be made to the UI's information literacy online core curriculum to positively affect their learning?

RQ3. What are the PL adult patrons' perceptions of the potential deterioration of the PL's ACTP if an e-resource such as the UI's information literacy core curriculum were to be implemented?

Qualitative Research Design and Approach

I used a qualitative case study design to address the problem, purpose, and research questions of this study. The purpose of this qualitative single-case study was to

understand how an academic library's information literacy e-resource affected the PL's adult patrons' learning based on the perceptions of adult patrons at a PL. However, a summary of the findings along with recommendations will be presented to the policy makers at the PL in a white paper to enhance digital inclusion in the community.

Creswell (2013) described a case study as a real-life exploration of a bounded system. Further, Kozleski (2017) described a qualitative case study as a dynamic, empirical research approach through which researchers construct new knowledge through experience, interviews, and observations; using this approach allows researchers to reveal evidence with in the moment insights that are documented using field notes and digitally recorded evidence at the research site. Further, a natural setting is recommended for observation and data collection because it provides insights into the participants' actual experiences (Creswell, 2009). Since, the primary purpose of a case study is derived from observing a real-life phenomenon, a natural setting would be expected. Moreover, Stake (2014) explained that understanding details about specific settings could allow researchers to contribute to the improvement of professional practice and policy. Moreover, it is important for researchers to understand the details of a specific setting because they are unique in terms of the policies that need to be addressed in their professional practice.

Many researchers identify the philosophical assumptions of empirical studies and correlate them with the most appropriate methodologies, methods, and paradigms to answer their research questions (Jackson, 2013). After I reviewed the literature, I found that there is a lack of empirical research on the topic of information literacy instruction in

public libraries and even less about the sharing of information literacy e-learning resources between academic and public libraries. This qualitative case study emerged while I was completing the first literature review. I found that there is a correlation between the science disciplines and the research that it is related to. For example, information science emerged from library science, which is related to user research based on social science (Stock & Stock, 2013). However, information literacy pertaining to educational research involves the application of e-learning tools (Stock & Stock, 2013). Therefore, the focus of this qualitative case study aligned with the problem and purpose of the study and emerged from information and library science.

I decided to use a qualitative methodology to answer the research questions. Qualitative studies are naturalistic, inductive, holistic, flexible, and in-depth descriptions of participants' experiences (Yilmaz, 2013). A qualitative researcher analyzes field notes, observations, interviews, and documents and employs constructivism and interpretive paradigms while analyzing data (Elshafie, 2013; Ngulube, 2015). These are the reasons why I deemed a qualitative single-case study to be the most effective design to answer the research questions and develop the white paper. Moreover, the rigor of a study is demonstrated when researchers establish a sufficiency of the data that are collected to conduct a thorough data analysis rather than the size of the sample (Gentles, Charles, Ploeg, & McKibbon, 2015; Robinson, 2014).

I referred to Yin's (2016) qualitative methods comparison chart and reviewed a variety of alternative qualitative designs, which included ethnography, grounded theory, and phenomenological studies. If I had selected to use ethnography, it would have

involved a detailed study of norms and routines; grounded theory would have involved development of theory; and a phenomenological study would have involved a detailed description of experienced events (Yin, 2016). I decided that none of these approaches were appropriate for this study. First, I was interested in understanding the perspectives of a group of adult patrons at the PL regarding an e-learning resource that was used and developed at an academic library. Secondly, the study of norms, development of theory, and a detailed description of events were not the desired results that I needed for this study. Subsequently, I determined that a qualitative case study would be the best way to achieve the desired results for this research. Within that context, I considered using a focus group. However, while it promised to enhance data gathering as a result of group dynamics, I abandoned this approach because it could potentially produce contaminated views (Hogan, 2009). Focus groups presented the potential of an unintended group influenced perspective rather than the individual perspectives of the participants.

Participants

The PL system consists of one central, two regional, and 79 branch libraries throughout the city (Swan et al., 2013). In 2016, the PL employed 730 full-time and 288 part-time workers. The central library location had approximately 1,353,000 visitors (Urban Data Portal, 2017).

Criteria for Participants

Since all of the participants were 18 years of age or older and they met with me near the adult PACs at the PL (the target site), I did not deem it necessary to collect demographic data to determine whether or not they met the criteria to participate in the

study. Further, researchers should only collect demographic data if it is necessary to complete the study (Connelly, 2013). Moreover, I observed-criteria because adult participants were patrons at the PL. “Furthermore, studies like the Pew survey have shown that simplistic [analyses of] demographics do not adequately predict who is or is not participating in our digital nation” (Taylor, Jaeger, McDermott, Kodama, & Bertot, 2012, p. 199). I have demonstrated how I ensured that the participants met the criteria for this study and provided a rationale for not collecting demographic data in this section.

Sampling Method and Justification for Number of Participants

I used purposive homogeneous and criterion-based snowball sampling and identified and recruited participants who were PL patrons and 18 years of age or older. Subsequently, the participants solicited, recruited, and referred similar participants using the same criteria after the study began (see Creswell, 2012). There were 10 participants who volunteered and completed the six UI tutorial modules and the interviews that followed at the PL. Ten participants could be considered a small sample size (see Robinson, 2014), yet it proved to be an effective number because of the thick and rich data that emerged from the data sources. Cleary, Horsfall, and Hayter (2014) recommended using small sampling for case studies. Further, qualitative case study sampling requires use of a variety of data sources to illuminate the findings (Gentles, Charles, Ploeg, & McKibbon, 2015), and the researcher is considered the primary instrument for data collection due to the nature of qualitative research and data analysis responsibilities (Hansman, 2015).

Procedures for Gaining Access

In August 2016, I received approval from the PL's Assistant Commissioner, Neighborhood Services [via e-mail] as well as Walden University's Institutional Review Board (IRB) [via e-mail] to conduct this study with the following approval code: (IRB approval #08-26-16- 0236839). After I had received both approvals, I began to recruit volunteer participants for this study on the third floor near the adult PACs at the PL. I did not begin data collection until I had received the necessary approvals. I did not provide incentives to the participants as I sought to include adult patrons who were intrinsically motivated to participate in this study at the PL.

After gaining IRB approval and permission to conduct the study at the PL, I set up a research information table on the third floor at the PL's central library near the PACs, provided invitation letters to adult PL patrons who inquired about the study, and discussed scheduling and logistics to determine if they would be able to volunteer for the study. I assured each participant of no penalties if they decided to opt out after the study commenced, made it clear that their names would not be associated with the comments offered, and that no data gathered would be shared with anyone except in aggregate. Within a period of 8 weeks, 15 adult PL patrons had signed voluntary consent forms. However, five participants opted out of the study, which left 10 adult PL patrons who voluntarily participated in the study.

Measures for Protection of Participants' Rights

I implemented seven steps to safeguard the participants' rights and establish working relationships while conducting this study which were the following:

I completed a web-based research ethical training course and received a National Institutes of Health Certificate, which provided me with an understanding of how to accurately apply ethical concepts to this study. I provided each participant with an informed consent form and I waited at least 24 hours before contacting the participants to allow them time to read through the documents and make an informed decision about whether or not they wanted to voluntarily participate in the study. I conferred with each participant using the information that they provided on their consent forms [e-mail and telephone number] as to the most convenient day and time for them to schedule their individual observation and interview at the PL. I specified exactly where I would meet participants the PL to ensure that we would locate each other at the scheduled time without difficulty. I also used that time to answer any questions that they had and discuss any concerns they expressed in an effort to build rapport and trust, something that was critical to the success of this study (Glesne, 2011). Given that the quality of interview data depends on the participants' level of trust in the researcher. The time spent at this stage was critical in producing a rich, thick data set to support the case study (Morse, 2015). I kept the participants' interview data confidential and only shared it with the participants' during member checking to verify the accuracy of their own data [observation field notes and verbatim transcript] and I reserved study rooms to conduct the interviews for privacy and because they were audio-recorded. Finally, I implemented a process to protect the participants from harm related to reading fatigue, and or frustration related to test taking. I informed each participant that they could stop reviewing the tutorial at any time to take breaks as necessary, only complete as much of

the UI modules as they felt comfortable completing, and I also provided them with the option to end their participation in the study at any time.

Researcher-Participant Relationship

Librarians promote and facilitate equal access and participation in local and global societies, digital and social inclusion, the fair distribution of resources, as well as, social justice in our society (Farrell, 2016; Mathieson, 2015). This qualitative case study provided an opportunity for me to demonstrate leadership and advocate social justice as researcher and a practitioner in the field of library and information science. It also provided an opportunity for me to understand the perceptions of a group of adult patrons at the PL. I recorded the evidence for this qualitative case study using *interpretation* (Stake, 1995). In addition, my experience as a librarian in a K-8 urban school located in the Midwest region of the United States has also provided opportunities for me to motivate students and members of the community to access the various resources at the PL and encourage them to enhance their information literacy skills.

Researcher bias regarding this qualitative case study pertains to the following: I noticed that there were similarities and differences between the approaches used to enhance information literacy in academic settings and those used in public library settings, specifically the use of technology during the course of the review of the literature. Subsequently, I sought to identify online information literacy program designs that were used in academic settings that might be adapted to facilitate equality of access to address needs of adult patrons within the PL's ACTP. When I located the UI's curriculum online, I completed UI's information literacy online tutorial with the self-

assessments and found them to be easy to use and understand. Further, I concluded that they might be useful to adult users in a public library setting.

Nevertheless, I maintained an open mind during data collection, audio-recorded the open-ended semi-structured interviews, and used verbatim transcription with member checking to ensure that the views of the participants were accurate and not affected by researcher bias. I constantly and intentionally contained my opinions, abstained from discussing anything about the case study with the participants, and provided the same information to each participant using the invitation letter informed consent form, observation protocol (see Appendix B) and the interview protocol (see Appendix C). Although, I used snowball sampling, I kept the participants' interview data confidential and only shared their own data with participants during member checking or with my Walden University committee members using identification codes instead of participant names. I have had no prior or current employment or professional relationships with the PL or the UI Library and there were no ethical concerns associated with data collection for this study. Therefore, this qualitative case study has provided a voice for the PL's patrons regarding the UI's information literacy curriculum in the form of a white paper with a summary of the findings including recommendations that will be presented to the policy makers there to facilitate digital inclusion and social justice at the PL.

Data Collection Methods

I began to collect data for this qualitative study after I had received approval from the PL's Assistant Commissioner, Neighborhood Services [via e-mail] as well as Walden University's Institutional Review Board (IRB) [via e-mail] with the following approval

code: (IRB approval #08-26-16- 0236839). I referred to Merriam's (2014) recommendation for qualitative research studies, using a self-designed observation protocol and a self-designed interview protocol, which support my decision to collect the data for this study using a self-designed observation protocol (see Appendix B) and a self-designed interview protocol (see Appendix C). Yin (2009) recommended that a database be developed to manage and store the data. Therefore, I used Atlas.ti 7 to organize, manage, and store the data for this study, as well as, a three-ringed binder for immediate access.

In September 2016, I began observing and interviewing 10 adult patrons individually at the PL for a period lasting 8 weeks. I approached data collection with an open mind and implemented steps to limit the effects of researcher bias. I referred to Merriam's (2014) recommendation for qualitative research studies, using a self-designed observation protocol (see Appendix B) and a self-designed interview protocol (see Appendix C). I selected to use the interview data as the primary source of evidence and the observation field notes to provide *direct interpretation* from the observations based on Stake's (1995) case study method. In addition, the review of documents provided an opportunity to understand the relevant events that occurred at the PL that I was not able to observe directly (Stake, 1995).

The observations and the subsequent individual semi-structured interviews were conducted at the PL until data saturation occurred [the participant referrals ended and the data became redundant]. I stored all of the data in a password protected Apple MacBook Pro computer file, using a universal serial bus flash drive as well as an external hard drive

as backup. The flash drive and external hard drive were labeled to indicate that the data was collected at the PL, and it will be secured for 5 years in accordance with Walden University's doctoral research requirements.

Observations

Direct observations allow researchers to see and hear the participants' verbal and nonverbal actions to understand their perceptions (Stake, 2014). I used the third research question to guide the development of the observation protocol. The primary purpose of the self-developed observation protocol was to document the times that the participants started and ended each module. During the direct observations, I also aimed to identify any problems that were either verbally expressed or demonstrated as nonverbal behavior while participants interacted with the UI's e-resource. I observed of 10 participants while they were engaged with the UI's information literacy online core curriculum to determine whether it would meet their needs as they sought to improve their capacity to access and evaluate information at the PL.

I documented facts as they occurred using the self-developed observation protocol (see Appendix B), including field notes as well as my reflections. I also used the observation protocol to document any occurrences of navigational or technical problems that the participants may have experienced. The self-designed direct observation protocol has three sections and I designed each section to capture observable facts as they occurred while the participants were engaged with UI's e-resource. I set up my laptop with the UI's e-resource first. I then completed the first section, which included the research site's and participants' identifying information at the top of the observation

protocol. I completed the identifying portion of the observation protocol and read aloud the information that explained the purpose of the observation and how long it could take each participant to complete the exercise before each observation. This was done to avoid researcher bias and ensure that I could document the time that the participants started and ended each module. It also allowed the participants to complete the UI's tutorial independently. I also documented any comments or questions that they expressed while they were working on the modules. I read the information that described the purpose of the protocol aloud to the participant that is found in the second section of the observation protocol. After that, I allowed the participants to independently review the six modules and documented if they had in questions or experienced any technical or navigational problems by documenting each event as it occurred for each module. The third section was the closing statement that was read aloud after the participants had informed me that they had completed all six of the modules. I read the last section aloud because it informed the participants to expect a member check of their observation for accuracy in approximately three weeks. Moreover, I employed a *standardized* approach during the direct observations at the PL, which allowed me to follow the same procedure in the same order with each participant to yield data that was structured in a comparable format for efficient data analysis (Aborisade, 2013).

The UI's e-resource has six modules. I expected the participants to briefly review each module and navigate through all six modules within 20 to 30 minutes. I observed an unexpected pattern emerge of self-directed intrinsic motivation to read and complete the modules instead of skimming through them quickly during my observations of the

participants at the PL. The times that the participants began and ended each module were as follows: P1: 45 minutes, P2: 2 hours and 6 minutes, P3: 1 hour and 17 minutes, P4: 20 minutes, P5: 1 hour and 17 minutes, P6: 56 minutes, P7: 60 minutes P8: 52 minutes, P9: 1 hour and 19 minutes, and P10: 1 hour and 4 minutes. Following each observation session, participants were interviewed to understand their perceptions with their experience using the UI's program. The data collected was reported in aggregate and no names were attached to comments made in the course of the study to preserve the anonymity of those interviewed.

Interviews

Kvale and Brinkmann's (2014) *journalistic interview* supports the interview design that I employed for this study. The interview questions stemmed from the three research questions for this study. I selected the policy makers at the PL as the target audience. In addition, the interviews provided a voice for the adult patrons at the PL regarding their perceptions about the UI's online e-learning resource. Further, the authors characterized the *journalistic interview* as a conversation between the researcher and participant that includes context about their experiences and served as a voice for the participants while simultaneously answering the research questions. In addition, Webb (2015) posited that the perspectives of participants during interviews provide valuable information that is unique that can produce knowledge but semi-structured interviews should have a comprehensive focus rather than to produce volumes of data. The first two research questions were used to guide the development of the self-developed interview protocol.

After gaining the participants' permission, I conducted individual face-to-face, audio-recorded, semi-structured open-ended interviews that lasted 20 to 40 minutes using a self-developed interview protocol (see Appendix C) immediate after the participants had completed all six of the UI's modules. The interview protocol has three sections: the top section was designed to document participants' contact information and the research site facts such as the address, date, and time. The middle section listed the ten interview questions that I read aloud in chronological order checking them off as I read them to ensure that I did not accidentally omit questions. The last section was the closing that I read aloud thanking the participants and asking them if they knew of someone else who might be interested in participating in this study.

I completed the top portion of the interview protocol, before starting the interviews, noting information about the participants, the date, time and location of the interview. I tested the digital recorder on my laptop first before I began the interview process. In an effort to avoid researcher bias, I only read the interview protocol information during the interviews to ensure that all of the data was collected accurately. Aborisade (2013) defined a *standardized interview* as a method that asks each participant the same questions in the same order, which allows for easier data comparison during the data analysis process. I read the information that described the purpose of the protocol aloud to the participant that is found in the second section of the interview protocol and at the end of the interview, I read the closing information aloud to the participants. I used a systematic *standardized* method to conduct the open-ended semi-structured interviews and I documented my thoughts and reflections on the interview protocol as they occurred.

Further, field notes were created during both the observations and the interviews using the respective protocols. The interviews were transcribed, and the observation field notes were simultaneously summarized from the evidential documents and saved in a digital file, using alphanumeric characters to replace individual names to protect the confidentiality of those being observed and interviewed.

At the conclusion of each interview, I documented the time, saved the LogicPro digital file, and conducted a brief test to ensure that the interview data was saved properly. The interviews were transcribed verbatim, analyzed, and then e-mailed within three weeks to each participant for member checking designed to provide the participants with an opportunity to review and discuss their own interview and observation data to ensure that the notes accurately reflected their experiences and the conversations in which they participated. The interviews were transcribed, and the observation field notes were simultaneously summarized from the evaluating documents and saved in a digital file, using alphanumeric characters to replace individual names to protect the confidentiality of those being observed and interviewed.

Archival Document Review

The information that is garnered from organizational websites can be a good source of credible data, provide specific details regarding the dates of events, the mission statement, as well, as citations for studies (Yin, 2016). Further, researchers review archival documents to add contextual and historical value to studies (Boblin, Ireland, Kirkpatrick, & Robertson, 2013). Although researchers do not directly observe memorialized events, they can be used to illuminate a case (Stake, 1995). Therefore, the

archival documents that I reviewed for this study were used to gather specific information about the mission and the dates of events, to verify the data from other sources, as well as, to discover how ideas became policy at the PL. Further, the archival document reviewed in this study was located on PL's website included the following: the PL's board of directors' meeting minutes between 2015 and 2016, the PL's history, and the PL's strategic plan for 2015-2019.

I read through all three of the sets of documents while simultaneously conducting participant observations and interviews. I sought to identify recent PL successes and challenges, as well as its goals and objectives going forward. The data from the archival document review were used to triangulate the observation and interview evidence during data analysis to ensure accuracy of the findings.

Data Analysis Methods

A disciplined configurative qualitative case study is framed by a theory to explain a case study (Starman, 2013). I determined that Kling's (2005) SI theory would provide the appropriate lens with which to develop the research questions, analyze the data and summarize the findings. Moreover, a conceptual framework was used to align all of the components of the research process and provides a means for rigor to ensure that the study is relevant and has a compelling argument (Antonenko, 2015). In addition, research questions provide the framework that is necessary to facilitate the progress of a study from the development of the problem statement throughout the completion of the purpose (Abramson, 2015). The research questions were developed to solve a real social problem that emerged from the literature during the first literature review for this empirical project

and I designed the research question for this study with both the feasibility and the protection of the participants from harm as primary concerns. In addition, ethical guidelines to protect the participants of the study from harm and the feasibility of answering the research questions are reasonable considerations regarding research questions (Lodhi, 2016).

I referred to Creswell's (2012) approach to qualitative data analysis as I analyzed the interview data using the following six steps: data preparation before analysis, the data was then organized into categories, the data was constantly checked for accuracy, categories and themes emerged from the data, represented the findings using *in vivo coding*, an interpretation of the findings and the impact that it would have on the literature. I read through the interview data and organized it into four categories.

I will now discuss the evidence of quality and procedures that I used to assure the accuracy and credibility of the findings for this qualitative single-case study. Immediately following the observations, I set up my Apple Mac Book Pro computer to record the interviews using a program called LogicPro with the agreement of the participants. I used data triangulation to compare the data from the archival documents, observations and interviews to ensure that the conclusions that I reached were accurate. Additionally, the comparison of multiple forms of data also enhanced the trustworthiness of the findings (Merriam, 2014). Revisions were made to reconcile the few discrepancies identified between the transcripts and the memory of those who participated in interview to accurately reflect the views of the participants. Throughout this process, the PL adult patrons' observation and interview data were kept confidential. After I had completed

the member checks for all 10 of the participants, I used Saldana's (2013) *two-cycle* coding method to code the interview data. During the first coding cycle, I used *in vivo* and structural coding to organize the interview data into segments that were aligned with the three research questions excluding the first two interview questions that were about the ten participants' experiences at the PL and their information literacy self-assessments into a Word document. Next, I highlighted the significant words and or phrases that captured the participants' experiences. The first coding cycle yielded 100 codes with four categories. It is prevalent for researchers to produce at least 100 codes during data analysis (van Rijnsoever, 2017). After that I immediately began the second coding cycle. I grouped the similar words and phrases together and counted them. This reduced the number of codes to 40 within the following four categories: category one—patron experiences at the PL, category two—patrons' UI e-learning experience, category three—patrons' suggested UI's tutorial modifications, and category four—barriers.

Observations Analysis

I observed 10 participants independently navigate through all of the six UI online modules at the PL. The average time that it took for the participants to complete UI's tutorial was 53 minutes. The shortest time of completion was 20 minutes. The longest time of completion was 2 hours and 6 minutes primarily because the participant was copying information from the tutorial. In addition, I had planned to document any navigational problems participants might have experienced, as well as, attitudes, as well as their verbal or nonverbal expressions of any type of problems as they completed the tutorial. However, none of the participants indicated that they had experienced any

navigational problems or expressed concerns about the curriculum. I also did not observe any frustration or any evidence of the sort of stress one might expect of those taking a test. Instead, I noticed smiling, reading aloud, thinking out loud, and focused behavior. The focus and interest that the participants demonstrated revealed their intrinsic motivation and the relevance of the content. The overwhelming positive behavior demonstrated by participants while completing the six modules was an unexpected experience that I appreciated as the researcher for this study.

I documented all of the participants' comments and expressions except when they were either reading or thinking aloud to improve their understanding of the content. Three participants directed positive comments to me about the program while they were engaged with the modules. I documented those comments while noting the modules that they were completing at the time of the comments. For instance, while working on Module 2, P2 stated, "I am just jotting down some notes to give to the senior citizens because I teach computer classes, too." In addition, there were two more participants who demonstrated enthusiasm as they completed the online tutorial as well. For example, while completing module one, P3 stated, "This is making me want to go back to school." Further, while completing module four, P5 stated, "I want to know this myself." These are three examples of positive, spontaneous, participant reactions to the online tutorial.

Interview Analysis

Category 1: Patron experiences at the PL. Interview Question 1: How would you describe your experience at the PL in general? Interview Question 2: How would you describe your information literacy level? The first category was based on the first two

interview questions and related to the patrons' personal experiences at the PL and the patrons' information literacy self-assessment. I then developed three more categories based on the three research questions.

Category 2: Patrons' UI e-learning experiences. RQ1: What are the perceptions of the PL's adult patrons regarding how the UI's information literacy online core curriculum affected their learning? I aligned interview questions 3, 4, 5, and 6 with the first research question to develop the second category was related to the adoption of UI's tutorial rationale.

Category 3: Patrons' suggested UI tutorial modifications. RQ2: What are the PL adult patrons' perceptions of the necessary modifications that should be made to the UI's information literacy online core curriculum to positively affect their learning? I aligned interview questions 9 and 10 and the second research question to develop the third category was regarding the needed modifications.

Category 4: Barriers. RQ3: What are the PL adult patrons' perceptions of the potential deterioration of the PL's ACTP if an e-resource such as the UI's information literacy core curriculum were to be implemented? I aligned interview questions 7 and 8, and research question 3 to develop the fourth category was related to barriers involving the adopting of UI's tutorial.

Archival Document Review Analysis

I noted that the PL was described as a global leader in providing innovative services for its patrons of all ages (PL's Strategic Plan, 2014). This description of the PL as social innovator and global leader was substantiated by the data that I found during the

document review. Moreover, by year of 2015, the PL had received *Social Innovator* and *Library Service* awards and two national medals for community programs, and was ranked first in the United States and third in the world among major urban libraries in an international study (PL's Board Meeting Minutes, personal communication, December 15, 2015). I endeavored to gain a full understanding regarding the progression and development of the PL. As I read through all three sets of the archival documents, triangulated the data found there, and reflected on the points that were salient to this case study, I reached the conclusions offered below.

The PL's history. While reviewing the PL's History, I identified the following years, 1872, 1916, 1986, 1988, 1995, and 1996, as significant dates in the development of its vision and programs. The PL began in 1872 with a donation of approximately 8,000 books from a foreign country. Thereafter, a group of citizens united and filed a petition to request municipal funding to support a public library, and this effort resulted in the Library Act of 1872 (PL's History, 2016). I found this relevant because it demonstrated how a small group of citizens' social activity informed early educational public policy to benefit the entire city at that time and in the future. This was followed by the establishment of the PL's neighborhood branch locations in 1916, which provided the network infrastructure that would be necessary for the PL to extend information services throughout the city. This vision and subsequent efforts to build appropriate services for the PL's clientele related directly to the aim of this case study. This qualitative case study explored the perspectives of adult patrons regarding an academic library's information literacy e-resource at a public library in the Midwest. The development and

implementation of the chief librarian's network plans to provide access to the library within walking distance for all readers is discussed (PL's History, 2016). Further, it is worth noting that the establishment of branch locations throughout the city and the commitment to providing equal access to information provided a necessary prerequisite to making PACs available in the branch libraries with Internet connection and is the foundation upon which the PL's ACTP was established. The PL provides opportunities for the economically disadvantaged, as well as for young, well-educated citizens to utilize PL PACs and the Internet (Mossberger, Tolbert, & Franko, 2013).

In 1986, the PL established a nonprofit educational foundation to collaborate with the supporters of the city to enhance the library collection, as well as, to promote funding and innovation (PL's History, 2016). This foundation has helped the library fund many of the initiatives that are currently offered through the PL such as the ACTP outside of their standard operating budget resources (PL's Strategy Plan, 2014). Further, by the year 2016, the mayor launched a civic leadership initiative in partnership with a variety of stakeholders to increase digital access and training resources across the city by expanding the PL's ACTP from 48 public library branches to nearly all of the 80 branches across the city (PL's Board Meeting Minutes, personal communication, April 19, 2016).

The main PL building opened in 1988 (PL's History, 2016). This facility was named for the first African American mayor of the city and it is where I gathered the observation and interview data that served as the basis for this case study. I found working at the PL to be a positive experience because the environment was professional and conducive for professional research. It was organized, clean, and brightly lit, and had

a comfortable temperature. I used the Wi-Fi available there to connect to the Internet and the study rooms at the PL to conduct the observations and interviews. The downtown location also was accessible to participants using various modes of transportation. In addition, by the month of June 2016, adult PL patrons who held library cards could check out Wi-Fi hotspot kits for up to three weeks for Internet access at home (PL's Board Meeting Minutes, personal communication, June 21, 2016), further demonstrating the PL's commitment to offer inclusive Internet access both from within and outside of the library facility (PL's Strategic Plan, 2014).

During the year 1995, the PL took steps to prepare for participation in the knowledge society by developing a new mission statement and its first website. These and subsequent iterations of them continue to drive the goals and outcomes of the PL today (PL's Strategic Plan, 2014). This was also the year the PL implemented a 5 year strategic-plan to rebuild the PL's structures and its collection. The accompanying mission statement said, "We welcome and support all people in their enjoyment of reading and pursuit of lifelong learning. Working together, we strive to provide equal access to information, ideas and knowledge through books, programs and other resources. We believe in the freedom to read, to learn, and discover" (PL's History, 2016, p. 16).

During the year 1996, a $1 million donation enabled the PL to offer Internet access at all of its locations (PL's History, 2016). The implementation of PACs and Internet access provided opportunities for patrons who previously had had no access to computers and the Internet to use these technologies. However, without any training or experience, many of these users were not able to benefit fully from this digital

technology. To address this problem, the PL set up the ACTP (Williams, 2010b). Further, the ACTP provides one-on-one digital assistance for tasks such as setting up e-mails and conducting Internet searches while using PACs (PL's Strategic Plan, 2014). The goals and objectives of the PL are to nurture learning, support economic advancement, and to strengthen the community (PL's Strategic Plan, 2014).

The PL's (2015-2019) strategic plan. During the late 2013s, the PL's administrative team used observations, interviews, and surveys to identify emerging technological trends and collaborated with local, national and international experts in order to develop strategies for expanding upon its strengths (PL's Strategic Plan, 2014). This resulted in the PL's (2015-2019) Strategic Plan which described the various programs and innovative initiatives offered by the PL throughout the city and initiatives being explored to address unmet needs. A commitment to serve all users in every age group featured prominently throughout the document. In particular, the plan stated, "We nurture learning for patrons of all ages" (PL's Strategic Plan, 2014, p. 19). Further, two primary goals that are repeated throughout the PL's strategic plan were to develop and to "maximize access and allow the PL to reach target populations, especially populations that might not otherwise receive certain services" (PL's Strategic Plan, 2014, p. 39).

Accuracy and Credibility

Planning and triangulation are two techniques that researchers use to ensure the credibility of qualitative studies (Amankwaa, 2016). I will discuss how I planned and conducted this study with ethical responsibility to ensure the accuracy of the data. I sought to gain an information literacy external expert's opinion regarding the

development of the research and interview questions for this study to ensure appropriateness based on the methodology and validity. Subsequently, an Associate Professor in the Library and Information Studies Program in the School of Education at the University of North Carolina, Greensboro who had served on that faculty for more than 11 years and had published 14 articles about information literacy and other topics related to library services (University of North Carolina Greensboro, n.d.) provided external expert advice regarding the quality and validity of the data collection instruments [via e-mail and telephone conversations] (N. J. Bird, personal communication, May 14, 2015).

I used an observation protocol (see Appendix B) and field notes as the participants voluntarily reviewed the UI's curriculum, and then immediately following, I used an interview protocol (see Appendix C) to gather data as the participants shared their perspectives about the e-resource using open-ended, semi-structured, face-to-face interviews that were audio-recorded with the participants' permission. I also simultaneously reviewed and summarized three archival documents from the PL's website to support the triangulation process and historical context. I used self-designed observation protocol (see Appendix B), interview protocol (see Appendix C), and LogicPro on my laptop to record and save individual audio-files, observation field notes, and interview transcriptions for each participant to ensure that the interviews were transcribed accurately. I located three archived documents on the PL's website, downloaded, printed, and placed them in the front of a three ringed binder and reviewed the documents as I collected the data simultaneously. I placed the archived documents in

the binder to ensure that they were summarized accurately by repeatedly reading and comparing them to my summary of them.

As the participants signed and returned their informed consent documents, I placed them in the same three-ringed binder in alphabetical order and verified that all of their identifying and contact information was accurate on each document to prepare for the member checking process. After I had received a signed informed consent form from each participant, I reserved a study room at the PL to secure a quiet place to record the interviews without distractions or interruptions. This was also done to prevent unwanted noises on the recorded-audio files to ensure that the participants' interview transcriptions were accurate.

I completed the identification information on the protocols for each participant at the time of the observations and interviews, which included the dates and times to provide detailed identification of each participant. The observation protocols were used to gather field notes to document the participants' reactions to the UI curriculum, the start and stop times for each module, and technical problems that occurred, and comments that they made about the UI's curriculum. The interview protocol was used to gather the participants' interview data, as well as, the time it started and ended. I constantly compared the names and dates that were on the observation protocols and interview protocols to the signed informed consent forms to ensure that the identification that was on the informed consent forms matched the identification that was on the observation and interview protocols.

I used Microsoft Word to transcribe the observation field notes and verbatim transcripts for each participant and e-mailed the transcribed observation notes and transcripts to each participant for member checking to ensure the accuracy of their own data within three weeks. I used the participants' last name, first initial and the date to create file names to save their Word documents as well. I printed out the observation notes and interview verbatim transcripts for each participant separately with their identifying information, date, time, start and end time at the top to ensure that I matched participants' data accurately. I attached the observation and interview data for each participant together and put all of them in alphabetical order by last name and first initial and date. The only revisions that were made to the verbatim transcripts were in response to the participants' review of their own transcripts during the member checking process. After the member checking verifications were completed, I put the documents in alphabetical order, I assigned each set of observation and interview data a participant number from 1 to 10 and labeled each set accordingly. For example, for the first set, I labeled the observation notes and the transcribed interview *P1* and I followed the same procedure for all ten participants and then placed all of the labeled observation notes and transcribed verbatim interviews in the middle of the three ring binder to ensure accuracy of the data sources during the data analysis process.

I created an Atlasti.7 database project to prepare for the data analysis process for this study. I first, uploaded all of the archival documents, the labeled sets of participant observation notes, and verbatim transcripts into Atlasti.7 into categories and saved them. Credibility of the data and findings is established in research by constantly comparing,

checking and rechecking the data for accuracy (Connelly, 2016). I compared the information that was in the database to the information that was in the binder to ensure that I did not accidently duplicate or exclude any data files. The database files were saved and secured on my laptop as a backup to the hard copies that were in the binder. I constantly referenced the labeled observation notes and interview transcripts that were in the binder while I analyzed and triangulated the data. I constantly checked the participant-id labels on the observation notes and verbatim transcripts to ensure that the data matched the participants' id-labels while organizing the data into categories and themes. In addition, rigorous and credible research includes the following: the use of thick descriptions, purposeful sampling, triangulation of multiple data sources, and member checks (Lub, 2015; Yilmaz, 2013).

Discrepant Cases

Prior to collecting the data for this study, I planned to use systematic procedures to prevent data discrepancies. Data discrepancies are defined as errors and researcher bias that occur during the data collection and analysis process resulting in biased, incomplete, and conflicting information (Rouet, Bigot, Pereyra, & Britt, 2016). I selected to circumvent data discrepancies by using constant comparisons of the identifications labels on the observation notes and interview transcriptions for each participant to ensure that they were accurately matched the participants, the research questions, observation notes, and interview transcripts before, during, and after the data analysis process. I recorded the names, dates, times, and comments of each participant consistently and reframed from adding to or subtracting from the original source data by including all of the participants'

observation notes and transcribed interviews in the data analysis process without revisions.

Confirmability is defined as the measures that researchers take to ensure that the findings express participants' perspectives void of research bias (Cope, 2014). I kept the perspectives of the adult patrons at the PL as the focus of the study and I collected the data as a neutral instrument. In addition, I took specific precautions to guard against researcher bias by approaching each participant with an open mind, providing the information regarding the study from the documents such as the invitation letter, inform consent forms, and the observation and interview protocols and reframed from sharing my opinions with the participants. Further, I advised the participants to complete as much of the UI modules that they felt comfortable completing, to take a break if they felt it was necessary, and to end their participation in the study at any time. I kept the participant information confidential and only shared it with participants to verify their own observation notes and interview transcribed data.

Data Analysis Results

The purpose of study was to understand the perceptions of adult library patrons regarding how an academic library's information literacy e-resource affected their learning. In this study, I aimed to introduce an academic library's e-resource to a group of adult patrons at the PL, provide a voice for the adult patrons at the PL, document their opinions about their experiences during and immediately following their engagement with the UI's information literacy e-learning resource, and present a summary of the findings with recommendations in the form of a white paper to the policy makers at the

PL. The themes were documented and validated using various sources by triangulating the data (see Creswell, 2013).

Findings

Research Questions

The first theme was based on the first two interview questions and related to the patrons' personal experiences at the PL and the patrons' information literacy self-assessment. I then developed three more themes based on the three research questions.

I aligned interview questions 3, 4, 5, and 6 with the first research question to develop the second theme was related to the adoption of UI's tutorial rationale. RQ1: What are the perceptions of the PL's adult patrons regarding how the UI's information literacy online core curriculum affected their learning?

I aligned interview questions 9 and 10 and the second research question to develop the third theme was regarding the needed modifications. RQ2: What are the PL adult patrons' perceptions of the necessary modifications that should be made to the UI's information literacy online core curriculum to positively affect their learning?

I aligned interview questions 7 and 8, and research question 3 to develop the fourth theme was related to barriers involving the adopting of UI's tutorial. RQ3: What are the PL adult patrons' perceptions of the potential deterioration of the PL's ACTP if an e-resource such as the UI's information literacy core curriculum were to be implemented?

Theme 1: Digital exclusion. While all 10 of the participants expressed positive experiences at the PL, P5 described the PL as a resourceful place to conduct research and P7, a college student working towards completing a bachelor's degree, described the PL

as a great help to college students. However, both indicated that they still needed information literacy instruction that extended beyond that offered by the PL's ACTP.

The 10 participants described their own information literacy levels as follows: Two out of 10 described their information literacy levels as above average and 7 out of 10 described their information literacy levels as average. However, P3 admitted, "I don't think it is high enough." The ACTP is limited to providing point of service assistance with PACs and group instruction for beginners and, even when users think they know how to use the resources available, there can be unmet needs as users may not be aware of the possibilities. The availability of information literacy self-assessment in academic libraries and its absence in public libraries is a gap in practice that could be remedied through information literacy e-learning resource sharing such as UI's program.

I triangulated the first theme using the document review and interview data to verify that the PL's ACTP only provided basic digital assistance. I also verified that constituencies whose digital skills were beyond the basic level as an unmet need at the PL because they were not being served by the ACTP which is significant because it provides an opportunity for the UI's tutorial to address those needs. The interview data further verified college students as a group of adult patrons who are not served by the current ACTP at the PL. The PL has offered various initiatives throughout the city to address the unmet needs of the PL's constituents (PL's Strategic Plan, 2014). The ACTP provides one-on-one digital assistance for tasks such as setting up e-mails and conducting Internet searches while using PACs at the PL (PL's Strategic Plan, 2014).

Theme 2: Standard-based information literacy shared resources across library types. All 10 participants indicated that their experiences with the UI's curriculum were positive and all 10 participants reported that the program could help them, as well as other PL users, improve their information literacy levels. In describing their experiences, they used words like interactive, exciting, exceeding the PL's information literacy resources, comprehensive, and invaluable to describe UI's curriculum. Nine out of the 10 participants also thought the tutorial would offer positive benefits for the PL's staff, though one suggested that its value to the PL's program would depend on whether or not staff members approached the UI curriculum with an open mind.

The participants suggested ways in which the PL's staff might benefit from collaborating with UI Library. For instance, P6 suggested that, "It could be a resourceful tool to educate the current staff who are meeting with patrons so they can refer the patrons to the resource." It was also suggested that the possibility that a program such as the UI's curriculum could be used as a resource for systematically educating both patrons and staff at the PL would be enhanced if the national standards for information literacy instruction resources now in place for academic libraries were adapted for use in other types of libraries. While basic instruction is available and point of service instruction meets immediate needs, it does not always help adult users understand the possibilities available to them. This might be remedied if this kind of help was supplemented with more formal instruction available to users on demand. Participants suggested that UI's curriculum provided a heightened awareness of source evaluation, motivation to continue

education, an enjoyable experience, and a refresher course on how to use information resources, a research guide, and useful content.

I triangulated the second theme using the observation field notes to verify that I did not observe any frustration or any evidence of the sort of stress one might expect of those taking a test. Instead, I noticed smiling, reading aloud, thinking out loud, and focused behavior. This verifies the interview data regarding the participants' positive experiences with UI's tutorial. In addition, the triangulated observation field notes revealed that the participants were intrinsically motivated to complete the modules and quizzes and that the relevance of the content of each module depended on the focus and interest of individual participants. This also verifies the positive possible benefits of UI's tutorial demonstrated in the interview data regarding the idea of systematically educating both patrons and staff using a national standards-based information literacy curriculum design.

Theme 3: Digital inclusion. The following are the modifications that the participants suggested. One of the 10 people interviewed thought that the PL should advertise the fact that the UI's curriculum was available, while 2 out of 10 thought that it should be made available to all types of learners, noting that, "Some learners are deaf or visually impaired. I would make some adjustments to include people with limitations."

P6 thought it should be made readily available to anyone who felt the need to use it. When asked what modifications should be made in the modules offered within the curriculum, three participants indicated that they felt that no modifications were needed, while four others thought the curriculum should be customized to address individual

learning needs. There was a general sense that making UI's Information Literacy Curriculum readily available could make the PL's service program, in general, and the ACTP, in particular, more digitally inclusive.

I triangulated the third theme using the observation notes and document review data that stated that the two primary goals that are repeated throughout the PL's strategic plan were to develop and to "maximize access and allow the PL to reach target populations, especially populations that might not otherwise receive certain services" (PL's Strategic Plan, 2014, p. 39) which provides verifies an inclusive focus for this category. In addition, the observation field notes that verified that the shortest time of completion was 20 minutes, while the longest time of completion was 2 hours and 6 minutes, primarily because the participant was copying information from the tutorial. This demonstrates that UI's tutorial is self-paced and self-directed which facilitates autonomous and lifelong learning and verifies the inclusive focus of this category as well. Two primary goals that are repeated throughout the PL's strategic plan were to develop and to "maximize access and allow the PL to reach target populations, especially populations that might not otherwise receive certain services" (PL's Strategic Plan, 2014, p. 39).

Theme 4: Change and innovation. None of the participants deemed the tutorial to be inappropriate for use at the PL. However, 3 out of 10 participants thought an aversion to risk taking or change might have a negative effect on any effort to adopt the UI's tutorial or similar tools and integrate them into the ACTP program. The primary concern participants expressed relating to the adoption of UI's tutorial for general use

was that it might be perceived as a threat and a way to replace workers. The participants also described the challenges that are involved with change as a risk and the possible rejection of the library stakeholders who are committed to traditional service models. For example, P7 stated, "I think the only thing wrong with it is that it is a change, but change is not necessarily a bad thing so I don't see any negative effects." This statement demonstrates the dilemma of traditional organizations when they confront change and consider innovative strategies.

I selected relevant sections of the observation field notes, document analysis, and the interview analysis to align with the forth theme to triangulate the interview data as follows: I triangulated the observation data, interview questions 7 and 8, and research question 3 to develop the fourth theme was related to barriers involving the adopting of UI's tutorial. None of the participants indicated that they had navigational problems or expressed negative thoughts about the curriculum. I also did not observe any frustration or evidence of the sort of stress one might expect of those taking a test. During the late 2013s, the PL's administrative team used observations, interviews, and surveys to identify emerging technological trends and collaborated with local, national and international experts to develop strategies for expanding upon its strengths (PL's Strategic Plan, 2014).

Summary

The four themes that emerged from the four categories were digital exclusion, standard-based information literacy shared resources across library types, digital inclusion, and change and innovation. I will now explain the insights that I gained during

data analysis filtered through Kling, Rosenbaum and Sawyer's (2005) social informatics (SI) studies. SI posits that the use of computers immediately attracts a group in society who benefit from its use and produces a second group whose needs are neglected when calculating future consequences. The document analysis revealed that the PL had consistently pursued its goals of reaching, supporting, and providing equal access to information to all of its constituents. However, by 1996 with the introduction of PACs and Internet access at the PL throughout their branch locations, the immediate group that benefited were those patrons who already knew how to use the PACs and the Internet.

The negative consequence that emerged after the technology had been in use for a while was the emergence of a digital divide between these users and a group of patrons who required more assistance when using digital resources. This new requirement to provide individual digital assistance caused an unexpected time demand on a PL staff who themselves had varying levels of expertise in using computer based resources. By 2008, the PL implemented the ACTP to provide basic digital assistance for their patrons at various locations to address this problem (Williams, 2010a). Novice computer users experienced an immediate benefit from the PL's ACTP. However, the ACTP did not offer learning opportunities that helped adult patrons to progress from basic to advanced information literacy levels as described in Grow's staged self-directed learning model (1991, 1994) (Merriam, Caffarella, & Baumgartner, 2007). Additionally, the limitations of the ACTP in terms of availability of ACTP staff at various locations and library hours left many of the PL's patrons without service of this sort or underserved by staff. This

meant that, for many, the digital divide was perhaps narrowed slightly, but remained in place for many PL users.

The observation data set revealed that the UI's information literacy online curriculum contained content that was relevant to PL users, motivated the participants to learn, and did not demonstrate immediate negative consequences that are usually associated with the stress involving test taking. However, an unexpected benefit that was identified during the observations was that this online resource provided opportunities for self-paced and self-directed adult learning. This was clearly demonstrated by the range of time that participants took to complete each module and the time that it took for them to complete all six modules. The time spent on task ranged from 20 minutes to over 2 hours with no breaks or complaints, depending on the interest of each individual and how they related the information offered through the curriculum to their own information needs and information seeking behavior.

The interview data revealed the value of UI's curriculum in addressing the first theme, digital exclusion, asking users about its appropriateness as a tool to help the patrons learn information literacy at the PL and for specific ideas about how the program could be utilized at the PL to assist the PL's staff in closing the digital divide. An unexpected data generated related to groups of researchers and college students who require more sophisticated information seeking skills that are not currently addressed by the PL's ACTP. These users often use the PL's PACs and Internet access, borrowing books, and other resources and service, and they are more likely to have digital skills that are better developed than those of other adult users. At the same time, they often need

more in depth information literacy instruction than others served. The PL's ACTP emphasis on basic skills does not address this need at present. A third group that is underserved by the ACTP is one that includes people who are not able to physically travel to a PL branch location to use the PACs and request assistance there either because of scheduling issues or disabilities. Using an online resource that is remotely available to them 24/7 that can enhance their ability to independently use library based and other information resources could be of great value in addressing the needs of this group.

All 10 participants expressed positive experiences when using UI's curriculum, and all ten reported that UI's program could help them and other PL users improve their information literacy levels and used words like: interactive, exciting, exceeding the PL's information literacy resources, comprehensive, and invaluable to describe UI's curriculum. The interview data revealed the value of UI's curriculum in addressing a second theme, the need for standard-based information literacy shared resources across library types. The immediate positive benefits that were identified by the participants were: professional development for the PL's staff and a resourceful reference tool for the PL's patrons. The possibility that a program such as the UI's curriculum might be used as a resource for educating both patrons and staff at the PL would make it more likely that standards could be developed for information literacy applicable across library types.

The interview data revealed the value of UI's curriculum in addressing a third theme, the need to expand digital inclusion. Specifically, this theme was address by asking participants how the programs should be modified to meet their needs. The number and scope of changes suggested were modest. They included advertising the

availability to let people know that the UI's curriculum is available and making it available to the visually impaired and deaf patrons at the PL. However, it was also noted that implementation would require an investment of time, money, and effort on the PL's part to form partnerships with community organizations such as the Urban Lighthouse for the Blind to make changes to the PL's website and the ACTP that would include outreach to visually impaired and deaf PL patrons.

The interview data revealed the value of UI's curriculum in addressing a fourth theme—namely, the need for change and innovation at the PL to meet the changing needs of the constituents there. The immediate drawback of implementing the UI's curriculum is the need for commitment, time, and resources that would be required to teach the PL's staff and librarians to become comfortable in using the UI's curriculum or some similar resource and to gain a consensus regarding its value. Further, the notion of fear of change, as well as any concerns that the library staff might have regarding the elimination of their positions due to the adoption of the UI's e-resource will need to be resolved prior to implementing it at the PL. However, it is anticipated that, long-term, the implementation of this kind of information literacy program would lead to more not less demand for more sophisticated questions and more personal attention, expanding the role of the library staff rather than replacing it.

Conclusion

The methodology section provided an overview of how this qualitative case study was conducted and the results of data gathering efforts. It included a detailed description of the rationale for the study, outlined the sample selection criteria, the instruments, the

methods that were used in data collection and those used to analyze that data, and how and to whom the findings will be reported. It then addressed participants' reactions to the e-learning tool being evaluated and their impressions as to its value as a supplement to the information training offered at the PL.

Participants suggested that this project has potential implications for social change when they suggested that the UI's curriculum provided an opportunity for users to improve their capacity to find, evaluate and use appropriate information resources in this library to meet their information needs. At the same time, they accepted the e-learning resource that was developed in an academic library as an appropriate foundation for an online learning tutorial that could be used in a large public library. Using these programs could dramatically reduce the time and resources required to develop and mount programming to supplement that already offered in this library system. It also offers information about an innovative approach to enhance the information literacy of adult patrons and bridge the information divide. This study could also prompt public librarians to seek other opportunities to seek out e-library resources and other tools developed in other library types that might offer opportunities for the PL adult patrons to improve lifelong learning skills and contribute to the body of knowledge that focuses on library information science research and SI.

I will present a summary of the case study findings in a white paper to those responsible for making policy decisions relating to the PL's adult programs. The white paper will provide both a summary of the procedures used and the results achieved as well as suggestions about how UI's information literacy curriculum might be tailored to

meet local needs and augment existing programs to improve digital literacy and inclusion for adult patrons at the PL.

Section 3: The Project

Introduction

I conducted a qualitative case study and documented the perceptions of a group of PL adult patrons regarding their experiences with the UI's information literacy online core curriculum and its potential to impact their information literacy skills. Specifically, I wanted to analyze whether the academic library's information literacy e-learning resource could be of benefit for the PL's adult patrons. In Section 2, I provided details about the methodology used in the study and the study findings.

As I reflected on the literature in Section 2, I realized that there was a gap in the digital instruction resources that were available to the constituents served by public libraries when compared to those developed for constituents of academic libraries. An individual's ability to evaluate a process while he or she is engaged in it is described as *reflection-in-action* or resolute thinking (Aluko, 2014). Initiatives that focus on providing opportunities to improve digital skills, training, and comprehension have been used to encourage digital inclusion (Jaeger, Carlo, Thompson, Katz, & DeCoster, 2012). I wanted to foster more collaboration, cooperation, and resource sharing between staff and administrators at the university and the public library in the study to facilitate digital inclusion among PL patrons. I summarized findings from the case study in a white paper (see Appendix A) using words rather than numbers. The white paper also includes digital inclusive alternative scenarios using the UI Library's e-learning resource and a summary of the scholarly literature.

A summary of the findings and recommendations may serve to inform policy change at the PL and will be presented to the key decision-makers at the PL who will make final decisions about whether this tool will be incorporated into the offerings of the PL. The white paper may extend the value of the study beyond the PL and offer a model for educators, librarians, and others in the United States concerned about insuring that those who need information can access, evaluate, and use it in a way that will empower them to participate in society. At the same time, I aimed to expand the body of knowledge relating to library and information science, SI, and digital inclusion in public libraries. In Section 3, I will describe the project, its rationale, and goals and provide a review of the relevant literature.

Description and Goals

Empowering patrons to function independently when seeking information is a key part of this study and of policy research; it is also a practice concern of those who advocate for digital inclusion (Seale & Dutton, 2012; Thompson, Jaeger, Taylor, Subramaniam & Bertot, 2014). Reflecting this focus, the guiding principles underlying all of the PL's programs are to provide access for all and serve all of its patrons effectively, as noted in the PL' 2014 Strategic Plan. My first goal was to design this study to inform efforts at the PL to effectively and efficiently expand digital literacy and inclusion projects offered within the ACTP based on a summary of the findings. The second goal was to consider how the PL staff could effectively share digital learning resources that have been developed in academic library settings to solve common problems. I did so by comparing and contrasting situations found in these two environments using scenarios

(Hernon & Matthews, 2013). I developed scenarios for adopting an academic library developed tutorial at the PL.

Rationale

A white paper is a document containing a brief description of strategies to address issues within an organization and a concise summary of information to support policy decisions (Lyons & Luginsland, 2014). I developed a white paper using the summary of findings that emerged from the case study in Section 2. I deemed the white paper genre to be the best approach for presenting recommendations and findings to policy makers, stakeholders, and members of organizations intent on understanding policy options and concerns relating to digital literacy and inclusion (see Cohen, 2015).

Review of the Literature

I will discuss the following themes in this section: the appropriateness of a white paper genre to address digital exclusion, the criteria that I used from the literature to guide the development of the project, and the themes that emerged from the literature and the findings. I will discuss five themes in this section. The first theme, librarianship and social justice, emerged from my review of the literature. In addition, the need for national standards relating to information literacy across library types (the background), digital exclusion (the problem), digital inclusion (the solution), and change and innovation (recommendations) were the four themes that emerged from the findings.

I read and evaluated over 50 peer reviewed scholarly journal articles derived from Boolean searches using Walden University Library's EBSCOhost, Academic Search Complete, Library Information Science & Technology Abstracts, Education Source, and

ERIC databases. I prioritized finding full-text, scholarly, peer-reviewed articles published between 2011-2017. The keywords used in this search were, as follows: *policy recommendations*, *policy papers*, *white paper*, *public library*, *academic library*, *digital exclusion*, *digital inclusion*, *innovation communities*, *social change*, *social justice*, *standards*, *competency*, *lifelong learning*, *information ethics*, *policy dilemma*, *difference principle*, and *inequality*, *knowledge*, *power.* I also used books from local collections and, also, Google Scholar to locate journal articles on the topic of adult information literacy instruction in both academic and public libraries. I identified an abundance of scholarly journal articles and books on the topic of information literacy in academic and school libraries but noted that there was a lack of published research on the topic of information literacy instruction in public libraries and the use of information literacy standards across library types. A comprehensive search of the scholarly literature continued until saturation was reached.

White Paper Genre

I deemed a white paper to be the most appropriate approach to present recommendations and findings to policy makers, stakeholders, and members of organizations as they seek to understand policy options and concerns relating to digital literacy and inclusion (Cohen, 2015). The audience usually determines the purposes of white papers (Herman, 2013; Willerton, 2013). Further, expert opinion and recommendations would be used to guide policy makers; a marketing tool would be used to gain the support of the general public, and a promotional tool would be used to advertise new products and to inform potential customers (Herman, 2013; Willerton,

2013). In addition, white papers should include the concerns that the decision makers could face while implementing the recommendation (Herman, 2013), as well as, literature about the problem, solution, as well as, the background to provide the necessary facts to make an informed decision (Sakamuro, Stolley, & Hyde, 2015).

An advocacy approach to social justice was used to guide the development of this project. Public libraries identify the cultural and informational needs of their constituents and use them to develop information literacy programming, which can be challenging due to the diverse constituencies at public libraries (Kingori, Nijraine, & Maina, 2016). Additionally, *equitable access* and *intellectual freedom* are two moral obligations that librarians are expected to demonstrate in their professional practice and when two conflicting moral obligations arise simultaneously, librarians routinely face moral dilemmas (Wilkinson, 2014). For example, the Internet is deemed to be a liberating resource not only because it is free from geographic or physical boundaries but because it allows people to freely express their thoughts with others across the globe (Cohen-Almagor, 2015). However, due to factors such as, age, income, and or disabilities, many people are not able to take advantage of the benefits that the Internet provides (Kernaghan, 2014).

Due to the social and economic value of the Internet, as well as, its ability to reduce inequalities that are derived from the digital divide, policy makers and regulators world-wide have focused on strategies that would allow equal access to online resources (Reed, Haroon, & Ryan, 2014). Moreover, digital inclusion policies are developed to include digital resources that have been socially and culturally adapted to the meet digital

and social inclusion needs of users while facilitating *use, competency, and transformation* (Abad, 2014).

Rawls argued that institutions are morally obligated to facilitate access to the necessities of life in our society (Desierto, 2015) framed by the following principles: *basic freedom, fair equality of opportunity, and the difference principle* (Machin, 2013). With this in mind, I selected the *difference principal* that posits that it is critical to address the needs of the least advantaged if we are to limit the effects of inequalities in society (Wilson-Strydom, 2015) to serve as the benchmark for the options that I will present to decision makers at the PL in a white paper.

Librarianship and Social Justice

Community development and inclusiveness are social justice concerns that are prevalent among library stakeholders, researchers, and practitioners (Oliphant, 2015). Social justice involves the equitable distribution all societal benefits to all individuals within our society (Mathiesen, 2015). Social justice is facilitated in communities as library policy makers and practitioners demonstrate ethical practices through advocacy and unbiased policy reviews, improvement, and innovation (McManus, 2017). Moreover, identification of processes that perpetuate exclusion is a function of social justice efforts in libraries (Morales, Knowles, & Bourg, 2014). The Internet is a resource that provides information without regional restrictions for those who have the ability to access and use it properly while it simultaneously creates barriers for those who lack the skills to access and use information effectively (Caetano & Lori, 2015). The digitally included are able to secure various economic and social benefits or capital that are provided as a result of

using the Internet, therefore, social justice is needed regarding the digitally excluded in our society (Henninger, 2017).

Public libraries plan educational and social service programs without bias based on the needs of their constituents and should include training for the library staff to ensure that social justice is demonstrated and maintained (Farrell, 2016). In a knowledge-based society, progressive thinking and social advancement are equated with 21st century learning (Abbiss, 2013) among learners who are intrinsically motivated, self-directed, and able to use resources effectively to incorporate prior knowledge with newly acquired information (Lang Froggatt, 2015). Library practitioners have taken responsibility for leveraging equal access to information and to address the needs of people with disabilities, as well as constituents who are information poor through advocacy to facilitate the participation, contributions, and the distribution, of information to maintain social justice in a knowledge-based society (Dadlani & Todd, 2015). Further, information policy is described as measures that are taken to manage infrastructure, access, social support, as well as inclusion of all constituents (Jaeger, Gorham, Green Taylor, & Bertot, 2015). The rationale for *evidence based* policies within communities are based on knowledge (Atkinson, 2013) and used to facilitate mediation at the administrative level to ensure that all users have both access to information and the ability to use needed information at pragmatic and administrative levels to ensure people with disabilities have equal access (Mutula, 2013). In addition, technological infrastructure adaptations are required to ensure that all users have the ability to access and use information extracted from the Internet effectively (Mutula, 2013). However, substantial changes in policies,

and practice are necessary to implement effective and inclusive systems (Tedesco, Opertti, & Amadio, 2014). Social justice is demonstrated in academic libraries by intentionally incorporating scholarly research resources information literacy instruction and physical spaces (Mathuews, 2016).

Standards-Based Information Literacy Across Library Types: Background

Public libraries have historically been called "universities of the people" because they provided adults with educational opportunities that facilitate lifelong learning (Peich & Fletcher, 2015). Similarly, academic libraries incorporate information literacy instruction to promote lifelong learning amongst their users (Witek, 2016). Moreover, the users of academic libraries are expected to be information literate and demonstrate the ability to find, evaluate and use information resources well enough to complete course requirements (Klomsri & Tedre, 2016). In contrast, the public library computer training constituents are described as lacking basic computer skills and dependent on assistance to complete online task using PACs (Bertot, Jaeger, Wahl, & Sigler, 2011). Educators and librarians also face the global challenge of integrating information literacy instruction into the programs that they offer due to the lack of consensus regarding the content (Klomsri & Tedre, 2016).

The ACRL began to develop national information literacy standards in academic libraries in 1998 based on themes that were incorporated from the American Library Association and other professional library organizations. As a result, the *Information Literacy Competency Standards for Higher Education* emerged in 2000 (Sokoloff, 2012), and national standards built on this foundation are utilized in academic libraries

throughout the United States to drive information literacy instruction (Stark, 2011). However, no curriculum national standards have been developed to support digital literacy in public libraries (Cordell, 2013).

Although, public libraries are in a position to address the ongoing digital divide because the technology and infrastructure are sustained through public funding which provides not only access to PACs and the Internet but a place to share and develop teaching and learning partnerships (Thompson, 2015) physical access to technology, resources, digital instruction, as well as, interpersonal relationships are necessary to address inequities of service (Gonzales, 2016). Since, library professionals provide the infrastructure and digital tools such as research databases to support digital literacy, it would be reasonable expectation for libraries to provide training for their staff and constituents to ensure that they are competent and have the ability to efficiently use the digital resources provided (McKrell, 2014).

The ACRL standards are used to develop critical thinking and technological skills (Folk, 2016), along with a capacity to find, analyze, and use other learning resources. Additionally, academic libraries utilize information literacy instruction to facilitate student professional development and ensure employability (Monge & Frisicaro-Pawlowski, 2014). In contrast, public libraries assist users in navigating websites using PACs to meet a wider array of information needs, to include everything from school work to filing out employment applications and tax forms to simple questions that arise out of their curiosity about questions encountered in life (Taylor, Jaeger, McDermott, Kodama, & Bertot, 2012). Accordingly, new, creative, and engaging technological

information literacy initiatives that are implemented and constantly updated in many academic libraries in formats such as modules and tutorials (LeMire, 2016) tend not to take hold in public libraries where the questions are less predictable.

Digital Exclusion: Problem

A white paper is deemed the best approach to present current scholarly research regarding digital exclusion to the policy makers at the PL based on the literature because white papers are designed to address specific problems by presenting facts, logic, and arguments in persuasive manner to offer a solution, gain support for an idea, and present recommendations (Pershing, 2015; Powell, 2012). Specifically, digital exclusion is a global social phenomenon that has had negative implications on teaching and learning regarding the use of technology (Resta & Laferrière, 2015). In addition, digital exclusion is demonstrated by social disparities and inequalities in use, availability, and quality of access to high-speed broadband technology (Sadok, Chatta, & Bednar, 2016). Similarly, the digital divide is defined as barriers or challenges to online network access and the benefits that could be derived from the social and digital resources obtained via the Internet either because of limited access to equipment or a lack of understanding of how to acquire, evaluate and use Internet resources (Lázaro Cantabrana, Estebanell Minguell, & Tedesco, 2015). A few of the negative effects of the digital divide are an inability to send or receive e-mails, access information and communicate with others online due to a lack of Internet connectivity, and access to communications technology (Horrigan, 2011).

The digitally excluded in society are usually senior citizens, the unemployed, less educated and/or affluent Americans, and patrons with disabilities. Moreover,

disadvantaged groups include those who live in remote locations and need information technology skills programs beyond those that they acquired while completing their formal education (Polat, 2012). Most programs in K-20 education now require that students learn to use digital technology to complete their studies, and digital literacy is developed as a byproduct (Polat, 2012). But students who completed their formal education ten to twenty years ago and have not refreshed their skills often find themselves at a disadvantage, and this creates a digital divide. This, in turn, leads to a kind of social exclusion or e-exclusion in a technology based information age as a direct result of gaps existing between those who are empowered to substantially participate in a knowledge-based society and economy and those who are not. Individuals can be excluded either because they do not have the resources needed to easily access the information they need, because they have not acquired the skills required to use those resources to best advantage or have not developed the necessary human and digital relationships to mine them (Willems & Bossu, 2012).

Digital Inclusion: Solution

White papers are documents that are used to represent a position on an issue and advocate a solution to a problem (Arney & Coronges, 2015) and will serve as support for my decision to present the solution to digital exclusion to the decision makers at the PL in a white paper. Digital inclusion provides opportunities for users to both produce and consume information in formal or nonformal learning environments (Lázaro Cantabrana, Estebanell Minguell, & Tedesco, 2015). Researchers have argued that digital inclusion

encompasses five inter-related concepts: *access, use, participation, equity, and empowerment* (Seale & Dutton, 2012, p. 316).

Efforts to encourage digital inclusion are based on policies developed to reach groups of constituents who are underserved or without service (Real, Bertot, & Jaeger, 2014). Addressing this need is a key objective of policy reforms designed to encourage digital inclusion, implement democratic principles, and provide information access for all (Blume, Scott, & Pirog, 2014; Lázaro Cantabrana, Estebanell Minguell, & Tedesco, 2015). Likewise, social inclusion concerns require that equal opportunities be made available for all individuals or groups to actively participate in society and have access to available educational, professional, economic and political opportunities. This requires the development and support of policies to serve our communities (Willems & Bossu, 2012).

The promotion of social inclusion means that learners have the support required to develop the skills necessary to flourish in a competitive labor market regardless of their social-economic background (de Siqueira & Rothberg, 2014). Digital inclusion offers a type of freedom to make informed decisions without external manipulation from others. Information is an important societal and economic product within an Internet-focused society that can be produced, reproduced and shared (Marcut, 2014). It has been the focus of recent policy research as society seeks to empower people to work autonomously to find, evaluate and use information effectively (Seale & Dutton, 2012). This is reflected in recent educational policy, which has focused on learner autonomy and the ability of individuals to change their individual and societal circumstances (Smythe, 2015). For

many years, policy makers have worked to provide computer access and develop comprehensive skill sets relating to computer usage and information literacy to address the digital divide. This focus is now shifting as stakeholders work collaboratively to prepare an agile workforce that can meet the demands of a constantly changing information environment (Horrigan, 2011). Furthermore, strategic plans are being developed that define goals, policies, and outcomes to insure optimal use of information resources, along with the evaluation tools to be used by organizations to assess their performance in this regard (Lázaro Cantabrana, Estebanell Minguell, & Tedesco, 2015).

Change and Innovation: Recommendations

The primary challenge to innovation that libraries experience is the need to maintain a brand in their communities that, while open to innovation, is consistent and stable (Massis, 2014). Many researchers have sought to understand why innovation is often delayed, ineffective, and unsuccessful (Jantz, 2012). Some argue that it is not librarians' lack of skills that limit positive change but rather the lack of sufficient quantities of appropriate resources to support innovative initiatives (Massis, 2014).

Changes that can disrupt traditional processes are described as disruptive innovations (Shea-Tinn Yeh1 & Zhiping Walter2, 2016). Christensen's (1997) *Disruptive Innovation Framework* describes the five approaches and responses that academic libraries demonstrate involving net-innovations as "exit, ignore the new innovation, switch to the new innovation completely, extend the existing business so it both maintains the traditional market and enters the new market, and accelerate innovation in the current business" (Shea-Tinn Yeh1 & Zhiping Walter2, 2016, p. 796). While framed

within an academic context, this paradigm can also be valuable in dealing with options in public libraries.

Change is something that is unavoidable in public libraries (Vaughn, 2013). One of the most dramatic changes occurred in the 90s as the Internet emerged as a major vehicle for communication because it required information technology and infrastructure innovation transformation in order for libraries to remain relevant (Parker, 2013). Moreover, the types of change that result in paradigm shifts in organizations, improves processes, products, and services supporting these efforts are referred to as innovative initiatives and prominent among them is the use of digital technology to support teaching and learning and increase access to educational opportunities (Vaughn, 2013; Yousuf, Naseem, Ghias, & Moiz, 2014). Further, digital equality is exemplified in strong communities developed through the collaboration and participation of constituents working with public libraries to facilitate research, lifelong learning, and innovation (Sipilä, 2015). However, systematic research and evaluation addressing the impact of this effort in adding value to existing products and services and determining whether this impact will be lasting and sustainable is required to determine whether minor adjustments to existing programs or entirely new approaches are required to meet existing and emerging needs that can also help foster the changes to improve the effectiveness of the innovation and identify any related challenges that need to be addressed (Crumpton, 2012).

Partnerships can be useful for libraries as they seek out innovations within very real budget limitations (Massis, 2014). In recent years, much effort has been made to find

innovative ways to meet existing and new service needs, to include providing more inclusive access, offering instruction rather than training, technology transfer, original research, and collaboration that expands across traditional boundaries of established disciplines that foster industry partnerships (Walter & Lankes, 2015). These efforts have required more imaginative approaches that ultimately separate more innovative organizations from their less innovative competitors. Finding innovative programs tailored to meet local needs require that librarians expand their search for ideas outside *type of library* silos (Vaughan, 2013).

Project Description

This qualitative case study explored the perspectives of adult patrons regarding an academic library's information literacy e-resource at a public library in the Midwest. This project study was developed using Grow's staged self-directed learning model (1991, 1994) (Merriam, Caffarella, & Baumgartner, 2007), Denison, Sarrica, and Stillman's (2014) community informatics (CI). Kling, Rosenbaum, and Sawyer's (2005) seminal research on SI provided the conceptual framework for the research questions and the analysis of this case study's data sets. SI research is used to explain the immediate benefits of groups of computer users whenever information communication technologies implemented, as well as the unintended negative consequences that an unexpected group experiences that usually occur sometime in the future. Furthermore, SI research is used to prevent future negative impacts and improve the quality of life of those who use ICTs. Grow's staged self-directed learning model (1991, 1994) (Merriam, Caffarella, &

Baumgartner, 2007) provided an example of the attributes that adults should demonstrate when they are learning how to use computers from the novice to autonomy.

The opportunity to develop self-paced and self-directed autonomous progress is something that is provided with UI's curriculum. Denison, Sarrica, and Stillman's (2014) CI research described how universities work collaboratively within communities to voluntarily eliminate real social problems like societal and digital divides by connecting and engaging community stakeholders in research. Moreover, CI research provided an opportunity for the UI Library's staff to collaborate with a doctoral candidate from Walden University [me] to complete the case study at the PL using the UI's information literacy curriculum to explore a group of PL adult patrons' perspectives regarding how the curriculum affected their learning. A white paper summarizing the findings with recommendations will be presented to decision makers at the PL to promote social justice and inclusion by expanding the PL's ACTP to include adult patrons who are deaf, blind and beyond the basic skills level at a public library.

Implementation

The qualitative case study will provide a rationale for the PL's policy makers to offer an academic library's information literacy e-learning resource as part of its current ACTP program and expand the scope of that program to meet the needs of patrons who have information literacy that are beyond a basic skills level. The data gathered clearly shows the value of UI's curriculum. Additionally, the case developed indicates the value of taking a pre-existing e-resource like UI's curriculum that has proven to be effective in an academic context and adapting it to meet local needs at the PL as opposed to

developing a homegrown curriculum from scratch to speed initial implementation and limit costs. The final step in completing this project was the development of a white paper outlining its results that will be presented to the policy makers at the PL.

Potential Resources and Existing Supports

Scholarly research, theory, and practice have inspired this case study. Although, there is a gap in practice regarding standardized adult information literacy e-resources used across library types, I was able to compare other types of partnerships and collaborative initiatives between academic and public libraries to develop an understanding about the various types programs and services that they offer. The knowledge and insight that I have gained during my review of the literature provided scholarly support for my project. Clearly, there is a need within the professional library community to coordinate information literacy efforts that are mounted by both academic and public libraries to support digital literacy and inclusion among adult users. Public libraries and academic libraries have historically collaborated regarding interlibrary loans and in other areas, but the sharing of experiences in developing and using information literacy e-learning resources to expose public library users to the same national information literacy standards is new. This practice should be expanded to extend efforts to insure excellence and equality in adult literacy in both public library and academic settings to ensure that appropriate evaluation is taking place to facilitate continuous improvement in these programs.

Potential Barriers and Proposed Solutions

I sought to develop a project that would initiate a dialogue between academic and public libraries about sharing an e-learning resource in a way that would offer standards-based information literacy programs to PL adult users that is similar to those that are offered to college students. There are potential barriers to implementation that might impede progress in this area at the PL. The most significant barrier to this effort is that there are substantial differences in the philosophy behind information literacy instruction provided to the users of academic and public libraries. While the needs of these users differ, they also share characteristics in common such as the needs of college students and adult users of public libraries to adapt to a changing information environment, and the intent here has been to critically view a program offered in an academic library, draw from it content that might be of use in the context of the PL, and then to offer it as a platform that could be altered or supplemented to meet the needs of PL users. It is also expected that conversations coming out of consideration of my findings will offer the opportunity to explore the process used when considering the sharing of information literacy e-learning resources between academic and public libraries to meet both needs of college students and adult users of the PL who need to learn new skills to facilitate lifelong learning.

Proposal for Implementation and Timetable

I plan to implement the delivery of the white paper to the policy makers at the PL in two phases. The first phase was completed in November 2017, when I introduced the white paper outlining the findings with recommendations to the policy makers at the PL

via United States mail. I had initially considered sending a copy of the white paper to the PL's policy makers via e-mail. However, I decided to mail the white paper to the PL's policy makers via the United States Post Office instead because it provided verification of delivery. Further, it would have been almost impossible to verify if and when the PL's policy makers actually received the white paper if I had selected to use the e-mail option.

The second phase for delivery of the white paper to the policy makers at the PL will involve attending monthly board meetings at the PL and using the time that they will allow the public to address the board members during the year of 2018. I plan to introduce myself to the policy makers to demonstrate community leadership and advocacy for the adult patrons at the PL who are underserved and use the white paper as frame of reference to effect social change among the stakeholders in the PL's community.

Roles and Responsibilities of Student and Others

When I began my doctoral journey as a curious scholar-practitioner with a library media center background, I explored the similarities and differences between public and academic library information literacy instruction in the literature, and what I discovered, inspired me to take on a new role as a researcher who would find a solution to the local problem of digital exclusion in the literature. Further, my role as a scholar-practitioner provided an opportunity for me to build a collaborative relationship between an academic library and a public library to implement this case study and project. However, as I undertook this research project, I have also taken on the roles of community advocate, and innovator in the field of library science. As a community advocate, I sought a digitally inclusive solution to reach those who are underserved by information literacy

programs at the PL as well as those who are not served by the ACTP as a means of enhancing information literacy throughout the region using an academic library developed e-learning resource.

As an innovator in the field of library science, I have challenged the historical status of information literacy instruction in academic and public libraries as separate, different, and unequal and suggested that it would demonstrate social justice if academic libraries were to share their information literacy online resources with a public libraries to ensure that the patrons at public libraries have the same access to information literacy national standards that are used in the academic libraries throughout the United States.

The UI's Reference Librarians served as a source of community outreach, research support, and facilitator of a partnership between the two library types. The UI's Reference Librarian's role exemplified the mission of libraries especially in the digital age and serves as model for future digital inclusion research. The PL's administrators served several important roles in this study, to include that of gatekeepers who provided the permission for the research at the PL, stakeholders in the PL's program, and policy makers responsible for program development at the PL. Moreover, PL administrators will be the audience for the white paper and information in this study and will make final decisions about the impact this study could have on information literacy programming there.

Project Evaluation Plan

I used a goal-based assessment to evaluate the white paper, which was supported by a summary of the findings. I selected a goal-based assessment for the white paper for the following reasons: first, an outcome-based evaluation would have been more appropriate for a project evaluation. Further, I rejected an outcome-based evaluation because I had completed a qualitative case study and not a project evaluation. Secondly, a formative or summative assessment would have been more appropriate to evaluate the comprehension of the lessons, which I also rejected because the focus of this qualitative case study was the perspectives of the adult patrons regarding how the tutorial affected their learning and not their mastery or comprehension of the lessons that the tutorial presented.

Moreover, I used a goal-based assessment to evaluate the white paper because I had set short-term and long-term goals to first complete and then deliver the white paper to the policy makers at the PL. I used current and relevant literature, research, and theory to guide the development of the white paper. In addition, I included a summary of the findings and scenarios for adopting the UI's e-learning resource. I considered the audience (Herman, 2013; Willerton, 2013), which are librarians, administrators, board members [policy makers] at the PL and I developed the content accordingly. Next, I planned the long-term goals, which involves the presentation of the white paper to the policy makers at the PL by introducing myself and attending the board of directors meeting at the PL during the year, 2018.

Project Implications Including Social Change

Local Community

I developed this case study and the resulting white paper to introduce the idea of sharing academic library developed e-learning resources with public library adult patrons, an idea that promised to have a positive impact on the local community by offering a low cost approach to bridging the digital divide that could be implemented quickly. Whether this approach is adopted or not it has presented a challenge to the public administrators at the PL to consider its alternatives in introducing a standards-based information literacy program for its adult patron of the sort frequently found in academic libraries. However, if the academic library developed e-learning resource is adopted at the PL, there is significantly better chance it will have an impact on the information literacy skill level of PL patrons and provide an opportunity for future additional research as the program is integrated into the ACTP and PL use.

Far-Reaching

The most significant outcome of this case study is related to the pragmatic approach offered to improve digital inclusion at the PL. While this could be important locally, it could also be viewed as a significant contribution to the body of knowledge about SI in public libraries within the fields of library and information science. The acceptance of the argument that information literacy standards should be shared across academic and public libraries has the potential to increase information literacy in public libraries across the nation. This case study could be used as a model for future researchers to understand the importance of academic and public library partnerships in providing

standards-based information literacy instruction to public library patrons that is equal to that which is used in academic libraries. While the concept of public libraries providing standards-based information literacy e-learning resources is not as well developed in public libraries as it has been in academic libraries, expanding digital and social inclusion offers promise in addressing the barriers relating to social justice, democracy, and equality of opportunities at public libraries (Vincent, 2012) both locally and globally.

Conclusion

Section 3 provided an overview of my reflections about how the project was implemented and evaluated, as well as, the roles and responsibilities, potential resources, barriers, existing supports, and the implications for positive social change. Section 4 will provide a discussion about the strengths, limitations, scholarship, and development of the project, and an analysis of myself as a leader, practitioner, and project developer. It will also address the potential impact of this study on social change and its implications for local and future research.

Section 4: Reflections and Conclusions

Introduction

I developed a white paper as the project for this study, of which I will present to the policy makers at the PL. The white paper includes a summary of the findings and alternative scenarios for using UI's curriculum to enhance digital inclusion at the PL. In this section, I offer my reflections about my project development experience. Subsections include strengths and limitations of the project; recommendations for remediation of limitations; recommendations for alternative approaches; scholarship project development, evaluation, and leadership and change; analysis of self as a scholar, practitioner, and project developer; the project's potential impact on social changes; and directions for future research.

Project Strengths and Limitations

I selected a white paper as the project for this study because white papers are deemed to be the best method to provide information involving policy reform (Cohen, 2015). Furthermore, I designed a white paper to introduce the UI's e-learning resource to the policy makers at the PL. The strengths of the white paper are many. For example, the literature for this white paper emerged from the qualitative case study findings, which included current and relevant scholarly sources. It also included relevant theory such as Kling's (2007) SI and Denison et al.'s (2014) CI. Moreover, a summary of the findings provides a voice and advocacy for the adult patrons at the PL. In addition, social justice is a significant concern in public library settings (McManus, 2017). The participation of librarians, administrators, and ACTP was not possible during the case study based on

PL's letter of approval to conduct the study at the research site. Therefore, my efforts to recruit were limited to recruiting adult patrons at the PL. Further, only the perspectives of the PL's adult patrons are included in the white paper. The reason for the restriction by the PL's administrators was due to the limited budget and resources that are available at public libraries (Warf, 2013). However, social change is possible when I discuss the white paper with the policy makers during the board of director's meetings at the PL. I believe that future conversations about the case study and the white paper will create more interest and concern regarding the adult patrons who are not served or underserved at the PL.

Recommendations for Remediation of Limitations

The white paper was limited to understanding the perspectives of the PL's adult patrons. Therefore, the perspectives of the staff, administrators, and board members at the PL were not explored. I will deliver the white paper to the policy makers at the PL to remedy the limitations resulting from their lack of participation in the case study. A summary of the findings of this study, along with relevant literature and theory, was included in the white paper with recommendations to expand the information literacy instruction to a wider audience in the PL's community. Further, the anticipated publication of this study in professional journals may also raise awareness regarding this project among a broader audience.

Recommendations for Alternative Approaches

Transferability is described as the ability to use original research findings with alternative groups of participants and settings (Amankwaa, 2016; Connelly, 2016). I have

demonstrated the transferability of this study by providing thick descriptions that will allow researchers the opportunity to make an informed decision about whether or not the findings of this study are relevant to their setting (see Hyett, 2014).

The original research site was a local public library in the Midwest region of the United States. The PL provides basic computer training for adult patrons who need assistance using the PACs. However, the computer training program did not include an online, national standards-based, information literacy curriculum. Data were collected through interviews lasting 20 to 40 minutes with10 adult patrons, archival document review, and direct observations of each participant. I observed the participants while they reviewed the e-learning resource for a period lasting between 20 minutes to 2 hours. I selected participants using purposeful sampling. I used member checking and triangulation to ensure the trustworthiness of these data. Data were organized into categories and themes using in vivo coding and structural analysis.

Findings from this case study can be applied to alternative local libraries in the U.S. Midwest region such as private, specialty, and school libraries. To ensure replication of the findings, the same type of observation and interview protocols that were used in the original case should be used in the alternative settings, according to Stichler (2014). The library staff at private, specialty, or school libraries could possibly explore the perceptions of their adult constituents regarding how an e-resource affected their learning. The same conceptual framework and data collection and analysis procedures would be used. The research questions would address the following topics: an academic library's information literacy e-resource affecting their learning, the necessary

modifications of the e-resource, and unintended negative effects of the library's program if the e-resource were to be implemented.

The library staff would summarize the findings in the alternative library settings to include the following themes: standards-based e-resource across library types, digital exclusion and inclusion, and change and innovation. In addition, the library staff should identify the type of library and setting as well as the following data sets among their adult constituents: the digitally excluded, suggestions to enhance digital inclusion, change and innovation strategies, as well as examples of how the national standards-based UI's program could be used among their information professionals. The researcher would then have the option of presenting the findings along with recommendations to the policy makers at the alternative library in a white paper designed to enhance digital inclusion and social justice among constituents of the library.

Scholarship, Project Development, and Leadership and Change

I developed this qualitative case study using a synthesis of information previously published scholarly literature to support the collaboration between the PL and the UI Libraries. I gathered and analyzed data from the participants and based on the findings, I concluded that the e-learning resource affected the PL adult patrons' learning based on the perspectives of the participants. In addition, I used the findings to develop a white paper designed to foster digital inclusion at the PL. I explained the intent of the project, the methodology used, and the results of the study in the white paper. I also provided recommendations for enhancing the existing ACTP program at the PL. My primary goal throughout the development of the case study and the white paper was to provide an

accurate voice for the adult patrons at the PL without researcher bias. I believe that I have met that goal.

Project Development

I developed a white paper based on the findings of the case study and the literature review in Section 3. Further, I believe the project will be successful due to the scholarly and ethical manner in which I conducted the case study and constructed the white paper. I constantly monitored my own progress using the examples from published scholarly, peer-reviewed research and other resources to ensure that my project was developed on a doctoral level. As a result of completing the project study and creating white paper, I learned the value of diligence at each phase of the process to complete both the project study and white paper with scholarly integrity.

Leadership and Change

As preparation for taking my place as a leader in the field of librarianship, I identified a solution to the digital exclusion resulting from limitations in public library users' information literacy skills. The solution that I proposed offered a program that could be quickly and cheaply implemented based on the PL's resource platform and programs by introducing PL users to an e-resource that had been previously developed in an academic library. The results which were produced provided an argument to be used by the PL's leadership to provide access for adult users of the PL to the kind of information literacy e-learning resources available to college or university students to help them meet the challenges of an ever-changing information-based society. This case study raised awareness about the information literacy instructional barriers among public

library users as it relates to differences in the kind and level of resources available in general and e-resources in particular available in academic and public libraries to their users' informational needs.

I used principles related to CI to guide this study using an advocacy approach to effect social change. My capacity to engage in scholarly work throughout my doctoral journey has been enhanced by conducting literature reviews to understand both the content of the research that has been published and the methods used to obtain the results found there. It has also helped me to understand the literature available, identify gaps in the literature, and determine how best to develop solutions to problems in the field that would provide effective and efficient ways to address service needs. Finally, these reviews demonstrated how my research could contribute to the body of knowledge relating to the digital inclusion (Bloomber & Volpe, 2012). The results of this study will contribute to what we know about SI, community informatics (CI), and library and information science.

Project Development and Evaluation

CI is a means by which communities of practice form partnerships to collect the resources that are necessary to adopt policies that support digital inclusion within the communities they serve (Yan, Zhou, & Han, 2013). As a result of completing this case study, I was able to collaborate with academic and public library administrators to introduce an academic library developed e-learning resource to PL adult patrons. I will use a white paper to raise awareness among key decision-makers at the PL of my findings

and alternative scenarios that utilized a pre-existing e-learning resource to enhance digital inclusion at the PL.

Analysis of Self as Scholar

The four components of scholarship are discovery, integration, application, and teaching, with following focus, the creation of new knowledge, inter-disciplinary interpretation, service in a particular area of expertise, and the promotion of teaching (Weller & Anderson, 2013). Based on the definition of scholarship, I have joined in a discussion among scholars regarding the best strategies to address digital exclusion in a public library to enhance digital inclusion using a resource developed in academic libraries. To do so, I first had to understand the position of my research in the broader literature. That required me to build an understanding of current and future trends in the field relating to digital inclusion in a public library setting, information science, and CI and SI. As I read more on the topic of the digital divide, digital inclusion, SI, and CI, I learned more about the names of scholars working in this area and their contributions to the knowledge base in the field. I also identified gaps in the literature and professional practice to locate areas where I might be able to help fill one or more gaps and contribute to the knowledge base in the fields of library and information science and SI.

Analysis of Self as Practitioner

As a librarian, I began my research with unanswered questions about information literacy involving academic and public libraries. Through my research, I have learned about the various approaches available to address issues relating to adult information literacy in both library settings and why they use them. However, I decided to look at the

common goals of both types of libraries to provide information to all and realized that, as a librarian, I could lead the way to dismantle the digital literacy barrier that has existed between the two types of libraries for decades to raise awareness that public library patrons should have equal access to the same type of information literacy e-learning resources that are developed in university and college environments.

As a librarian, I have learned the value of research and how to use it to inform policy and practice. Prior to completing this research project, I read about the scholarly research published by scholar-practitioners. However, this research project has provided new insights that were only possible through my experience as researcher. It has also provided me with the opportunity to contribute to the body of knowledge in the fields of library and information science and social informatics.

Analysis of Self as Project Developer

I have had no prior experience with conducting a qualitative case study or designing a white paper, which constantly required additional research. It also required me to incorporate the new information as I acquired it from relevant scholarly literature. Further, based on the Grow's staged self-directed learning model (1991, 1994; Merriam, Caffarella, & Baumgartner, 2007) I have demonstrated the fourth and final stage of self-directed learning. For example, Grow's model described the first stage of self-directed learning as one of dependency, which is similar to the ACTP at the PL. The second stage is described as an interested stage because the learner is less dependent but still needs a great deal of guidance in terms of setting goals and implementing the strategies to meet the goals. The third stage is described as the involved stage because the learner

participates equally with the teacher as a facilitator of the learning experience instead of a person of authority.

I developed the project and designed a white paper based on the concepts, theories and the findings that emerged from the qualitative case study and the literature. However, I made constant revisions based on the feedback from my committee at Walden University. Subsequently, I learned how to conduct a qualitative case study and develop a white paper by completing them.

The Project's Potential Impact on Social Change

The development of the white paper involved CI, which allowed me to take the lead as a librarian practitioner and researchers in a community of practice [librarians]. Although, I have not had an opportunity to work in an academic or public library, my experience as a library media specialist has sparked a passion for digital inclusion. The concept of academic and public library partnerships with the sole purpose of sharing an information literacy e-learning resource developed in an academic library with public library patrons is innovative but yet simple but it has the capacity of having a significant impact on information literacy among adult users in this city and beyond. The impact at the local level will provide opportunities for increased use of the research database resources provided by the PL and outreach for those who have been underserved or not served at all in terms of information literacy instruction. Further, it will provide support to the PL's ACTP expanding its potential audience and serving as an online reference resource if it is adopted all at a modest cost.

Implications, Applications, and Directions for Future Research

In the future, other public libraries will be able to use this project as a model when evaluating efforts to develop partnerships with academic libraries and mount an academic library developed information literacy e-learning resources for public library patrons to use. I have learned the importance of digital inclusion projects as tools to provide equal access to public library patrons who were either not served or underserved by existing programs. I have also learned how social inclusion is impacted by the degree of digital access and skills that a person has and the types of programs that are available to address digital exclusion and why access to the PACs and the Internet alone does not ensure digital inclusion. Future research could build upon the foundation that I have developed with this case study to enhance resources, programs, and policies designed to improve digital inclusion among those served by all kinds of libraries. The implications for social change include, the elimination of the data divide as it relates to the differences in information literacy instruction at public and academic libraries, increased use of library research databases among public library adult patrons and the overall information literacy levels of the general adult population at public libraries due to the introduction of e-learning resource sharing between academic and public libraries.

Conclusion

As I completed this case study, the findings revealed the problem—digital exclusion and the solution—digital inclusion. I studied the scholarly literature relating to those topics, collaborated with public and academic library administrators, and provided a group of adult patrons at the public library with a voice in the form of a white paper that

included a summary of the findings with recommendations to include adult patrons who were not served or underserved to facilitate social justice and enhanced digital inclusion at a Midwestern PL.

Section 4 provided an overview of my reflections, which included the strengths, limitations, scholarship, and development of the project, as well as, the analysis of myself as a leader, practitioner, and project developer. The potential impact of social change and the implications for local and future research were also discussed in this section. Finally, this qualitative case study can be used as an example for future studies involving information literacy instruction in public library settings, social informatics, and e-resource sharing across library types.

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Appendix A: The Project

A Digital Inclusion Project at the Public Library

A White Paper

by

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EXECUTIVE SUMMARY

Forty percent of Americans lack the skills necessary to effectively use (PACs) computers and Internet at public libraries. A Midwestern public library provides a basic computer-training program for adult patrons. This qualitative case study aimed to explore the perceptions of adult patrons regarding how an academic library's information literacy e-resource affected their learning. The research questions focused on how an academic library's e-resource affected the public library's adult patrons' learning, the necessary modifications of the e-resource if it were adopted for use at the PL, and the potential deterioration of the PL's computer training program if the e-resource were to be implemented.

Kling's (2007) *social informatics* (SI) provided the conceptual framework. Purposeful sampling was used to collect data through interviews lasting 20-40 minutes with10 adult patrons, document review, direct observations of each participant during their review of the e-learning resource lasting between 20 minutes to 2 hours, and member checking and triangulation were used to ensure data trustworthiness. The data was organized into categories and themes using *in vivo* coding and structural analysis revealed the findings and the following themes: standards-based e-resource across library types, digital exclusion and inclusion, as well as, change and innovation were the themes that emerged.

The purpose of this white paper is to provide a summary of a qualitative case study and the findings, current literature, as well as, scenarios presenting alternatives for

adopting the UI's information literacy e-learning resource to the policy makers at the PL to effect digital inclusive change in their information literacy policy at the PL. This paper was designed to use SI research to guide the standards set for public policy and professional practice at the PL (Miller, 2014).

Brief Description of the Case Study

During, August 2016, a Walden University doctoral candidate conducted a qualitative case study at a Midwestern public library (hereafter referred to as the PL) that provides an adult computer training program (hereafter referred to as an ACTP), which offers one-on-one assistance and basic computer instruction for those adult patrons who use the PACs at the PL. Purposeful sampling was used to collect data through interviews lasting 20-40 minutes with 10 adult patrons, document review, direct observation of each participant during their review of the e-learning resource lasting between 20 minutes to 2 hours. Member checking and triangulation were used to ensure data trustworthiness. Kling's (2007) SI provided the conceptual framework. *In vivo* coding and structural analysis were used to organize the data into the categories and themes. Standards-based e-resource across library types, digital exclusion and inclusion, as well as, change and innovation were the themes that emerged.

An initial literature review of over 50 scholarly peer reviewed journal articles in 2013, revealed a gap in the digital instruction resources that were available to the constituents at public libraries in comparison to those that are developed for constituents of academic libraries. Immediately, a strategy to address that gap based on collaborative relationships between academic librarians at the University of Idaho and administrators at

the PL was designed to determine whether the academic library's information literacy e-learning resource could be of benefit for the PL's adult patrons. The UI's information literacy self-paced tutorial modules and assessments were developed in or about 2003 and serve as one of the e-learning resources available on that campus to help students complete scholarly work. There are six modules that provide information literacy lessons followed by assessments and a seventh module that provides information about how to use UI's online catalog. The self-directed modules were based on the following learning outcomes:

1. Identifying the basics of the Internet and differentiate between formats of information.
2. Identifying a topic, and how to broaden and narrow key concepts.
3. Distinguishing a database from other types of information collections.
4. Understanding the purpose and parts of a citation.
5. Evaluating the usefulness of a source based on currency, content, and relevance, and why to pay closer attention to websites and their evaluation.
6. Determining when it necessary to cite sources and know how to avoid plagiarism (University of Idaho Library, 2015).

Summary of the Findings

Digital exclusion, standard-based information literacy shared resources across library types, digital inclusion, and change and innovation were the four themes that emerge from the findings. I gained insight during data analysis filtered through Kling, Rosenbaum and Sawyer's (2005) seminal SI studies. SI posits that the use of computers

has an immediate group in society who benefits from its use and an ignored group whose needs are neglected as a related future consequence. The document analysis revealed that the PL had consistently maintained their goal to reach, support, and provide equal access to information to all of its constituents. However, by 1996 with the implementation of PACs and the Internet at the PL throughout their branch locations, patrons that already knew how to use the PACs and the Internet immediately benefited. Further, the negative consequence that emerged after the technology had been in use for a while was a group of patrons who required assistance with using PACs and the Internet at the PL. This new requirement to provide individual digital assistance caused an unexpected time and service demand on the limited librarians and staff at the PL. As a solution to this problem, by 2008, the PL implemented the ACTP to provide basic digital assistance for their patrons at various locations (Williams, 2010a). Patrons who were novice computer users experienced an immediate benefit for the PL's ACTP. However, the ACTP has perpetuated the status quo among that group that required digital assistance because the ACTP does not provide opportunities that would allow adult patrons to progress from the basic skills level to advanced information literacy levels as described in Grow's staged self-directed learning model (1991, 1994) (Merriam, Caffarella, & Baumgartner, 2007). Additionally, the limitations of the ACTP in terms of availability of ACTP staff at various locations and library hours has left many of the PL's patrons without service or underserved. The observation data set revealed that the UI's information literacy online curriculum contained relevant content, motivated the participants to learn, and did not

demonstrate immediate negative consequences that are usually associated with the stress involving test taking.

However, an unexpected benefit that emerged during the observations was that it did provide opportunities for self-paced and self-directed adult learning that is demonstrated by the various times that the participants began and ended each module as well as the time that it took for them to complete all six modules which ranged from 20 minutes to over 2 hours without taking breaks or any complaints. The interview data revealed the value of UI's curriculum in the first theme: digital exclusion in terms of its appropriateness of use to help the patrons learn information literacy at the PL, as well as, specific ideas about how the program could be utilized at the PL to assist the PL's staff. An unexpected data set was the identification of two groups of patrons who are not currently served by the PL's ACTP which are researchers and college students. Researchers and college students may make use of the PL by using the PACs and Internet, borrowing books, as well as, other resources at the PL. However, because they are more likely to have digital skills that are average or higher levels, the PL's ACTP would not serve them.

Also included in the group that the ACTP does not currently reach are those who are not able to physically travel to a PL branch location to use the PACs and request assistance there, which is a negative consequence of the PL's ACTP. All 10 participants expressed positive experiences regarding UI's curriculum and all 10 thought that the program could help them, as well as other PL users improve their information literacy levels and used words like: interactive, exciting, exceeding the PL's information literacy

resources, comprehensive, and invaluable to describe UI's curriculum. The interview data revealed the value of UI's curriculum in the second theme: standard-based information literacy shared resources across library types. The immediate positive benefits that were identified by the participants were: professional development for the PL's staff and a resourceful reference tool for the PL's patrons.

The possibility that a program such as the UI's curriculum being used as a resourceful tool to educate both patrons and staff at the PL would be possible when the nationally-standardized information literacy instructional resources are shared across library types. The interview data revealed the value of UI's curriculum in the third theme: digital inclusion. The suggested modifications include, advertising to let people know that the UI's curriculum is available and making it available to the visually impaired and deaf patrons at the PL. A negative consequence would be the time, money, and effort on the PL's part to form partnerships with community organizations such as the Urban Lighthouse for the Blind to make changes to the PL's website and the ACTP that would include the visually impaired and deaf PL patrons. The interview data revealed the value of UI's curriculum in the fourth theme: change and innovation. The immediate negative consequences related to innovation and change were identified by the participants in this study as the risks that involving the PL's staff and librarians learning how to use and understand UI's curriculum, which included the possibility of the PL's staff rejecting UI's program for fear that it would replace them. However, the actual long-term negative consequences could be a high demand for the UI's curriculum if it is adopted by the PL's administrators and mounted on the PL's website. A high demand for UI's curriculum on

the PL's website would not replace the ACTP staff or reference librarians but it would make their jobs much easier.

Theory and Research

One of the most challenging and yet innovative periods in public library history was during the 1930s Great Depression because it was during this era that the Chief librarian at the PL advocated for adult education, personalized service, and increased outreach to attract more patrons (Novotny, 2011). Further, academic research, partnerships, initiatives, and innovations were developed in a manner that allowed the PL to adapt to the lack of resources and funding and allowed a transformation of public library service networks throughout the communities (Novotny, 2011). These historical efforts are reminiscent of the strategies that are employed in public libraries today.

Kling, Rosenbaum and Sawyer's (2005) seminal research on SI provided the conceptual framework for the research questions and the analysis of this case study's data sets. SI research is used to explain the immediate benefits of groups of computer users whenever information communication technologies (ICTs) implemented, as well as the unintended negative consequences that an unexpected group experiences that usually occur sometime in the future. Furthermore, SI research is used to prevent future negative impacts and improve the quality of life of those who use ICTs.

Grow's staged self-directed learning model (1991, 1994) (Merriam, Caffarella, & Baumgartner, 2007) provided an example of the attributes that adults should demonstrate when they are learning how to use computers from the novice to autonomy. The

opportunity to develop self-paced and self-directed autonomous progress is something that is provided with UI's curriculum.

Denison, Sarrica, and Stillman's (2014) Community Informatics (CI) research described how universities are reaching out to members of communities to voluntarily help solve real social problems like societal and digital divides by connecting and engaging community stakeholders in research. Moreover, CI research provided an opportunity for the UI Library to collaborate with a doctoral candidate from Walden University to complete the case study at the PL using the UI's curriculum to explore a group of PL adult patrons' perspectives regarding how the curriculum affected their learning. In 2016, a second literature review was conducted based on the findings that emerged from the case study which are the themes for the next section.

Standards-based Information Literacy Across Library Types: Background

Public libraries have historically been called "universities of the people" because they provided adults with educational opportunities that facilitate lifelong learning (Peich & Fletcher, 2015). Similarly, academic libraries incorporate information literacy instruction to promote lifelong learning amongst their users (Witek, 2016). Moreover, the users of academic libraries are expected to be information literate and demonstrate the ability to find, evaluate and use information resources well enough to complete course requirements (Klomsri & Tedre, 2016). In contrast, the public library computer training constituents are described as lacking basic computer skills and dependent on assistance to complete online task using PACs (Bertot, Jaeger, Wahl & Sigler, 2011). Educators and librarians also face the global challenge of integrating information literacy instruction

into the programs that they offer due to the lack of consensus regarding the content (Klomsri & Tedre, 2016).

The ACRL began to develop national information literacy standards in academic libraries in 1998 based on themes that were incorporated from the American Library Association and other professional library organizations. As a result, the *Information Literacy Competency Standards for Higher Education* emerged in 2000 (Sokoloff, 2012), and national standards built on this foundation are utilized in academic libraries throughout the United States to drive information literacy instruction (Stark, 2011). However, no curriculum national standards have been developed to support digital literacy in public libraries (Cordell, 2013).

Although, public libraries are in a position to address the ongoing digital divide because the technology and infrastructure are sustained through public funding which provides not only access to PACs and the Internet but a place to share and develop teaching and learning partnerships (Thompson, 2015) physical access to technology, resources, digital instruction, as well as, interpersonal relationships are necessary to address inequities of service (Gonzales, 2015). Since, libraries provide the infrastructure and digital tools such as research databases to support digital literacy, it would be reasonable expectation for libraries to provide training for their staff and constituents' to ensure that they are competent and have the ability to efficiently use the digital resources provided (McKrell, 2014).

The ACRL standards are used to develop critical thinking and technological skills (Folk, 2016), along with a capacity to find, analyze, and use other learning resources.

Additionally, academic libraries utilize information literacy instruction to facilitate student professional development and ensure employability (Monge & Frisicaro-Pawlowski, 2014). In contrast, public libraries assist users in navigating websites using PACs to meet a wider array of information needs, to include everything from school work to filing out employment applications and tax forms to simple questions that arise out of their curiosity about questions encountered in life (Taylor, Jaeger, McDermott, Kodama & Bertot, 2012). Accordingly, new, creative, and engaging technological information literacy initiatives that are implemented and constantly updated in many academic libraries in formats such as modules and tutorials (LeMire, 2016) tend not to take hold in public libraries where the questions are less predictable.

Digital Exclusion: Problem

Digital exclusion is a global social phenomenon that has had negative implications on teaching and learning regarding the use of technology (Resta & Laferrière, 2015). In addition, digital exclusion is demonstrated by social disparities and inequalities in use, availability, and quality of access to high-speed broadband technology (Sadok, Chatta & Bednar, 2016). Similarly, the digital divide is defined as barriers or challenges to online network access and the benefits that could be derived from the social and digital resources obtained via the Internet either because of limited access to equipment or a lack of understanding of how to acquire, evaluate and use internet resources (Lázaro Cantabrana, Estebanell Minguell & Tedesco, 2015). A few of the negative effects of the digital divide are an inability to send or receive e-mails, access

information and communicate with others online due to a lack of Internet connectivity, and access to communications technology (Horrigan, 2011).

The digitally excluded in society are usually senior citizens, the unemployed, less educated and/or affluent Americans, and the disabled. Moreover, disadvantaged groups include those who live in remote locations and need information technology skills programs beyond those that they acquired while completing their formal education (Polat, 2012). Most programs in K-20 education now require that students learn to use digital technology to complete their studies, and digital literacy is developed as a byproduct (Polat, 2012). But students who completed their formal education ten or twenty years ago and have not refreshed their skills often find themselves at a disadvantage, and this creates a digital divide. This, in turn, leads to a kind of social exclusion or e-exclusion in a technology based information age as a direct result of gaps existing between those who are empowered to substantially participate in a knowledge-based society and economy and those who are not. Individuals can be excluded either because they do not have the resources needed to easily access the information they need, because they have not acquired the skills required to use those resources to best advantage or have not developed the necessary human and digital relationships to mine them (Willems & Bossu, 2012).

Digital Inclusion: Solution

Digital inclusion provides opportunities for users to both produce and consume information in formal or nonformal learning environments (Lázaro Cantabrana, Estebanell Minguell, & Tedesco, 2015). Researchers have argued that digital inclusion

encompasses five inter-related concepts: *access, use, participation, equity, and empowerment* (Seale & Dutton, 2012, p. 316). Efforts to encourage digital inclusion are based on policies developed to reach groups of constituents who are underserved or without service (Real, Bertot & Jaeger, 2014). Addressing this need is a key objective of policy reforms designed to encourage digital inclusion, implement democratic principles, and provide information access for all (Blume, Scott & Pirog, 2014; Lázaro Cantabrana, Estebanell Minguell & Tedesco, 2015). Likewise, social inclusion concerns require that equal opportunities be made available for all individuals or groups to actively participate in society and have access to available educational, professional, economic and political opportunities. This requires the development and support of policies to serve our communities (Willems & Bossu, 2012).

The promotion of social inclusion means that learners have the support required to develop the skills necessary to flourish in a competitive labor market regardless of their social-economic background (de Siqueira & Rothberg, 2014). Digital inclusion offers a type of freedom to make informed decisions without external manipulation from others. Information is an important societal and economic product within an Internet-focused society that can be produced, reproduced and shared (Marcut, 2014). It has been the focus of recent policy research as society seeks to empower people to work autonomously to find, evaluate and use information effectively (Seale & Dutton, 2012). This is reflected in recent educational policy, which has focused on learner autonomy and the ability of individuals to change their individual and societal circumstances (Smythe, 2015). For many years, policy makers have worked to provide computer access and develop

comprehensive skill sets relating to computer usage and information literacy to address the digital divide. This focus is now shifting as stakeholders work collaboratively to prepare an agile workforce that can meet the demands of a constantly changing information environment (Horrigan, 2011). Furthermore, strategic plans are being developed that define goals, policies, and outcomes to insure optimal use of information resources, along with the evaluation tools to be used by organizations to assess their performance in this regard (Lázaro Cantabrana, Estebanell Minguell, & Tedesco, 2015).

Change and Innovation: Recommendations

The primary challenge to innovation that libraries experience is the need to maintain a brand in their communities that, while open to innovation, is consistent and stable (Massis, 2014). Many researchers have sought to understand why innovation is often delayed, ineffective, and unsuccessful (Jantz, 2012). Some argue that it is not librarians' lack of skills that limit positive change but rather the lack of sufficient quantities of appropriate resources to support innovative initiatives (Massis, 2014).

Changes that can disrupt traditional processes are described as disruptive innovations (Shea-Tinn Yeh1 & Zhiping Walter2, 2016). Christensen's (1997) *Disruptive Innovation Framework* describes the five approaches and responses that academic libraries demonstrate involving net-innovations as "exit, ignore the new innovation, switch to the new innovation completely, extend the existing business so it both maintains the traditional market and enters the new market, and accelerate innovation in the current business" (Shea-Tinn Yeh1, & Zhiping Walter2, 2016, p. 796). While framed within an academic context, this paradigm can also be valuable in dealing with options in

public libraries. Change is something that is unavoidable in public libraries (Vaughan, 2013). One of the most dramatic changes occurred in the 90s as the Internet emerged as a major vehicle for communication because it required information technology and infrastructure innovation transformation in order for libraries to remain relevant (Parker, 2013).

Moreover, the types of change that result in paradigm shifts in organizations, improves processes, products, and services supporting these efforts are referred to as innovative initiatives and prominent among them is the use of digital technology to support teaching and learning and increase access to educational opportunities (Vaughn, 2013; Yousuf, Naseem, Ghias & Moiz, 2014). Further, digital equality is exemplified in strong communities developed through the collaboration and participation of constituents working with public libraries to facilitate research, lifelong learning, and innovation (Sipilä, 2015). However, systematic research and evaluation addressing the impact of this effort in adding value to existing products and services and determining whether this impact will be lasting and sustainable is required to determine whether minor adjustments to existing programs or entirely new approaches are required to meet existing and emerging needs. This kind of assessment can also help foster changes that could improve the effectiveness of the innovation and identify related challenges that need to be addressed (Crumpton, 2012).

Partnerships can be useful for libraries as they seek out innovations within very real budget limitations (Massis, 2014). In recent years, much effort has been made to find innovative ways to meet existing and new service needs, to include providing more

inclusive access, offering instruction rather than training, technology transfer, original research, and collaboration that expands across traditional boundaries of established disciplines that foster industry partnerships (Walter & Lankes, 2015). These efforts have required more imaginative approaches that ultimately separate more innovative organizations from their less innovative competitors. Finding innovative programs tailored to meet local needs require that librarians expand their search for ideas outside *type of library* silos (Vaughan, 2013).

Scenarios

The findings indicated that an academic library developed online tutorial could provide the PL with a cost effective way to supplement an existent program. In line with the social justice theory, this program aligns with the demands of the *difference principal* that posits the greatest benefits to the least advantaged are needed to address inequalities in society (Wilson-Strydom, 2015) and also serves as the benchmark for the options available for policy innovation at the PL. I have provided the web address [link] to the UI's online information literacy curriculum.

http://www.webpages.uidaho.edu/info_literacy/

Empowering patrons to function independently when seeking information is a key part of this project as well as the primary policy research and practice concern of those who advocate for digital inclusion (Seale & Dutton, 2012; Thompson, Jaeger, Taylor, Subramaniam & Bertot, 2014). Therefore, this study is designed to inform efforts at the PL to effectively and inclusively expand digital literacy and inclusion projects offered within the ACTP using an academic library developed e-learning resource. It might also

support the concept that public libraries can effectively draw upon lessons learned in academic library settings to solve common problems by comparing and contrasting situations found in these two environments using scenarios (Hernon & Matthews, 2013) and based on this type of scenario planning, I have developed a series of scenarios for adopting an academic library developed tutorial at the PL.

Analysis of Three Scenarios

The Traditional Digital Literacy Model

The traditional digital literacy model represents the PL's current information literacy program. The program now being offered is valuable in that it provides an introduction to the use of PACs now available as well as an introduction to basic principles for finding information resources on the Internet for those who know little or nothing about these tools. It also offers one-on-one assistance to address individual patron needs that can be very helpful to library patrons. The traditional digital literacy model provides an opportunity for patrons to request digital assistance while using the PACs, and to participate in the scheduled basic computer training workshops offered at the various branch locations throughout the year.

Advanced information literacy tutorials based on national standards are not available, either to support these workshops or to provide advanced instructions for those who desire it. Adult users whose skill levels are more advanced are underserved. While they have some capacity to use the computers available to them independently and instruction at points of need, little assistance is available to help them develop the kind of skills required to find, evaluate and use information of the sort currently being taught in

K-20 educational settings. In addition, potential users who have difficulty travelling to the PL branch locations to use the PACs there or participate in the computer training workshops that at scheduled are not served at all.

The Web-based Digital Inclusion Model

The second model that is presented is the web-based digital inclusion model, which has an advocacy approach and the social justice theory as a benchmark. In keeping with the *difference principal* that posits the greatest benefits to the least advantaged are needed to address inequalities in society (Wilson-Strydom, 2015). The *difference principal* serves as a lens to evaluate the needs of the PL's constituents and the least advantaged group among the PL users would be those who are not served, such as the visually impaired, the deaf, as well as those who unable to travel to the PL branch locations throughout the community. It suggests that, in addition to traditional service approaches, many patrons who have not been exposed to robust information literacy curricula in their formal education can benefit from tutorials with website accessibility at their convenience. Providing access to information literacy online can be used to empower these patrons to utilize information communications technology and bridge the digital divide. In so doing, it can provide an opportunity for the PL to quickly and economically expand the audience for its information literacy program in keeping with its stated mission. A web-based information literacy tutorial that conforms to a national standards-based information literacy tutorial would be accessible anywhere at any time to both the underserved and those who are not served at all. The implementation of the web-based model would provide additional national standards-based information literacy to an

enhanced target without causing changes to the current ACTP and allow it to continue as usual.

The Blended Digital Inclusion Model

The third model that is presented is a blended one that combines elements of the traditional and web-based digital inclusion models discussed above. As with the web-based digital inclusion model, an advocacy approach that uses the *difference principal* for justification suggests information literacy instruction can be provided to all of the PL's patrons by accessing the PL's website or by physically accessing the PL's PACs and gaining ACTP assistance and the UI's program as support that could be recommended to patrons when they have gained mastery of basic computer skills to provide a heightened awareness of their own information literacy skills. This would facilitate lifelong learning, as well as autonomy.

The University of Idaho's online information literacy curriculum was reviewed by adult patrons at the PL during this case study as a candidate for adoption, but other national standards-based information literacy e-resources might also be available and worth of pursuing. While it is understood that the needs of public library patrons and those who use academic libraries are different, the PL library adult patrons who participated in this study indicated that they found this tutorial to fit their needs, and while it is anticipated that some tailoring may be required over time, the introduction of this software with minor changes could offer the chance to determine the value of this kind of resource in general and make it possible for the PL to modify the curriculum over time based on experience rather than abstract analysis. Subsequently, this approach will

not undermine the strengths of the ACTP, offering instead an opportunity to augment the program with an additional resource to supplement classes offered and high quality individual assistance to library users.

Table A1

Three Alternative Scenarios for Using the UI Curriculum at the PL

Scenarios	Accessibility	Information literacy national standards-based	Skill level	SI benefits	SI negative consequences	Access types
Traditional digital literacy model Point of access digital assistance.	Attendance at the PL is required.	No	Basic skills.	Audience limited to beginners.	Unmet need of patrons who are beyond the basic level, sensory disabilities, and unable to travel to library.	During library hours.
Web-based digital inclusion model Self-paced, self-assessment information literacy online tutorial.	The PL's website.	Yes	Basic skills and beyond.	Above average skilled users and patrons with sensory disabilities audience.	Potential high demand for program in the future.	Anywhere and any time.
Blended digital inclusion model Traditional model supported by the Web-based model.	The PL's website and attendance at the PL required for the traditional digital assistance.	Yes	Basic skills and beyond.	Above average skilled users and patrons with sensory disabilities audience.	Potential high demand for program in the future.	Anywhere and anytime, as well as, during library hours.

Recommendations: Digital Inclusion Strength

The results of this case study suggest that the web-based model would best serve the PL and its users as a first step to reach those PL patrons who are currently underserved or not served. The ACTP has proven to be a success in addressing the needs of many library users. Therefore, I would suggest a gradual integrating tutorials like those available in the University of Idaho's online information literacy core curriculum only for those patrons who have advanced beyond the basic skills level using the digital inclusion model. This kind of instruction can do much to prepare users with technical skills improve their capacity to find, evaluate and use information effectively, and requires little in the way of personnel support. A webpage would have to be mounted to accommodate a tutorial of this sort, perhaps with some provision to facilitate use by those with sensory disabilities [deaf and blind], but the PL might want to work with the University of Idaho Library or whatever academic library that they decide to partner with to get the tutorial, as well as agencies like the Urban Lighthouse for the Blind who have experience making accommodations [for people who of deaf or blind]. The results could be improved service from an ACTP that has already proven to be invaluable to local patrons and an opportunity to adapt standards developed in academic and public libraries to meet the needs of PL users, and increased use of the PL's online research databases and other scholarly resources, as well as web-based access to information literacy to reach a larger audience at the PL.

Conclusion

A summary of the case study, research questions, and findings along with scholarly literature, and alternative scenarios for possible adoption of an academic library developed information literacy e-learning resource and three scenarios regarding the potential effects of adopting the UI's e-learning resource were presented in this white paper to the policy makers at the PL to facilitate social justice, equality, and digital inclusion among the PL patrons who are underserved and not served. If the PL's policy makers decide that it would be worth adopting the web-based digital inclusion model or the blended and digital inclusion model, I recommend an agreement as necessary with the University of Idaho's Library librarians, collaborative plans, as well as, a partnership with the Urban Lighthouse for the Blind to enhance digital inclusion and innovation at the PL.

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Appendix B: Self-Developed Observation Protocol

PL Adult Patron

Date: _____Start Time: _____ Finish Time: _____

Description of Branch Site: _____
PL Branch and Address: _____
E-mail address: _____
Identification Code: _____

This protocol will be used to document observations lasting 20-30 minutes of PL Adult Patrons while they are reviewing the UI's Information Literacy Online Core Curriculum.					
Online Modules		Problems with content	Reflection	Problems with navigation	Reflection
Module 1 Start time	End time				
Module 2 Start time	End time				
Module 3 Start time	End time				
Module 4 Start time	End time				
Module 5 Start time	End Time				
Module 6 Start time	End Time				

Thank you again for completing this review of the UI's Information Literacy Online Core Curriculum. A copy of the formal notes will be provided for your review within three weeks to verify the accuracy of this content.

Appendix C: Self-Developed Interview Protocol

PL Adult Patron

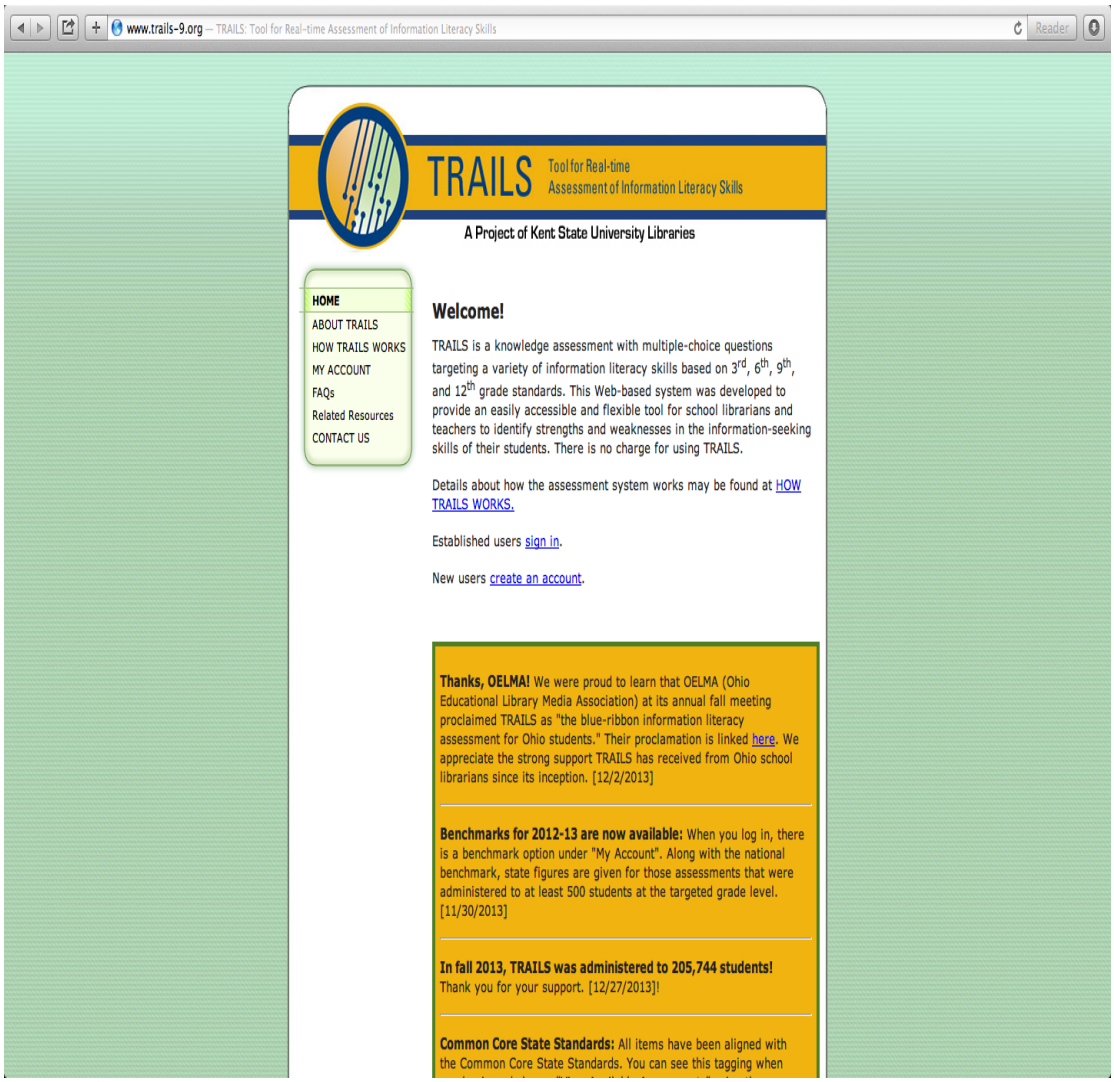
Date: _____
Start Time: _____ Finish Time: _____
Description of Branch Site: _____
PL Branch and Address: _____
E-mail address: _____
Identification Code: _____

Hello. Thank you for agreeing to complete this interview and with your consent it will be recorded for transcription purposes. This single 40-60 minute semi-structured audio recorded, face-to-face, open-ended interview is based on your perspective—a PL adult patron.

1. How would you describe your experience at the PL in general?
2. How would you describe your information literacy level?
3. How would you describe the University of Idaho's IL online tutorial in terms of appropriateness for use to help you learn information literacy?
4. How would you describe the potential effect that the University of Idaho's IL online tutorial could have on your learning?
5. How would you describe the effect that the University of Idaho's IL online tutorial could have on other patrons?
6. How would you describe the University of Idaho's IL online tutorial in terms of supporting the PL's staff?
7. If you deem the University of Idaho's online tutorial to be inappropriate for use within the PL program, why is that so?
8. How would you describe the types of potential negative effects that using the University of Idaho's IL online tutorial could possibly present at the PL?
9. In what way would you describe the modifications that would be necessary to make the University of Idaho's IL online tutorial more useful for you?
10. If you were to describe an ideal e-learning tool for use in the PL, how would it differ from the University of Idaho's?

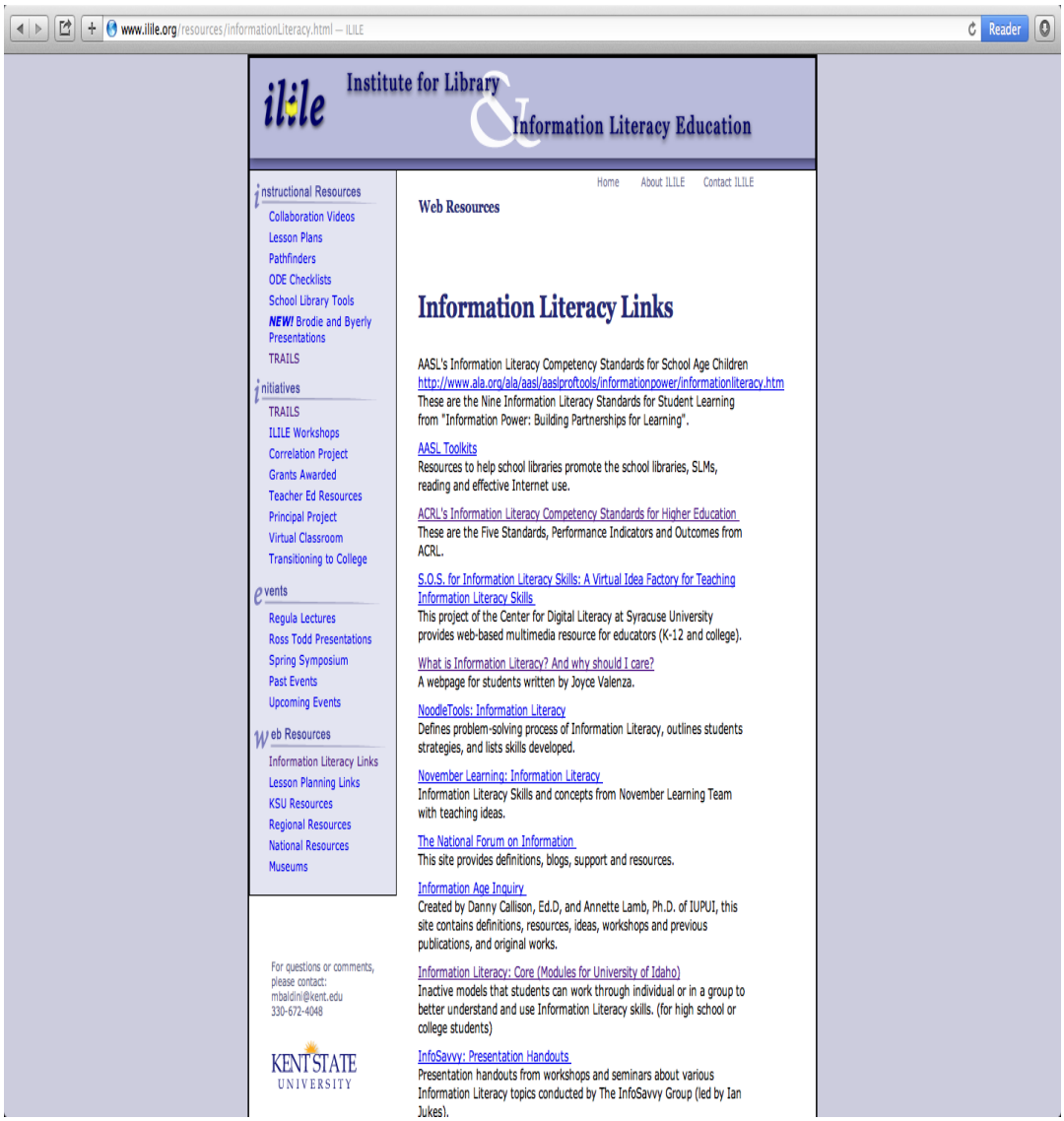
Thank you again for completing this interview. The findings of your own data will be provided for your review to provide you with an opportunity to discuss and verify the accuracy of content within three weeks. Would you like to recommend anyone else to participate in this study?

Appendix D: Homepage of the Tools for Real-Time Assessment of Information Literacy Skills (TRAILS) Website



Appendix E: Homepage of the Institute for Library & Information Literacy Education (ILILE) Website

Appendix F: "Information Literacy Links" Webpage from the Institute for Library & Information Literacy Education Website



Appendix G: Homepage of University of Idaho's Information Literacy Core Curriculum Website