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Organizational Learning in Libraries at For-Profit Colleges and Universities

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This is to certify that the doctoral study by

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Walden University
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Abstract

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by

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MLIS, University of South Carolina, 2009

BA, Flagler College, 2008

Project Study Submitted in Partial Fulfillment

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Abstract

Academic libraries contribute to student engagement, student learning, and retention; therefore, the effects of improved library services for students may be positive and long lasting. However, despite successful application of organizational learning (OL), a strategic process for improvement, to enhance services in academic libraries, little is known about OL in libraries of for-profit colleges and universities (FPCUs). The purpose of this sequential explanatory mixed-methods study was to assess and explore the use of OL in libraries at FPCUs. Argyris and Schön's theory of organizational learning grounded this study. Responses to Chen's Processes and Phases of Organizational Learning Questionnaire, completed online by 38 respondents following a recruitment posting submitted to the electronic mailing list of the Association of College & Research Libraries Librarianship in For-Profit Educational Institutions interest group, reflected medium to high levels of OL in the libraries in the study. Multiple regression analysis indicated that the number of students enrolled was negatively related to OL score. Six survey respondent volunteers were interviewed to better understand how library staff members in FPCUs experienced OL. Common themes included external pressures from the FPCUs that made it more difficult for their libraries to implement OL, as well as the importance of communication among library team members. As a result of these findings, a manual about OL strategies for library employees in FPCUs was created. More knowledge about OL and its implications could lead to positive social change as libraries use it to better contribute to student learning and success.

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Dedication

I dedicate this work to my family. To my parents, who always believed I would get a doctorate degree, even when I didn't think I wanted one. To my children, Gabriel and Ana, for being the light and joy in my life, making it possible for me to do hard things. Finally and emphatically, to my husband, Andy, for his unwavering support and love, and for all the slack he has been picking up during my doctoral journey. There is no greater blessing in life than a good partner, and I have the best.

Acknowledgments

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Thank you to my committee member, Dr. Caroline Crawford, and university research reviewer, Dr. Beate Baltes, for their thorough and timely reviews. Finally, thank you to Dr. Vicki Underwood, my committee chair, for being willing to support me in my outside-the-box ideas for a study, offer encouragement and valuable feedback, have patience with my attempts at quantitative analysis, and learn more about the world of academic libraries.

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Section 1: The Problem

Through this sequential explanatory mixed-methods study, I sought to assess and explore organizational learning (OL) in the academic libraries of U.S. for-profit colleges and universities (FPCUs). OL is simply defined as the process by which an organization creates, retains, and transfers knowledge in order to correct errors and continuously improve (Argote, 2012). The term incorporates such concepts as professional development, knowledge management (KM), as well as individual and group learning opportunities. I was specifically interested in determining participating libraries' capacities for OL, which library demographic variables most strongly related to OL capacity, and how library staff members experienced OL in their libraries.

The Problem Statement

As higher education as a whole shifts to data-driven, outcome-based decisions (Tam, 2014), leaders of academic libraries also recognize the importance of using available knowledge to achieve maximum performance for their patrons (Kloda, Koufogiannakis, & Brettle, 2014). To this end, leaders of some academic libraries have drawn upon principles from the business world (Dermody & Millson-Martula, 2015), particularly those of OL. Academic librarians have applied OL to their libraries to increase innovation (Islam, Agarwal, & Ikeda, 2015), facilitate organizational change (Whitworth, Calvo, Moss, Kifle, & Blåsternes, 2014), and optimize organizational effectiveness (Chidambaranathan & Rani, 2015b).

Despite the successful application of OL in the arenas of higher education and libraries, there is a dearth of published research on OL in the libraries of FPCUs in the

United States. In recent years, FPCUs have surged in popularity in the American higher education landscape, with a 166% increase in enrollment between 2000 and 2015 (National Center for Education Statistics, 2017). Though for-profit institutions are educating an increasing number of American students, few research studies have focused on the libraries in FPCUs.

Understanding how the libraries in FPCUs work and how they can be more effective will be critical for alleviating the gaps in practice at libraries of FPCUs reflected in findings that they are not on a par with libraries in traditional institutions (J. Y. Davis, Adams, & Hardesty, 2011; National Center for Education Statistics, 2013). Narrowing the gap in knowledge about OL in the libraries of FPCUs could assist the site for this study, the Association of College & Research Libraries (ACRL) Librarianship in For-Profit Educational Institutions (LFPEI) interest group, in better understanding the context of library staff members in these institutions and better supporting them and their leaders, which may lead to improved educational services for students at these institutions.

Rationale

LFPEI is an interest group within a professional organization representing academic librarians. The specific charges of LFPEI include acting as a forum for librarians in these environments to "network, share knowledge, and collaborate on tasks, direction, and issues specific to their roles within the for-profit education industry," sponsoring "discussions and programs related to identifying best practices, trends, and technologies aiding librarians for alignment with institutional outcomes, student learning objectives, accreditation standards, government principles, and other guidelines specific

to the for-profit higher education industry," disseminating "information and education to libraries and other academic professionals about the role of librarians in for-profit educational institutions," and advocating for libraries, including their employees, resources, and services, in FPCUs and "the field of librarianship and academia as a whole" (ACRL, 2012, para. 1). As of August 2017, LFPEI included 178 official members, a number that has increased in the last several years. In September 2013, for example, the group had only 125 official members.

LFPEI sponsors an electronic mailing list that serves 584 subscribers (C. Ollis, personal communication, December 28, 2016), who are not required to be official members of LFPEI. Over the past 10 years, the list has hosted several discussions related to OL. For example, in one thread participants discussed the lack of support they received from their institutions for professional development (Muller, 2013). One librarian related the following:

> I do not know of any for-profit librarians who have benefited in their own professional lives by writing or publishing in our field. My compensation would not change, nor would my performance appraisal. Do I contribute to my campus's bottom line? That's the reality . . . . I can write in the professional journals, do research, but neither time nor incentive is given for such tasks. This is the world I work in. The situation doesn't take away my professional responsibility for contributing, but the situation does make it challenging, and perhaps partially explains the lack of research in for-profit higher education. (Pace, 2011, paras. 1–2)

Another explanation for the dearth of information was offered in LFPEI's annual meeting in June 2014. The meeting minutes note "a hindrance to sharing" that may be the result of "a fear among for-profit librarians about what we are allowed to share about our universities" (ACRL, 2014, p. 2). The proprietary nature of the institutions may therefore create a barrier to sharing information.

LFPEI hosted a free online conference in 2014, and the convener of that conference reported some of the participation statistics on the electronic mailing list. On the first day of the conference, users logged in to the 9 sessions more than 600 times; the most popular session had 143 attendees (O'Connor, 2014). Following the conference, subscribers praised the effort, with one person enthusing, "I learned SO much" (Keller, 2014, para. 1). These anecdotes indicate that there is a demand for research, presentations, and learning opportunities among librarians at FPCUs.

One subscriber stated that "some organizations simply don't understand what the skillsets of the 21st-century librarian are" (Naus, 2014, para. 2), indicating a lack of knowledge transfer within these institutions. Other subscribers echoed the sentiment in a thread discussing "non-library contributions" expected of library staff members at their institutions. Several people described their role in their institution as a "junk drawer" assigned numerous "random duties" (Harmon, 2014, para. 1) that they consider unrelated to the traditional role of the librarian in an academic library. Throughout the archives of the LFPEI electronic mail list, some of the specific responsibilities mentioned include proctoring exams, managing the institution's book store, and creating tutorial resources for students about study skills, time management, and test-taking. While some

subscribers maintained that the expectation for librarians to perform non-library tasks is "very typical for all types of organizations or communities" (Koz, 2014, para. 1), others considered the blurring of job descriptions to be unique to FPCUs, but common in all departments, not just the library (Fuller, 2014). Crump (2014) reported an extreme experience: "I've been told that if it weren't for ACICS [the Accrediting Council for Independent Colleges and Schools] requirements, my job would not exist" (para. 2). This evidence points to the need for more information and training surrounding OL issues in the libraries at FPCUs.

J. Y. Davis et al. (2011) have noted the dearth of evidence available to support libraries in FPCUs. They reported that they "were unable to find any published research on academic libraries in proprietary schools" (p. 570) while writing the literature review for their study on that topic. A literature search reveals little else published in this area since J. Y. Davis et al.'s study.

There is also a scarcity of documented research regarding the application of OL in academic libraries. In a literature review, Limwichitr, Broady-Preston, and Ellis (2015) identified key challenges in building a learning organization within a university library context. The authors urged a clarification of the concepts relating to OL for academic libraries so that library leaders can better implement these concepts. They cited a lack of current literature where these concepts are clearly outlined for effective application in academic libraries. Recent years have shown an uptick in published studies gauging OL, or aspects of OL, in an academic library context, including Yu and Chen (2015), Islam et al. (2015), Loo and Dupuis (2015), and Chidambaranathan and Rani (2015b). However,

only one researcher, in a doctoral dissertation, has investigated OL in the libraries at FPCUs. Bertram-Elliott (2015) measured levels of OL in academic libraries, including 15 libraries in FPCUs. While the researcher's findings provided useful information, the FPCU libraries made up only 4% of the study participants. Evidence more specific to and focused on OL at FPCUs is needed, and such is the purpose of this study—to assess and explore OL in libraries at FPCUs.

Definition of Terms

Double-loop learning: Correcting an error in a way that involves significant changes to the normal way of doing things. It involves not only "detecting error but questioning the underlying policies and goals as well" (Argyris, 1977, p. 116) and "changing mental models, norms, policies and assumptions underlying day-to-day actions and routines" (Van Grinsven & Visser, 2011, p. 380).

Full-time equivalent (FTE): A measure, based on a mathematical formula, to determine "a single value providing a meaningful combination of full-time and part-time students" or employees (National Center for Education Statistics, 2018).

Information literacy: "The set of integrated abilities encompassing the reflective discovery of information, the understanding of how information is produced and valued, and the use of information in creating new knowledge and participating ethically in communities of learning" (ACRL, 2016, para. 5).

Innovation: "The implementation of a new or significantly improved product/service or process" (Dias & Escoval, 2015, p. 53).

Knowledge management (KM): A practical approach to "measuring, disseminating, storing, and leveraging knowledge" (Easterby-Smith & Lyles, 2012, p. 3) in order to contribute to OL and performance.

Knowledge society: A theory that emphasizes that knowledge, rather than capital, natural resources, or labor, will be the predominant resource of the global economy in the 1990s and beyond (Drucker, 1993).

Knowledge transfer: The process by which learning moves from individual, to team, to organization on the "continuum of learning" (Forman, 2004, p. 17).

Learning organization: "Organizations where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together" (Senge, 1990, p. 3).

Organizational learning (OL): The process by which an organization creates, retains, and transfers knowledge in order to correct errors and continuously improve (Argote, 2012).

Single-loop learning: Correcting an error without significant changes to the way things are normally done (Argyris & Schön, 1978). Learning that is "action-oriented, routine, and incremental, occurring within existing mental models, norms, policies and underlying assumptions" (Van Grinsven & Visser, 2011, p. 380).

Transactional leadership: A method of leadership that is characterized by promising a reward in exchange for good performance (i.e., contingent rewards; Odumeru & Ogbonna, 2013).

Transactive memory system: A memory system in which two or more individual memories are connected through communication (Wegner, 1987).

Transformational change: A type of change that "affects institutional culture, is deep and pervasive, is intentional, and occurs over time" (Eckel & Kezar, 2011, p. 27); a process intended to intentionally disrupt current culture and work processes to create improved performance (Miller, 2013).

Transformational leadership: Leading through empowering, inspiring, and energizing employees by espousing a shared vision and eliciting acceptance of that vision, and by facilitating employees in looking beyond their own self-interest to embrace the good of the group (Bass, 1990).

Significance of the Study

This study marks an original contribution to academic library management and leadership by addressing a problem local to the LFPEI interest group of ACRL in order to strengthen the body of knowledge surrounding OL in academic libraries at FPCUs. With it, I sought to minimize the gap in practice between what FPCUs are currently doing and the processes that can help them create OL cultures in their libraries. There is a dearth of literature addressing OL in the libraries of FPCUs; in this study, I gathered information to help increase the knowledge available. Researchers have found that an OL culture contributes to organizational performance, both in the business world (García-Morales, Jiménez-Barrionuevo, & Gutiérrez-Gutiérrez, 2012; Jain & Moreno, 2015), and in academic libraries (Yu & Chen, 2012).

More knowledge about the processes involved in OL in libraries at FPCUs may lead to higher levels of OL in these libraries and, therefore, better performance and improved services for library users. Because academic libraries contribute to student engagement (Soria, Fransen, & Nackerud, 2017), student learning (Pan, Ferrer-Vinent, & Bruehl, 2014), academic performance (Allison, 2015; Kot & Jones, 2015), and retention (Eng & Stadler, 2015; Mezick, 2015; Soria, Fransen, & Nackerud, 2013), the effects of improved library services for the students who attend FPCUs may be positive and long lasting.

A second original contribution I make in this study involves narrowing the gap in practice between what FPCUs are currently doing and the processes that can help them create OL cultures in their libraries. More knowledge about OL and its implications could lead to positive social change by equipping libraries to better contribute to student learning and success. In turn, the libraries would be more likely to grow and develop, becoming more effective, positively influencing the ever-increasing populations of students who attend FPCUs.

Research Questions and Hypotheses

In this sequential explanatory mixed-methods study, I assessed and explored OL in the libraries of FPCUs. The research questions relate directly to the study's problem, that libraries of FPCUs are not on a par with libraries in traditional institutions, and purpose, to assess and explore OL in FPCUs in the United States. In addressing the quantitative research questions, I assessed OL in these libraries by measuring their

capacity for OL and determining which library demographic variables are related to OL in the libraries of FPCUs. The library demographic variables included the following:

- number of FTE students enrolled in the institution,
- type of institution (e.g., 2 year, 4 year),
- number of FTE library employees employed at the institution,
- number of FTE librarians employed at the institution,
- whether the head of the library has a Master of Library and Information Science (MLIS) degree (or similar),
- number of years the participant has been employed at the institution,
- number of years the participant has been employed in libraries,
- the participant's highest degree attained,
- whether the participant has an MLIS degree,
- the participant's library position.

For the qualitative research question, I explored the experiences of library staff members and how they view OL in their libraries.

The research questions are as follows:

RQ1–Quantitative: What capacity for OL is present in libraries at FPCUs?

RQ2–Quantitative: Which FPCU library demographic variables are most strongly related to OL capacity?

$H_0$2: None of the library demographic variables will be significantly related to OL capacity for libraries in FPCUs.

H_a2: At least one library demographic variable will be significantly related to OL capacity for libraries in FPCUs.

RQ3–Qualitative: How do library staff members in FPCUs experience OL in their libraries?

Review of the Literature

While OL is the foundation for this study, other disciplines are important for understanding the study's context in relation to the literature and practice. I conducted literature searches in such subject-specific databases as ERIC, EBSCO's Education Research Complete, and Library, Information Science & Technology Abstracts, as well as more general databases like ProQuest Central and Gale's Academic Search Complete. Search terms included *organizational learning*, *higher education*, *academic libraries*, *for-profit* OR *proprietary*, *knowledge management, leadership, learning organization, double-loop learning, organizational change, innovation, student engagement,* and *retention*. Exploring this literature led to additional sources and searches related to the concepts listed in the following paragraphs.

Through the literature review I discovered that OL is a complex and multidisciplinary field (Dodgson, 1993; Law & Chuah, 2015) that includes such concepts as the learning organization, KM, organizational change, leadership, and innovation. Given that this study is centered on academic libraries, it is important to explore and understand evidence of the value of academic libraries to the modern institution of higher education, including links to student achievement, student retention, student learning, and student engagement. I will also discuss efforts to calculate academic library return on

investment (ROI), showing a quantitative measure of the literal value of investing in academic libraries.

Along with these topics, I will take a closer look at the FPCU industry in the United States, including its portrayal in the media and recent growth. Finally, I will explore the intersections of each of these topics, including the study of OL in academic libraries and the few studies on libraries at FPCUs.

Theoretical Foundation: Organizational Learning

Though Law and Chua (2015) maintained that there is no single framework for studying OL, the theoretical framework I chose to ground this study is Argyris and Schön's (1978) theory. Argyris and Schön described OL as "a metaphor" for the end result of "members of the organization act[ing] as learning agents for the organization, responding to changes in the internal and external environments of the organization by detecting and correcting errors . . . and embedding the results of their inquiry" (pp. 28-29) into the larger organizational culture. Simply put, OL is "a process of detecting and correcting error" (Argyris, 1977, p. 116) in organizations.

As Argote, McEvily, and Reagans (2003), Edmondson and Moingeon (1998), and others have found, the OL literature is fragmented and spread across global disciplines as varied as human resources (Camps, Oltra, Aldás-Manzano, Buenaventura-Vera, & Torres-Carballo, 2015), higher education (Dee & Leišytė, 2016), engineering (Jain & Moreno, 2015), psychology (Kump, Moskaliuk, Cress, & Kimmerle, 2015), manufacturing (Meihami & Meihami, 2012; Yu, Jacobs, Salisbury, & Enns, 2013), healthcare (Nembhard & Tucker, 2016), and of course, libraries (Al-Harrasi, 2014;

Baughman & Kaske, 2002; Crawley-Low, 2013; Limwichitr et al., 2015; Yu & Chen, 2012). Researchers define OL differently, and the concept has evolved through the years (Popova-Nowak & Cseh, 2015). However, the definitions have common themes (Dixon, 1999).

For one, inherent in the idea of OL is the expectation that more learning will help an organization be more effective (Argote, 2012; Argyris & Schön, 1978; Fiol & Lyles, 1985; Senge, 1990). Second, an organization's learning is dependent upon its environment (Cangelosi & Dill, 1965; Daft & Weick, 1984). Next, most understandings of OL take into account that members of an organization have common assumptions or mental models that may inhibit learning (Argyris & Schön, 1978; De Geus, 1988; Senge, 1990). Finally, a common theme in definitions of OL is that an organization can change and adapt for future success through learning (Argote, 2012; Fiol & Lyles, 1985; Senge, 1990).

Experts in the field also agree that individual learning is important to OL (Antonacopoulou, 2006; Hayes & Allinson, 1998; Kim, 1993; Senge, 1990; Simon, 1991). Argote, McEvily, and Reagans (2003) listed the knowledge of individual workers as one of three factors that affect the rate of learning in organizations. The other two factors were sharing knowledge among individuals within the organization and coordinating knowledge across the organization (Argote et al., 2003; Reagans, Argote, & Brooks, 2005). Individual learning within organizations comprises training and professional development. In many professions, such as health care, education, and law, continuing education (CE) is mandated as a condition to maintain licensure or

employment, with the expectation that the CE will positively influence both individual and organizational performance (N. Davis, 2014; Earley & Porritt, 2014; Meštrović & Rouse, 2015; Rienties, Brouwer, & Lygo-Baker, 2013). Individuals who take advantage of voluntary training and professional development opportunities are often intrinsically motivated to do so. A combination of intrinsic factors and extrinsic motivators may be the best way forward in encouraging employees to learn and grow their professional knowledge (Cerasoli, Nicklin, & Ford, 2014; Gerhart & Fang, 2015).

Researchers throughout the OL literature have posited that while individual learning is important, "organizational learning is not simply the sum of each member's learning" (Fiol & Lyles, 1985, p. 804; see also Cohen, 1991; Hedberg, 1981; Law & Chuah, 2015; Stinchcombe, 1990). When individuals leave the organization, their knowledge resulting from individual learning can leave the organization as well (Carley, 1992). Individual knowledge can become organizational knowledge only if it is communicated and managed properly within the organization, becoming part of institutional customs and memory and persisting even as individuals leave the organization.

In addition to incorporating individual knowledge into organizational memory, researchers have also investigated how group or team learning within organizations translates into OL (Liang, Moreland, & Argote, 1995; Oltra & Vivas-López, 2013; Tanyaovalaksna & Li, 2013). In a printed interview with Lee, Rittiner, and Szulanski (2016), Argote recounted that while studying OL curves in industrial firms (see for example, Argote, Beckman, & Epple, 1990; Argote & Epple, 1990; Epple, Argote, &

Devadas, 1991), she and colleagues heard the same phrase repeatedly from the workers they interviewed, “knowing who was good at what” (p. 87). Around the same time, Argote read a study by Wegner (1987) discussing transactive memory in personal relationships and decided to apply the idea of transactive memory to OL (see for example, Liang et al., 1995; Reagans et al., 2005). *Transactive memory* is akin to collective memory—two or more individual memory systems are connected through communication (Wegner, 1987).

In one study, Argote and colleagues found that group training facilitated group performance because it helped foster transactive memory systems among the group members (Liang et al., 1995). In a later study, Reagans et al. (2005) observed the effects of transactive memory at work in teams of surgeons performing total joint replacement procedures. They found that teams with experience working together performed better, but in the case of a decline in knowledge through team member turnover, experienced team members could compensate for the inexperience of a new team member with little effect on performance (Reagans et al., 2005). In other words, the knowledge and experience of an individual leaving the organization does not have to negatively influence the organization if the individual shared his knowledge with team members who still belong to the organization.

The nuances of individual learning, group learning, and OL are all tied to how learning occurs in the first place. When learning takes place, it is either through *single-loop learning* or *double-loop learning*. Single-loop learning, also called *behavioral learning*, is correcting an error without significant changes to the way things are normally

done. Argyris and Schön's (1978) classic example is of a thermostat that detects when a room is getting too cold and turns the heat on to correct the temperature of the room. Double-loop learning, also called *cognitive learning*, occurs when correcting an error involves significant changes to the normal way of doing things. For example, if the thermostat began questioning whether it should be set to 75 degrees, it would not only be "detecting error but questioning the underlying policies and goals as well as its own program" (Argyris, 1977, p. 116). Single-loop learning results in maintaining the status quo, while double-loop learning leads to progress.

While both single-loop and double-loop learning are essential and comprise OL (Van Grinsven & Visser, 2011), double-loop learning is more effective for long-lasting OL that can lead to innovation and growth (Argyris & Schön, 1978; Fiol & Lyles, 1985). In their study, Kantamara and Ractham (2014) found that single-loop learning leads to surface change and is therefore not a success factor for long-lasting and sustainable deep change. Double-loop learning, however, does lead to deep change. Argyris (1977) claimed that most organizations are good at single-loop learning; they have to be to survive, even in the short term. However, organizations do not make good use of the double-loop learning that could increase their effectiveness.

Learning organization. One concept related to OL is the learning organization, which Senge (1990) popularized almost 30 years ago. *Learning organizations* are "organizations where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together"

(Senge, 1990, p. 3). Senge outlined five disciplines that must be present and working together in order for a learning organization to be possible: systems thinking, personal mastery, mental models, building shared vision, and team learning. While he maintained that no one discipline is more important than another—all must develop as an ensemble in order for a learning organization to emerge—he also explained that systems thinking is the discipline that "integrates the disciplines, fusing them into a coherent body of theory and practice" (Senge, 1990, p. 12). Systems thinking in learning organizations is the link that coheres disparate departments and employees into a single healthy entity enabled for growth.

Easterby-Smith and Lyles (2012) explained that while OL is the theoretical basis, the learning organization is the practical application. Ortenblad (2001) maintained that Easterby-Smith and Lyles's distinction is but one of three found in the literature. The second distinction is that a "learning organization is a form of organization while organizational learning is activity or processes (of learning) in organizations" (Ortenblad, 2001, p. 126). A third distinction is that the learning organization requires effort, while OL is a "natural state" of organizations (Dodgson, 1993, p. 380). In other words, all organizations learn, some better than others, but a concerted effort to become a learning organization is above and beyond the norm. In this study, I will use the distinction Easterby-Smith and Lyles espoused. While the learning organization is based on the theory of OL, Senge (1990) and those who came after (Garvin, 1994; Giesecke & McNeil, 2004; Goh, 1998; Heorhiadi, La Venture, & Conbere, 2014; Swieringa & Wierdsma, 1992) go a step farther with the idea of the learning organization, delineating

prescriptive actions members of organizations can take to improve learning in their organizations.

The differentiation between OL and the learning organization served as a useful springboard for relating the results of my study to professional development for library employees at their local sites to facilitate positive social change. After measuring and exploring the current levels of OL in libraries at FPCUs, I was able to incorporate ideas from the learning organization literature to create potential solutions.

Knowledge management. KM is a part of OL (Law & Chuah, 2015), but is also a learning trend all of its own. First developed in the mid-1990s, KM is a practical approach to "measuring, disseminating, storing, and leveraging knowledge" (Easterby-Smith & Lyles, 2012, p. 3) in order to contribute to OL and performance. Drucker (1993) coined the term *knowledge society* to emphasize that knowledge, rather than capital, natural resources, or labor, would be the predominant resource of the global economy in the 1990s and beyond. Interest in capitalizing on this valuable economic resource sky rocketed, manifesting itself as KM.

Like OL theory, KM finds its roots in varied disciplines including philosophy, cognitive science, management science, and economics (Kakabadse, Kakabadse, & Kouzmin, 2003). It has become a lens researchers use to examine varied disciplines as well. Kakabadse et al. (2003) outlined five distinct models of KM: philosophy-based, cognitive, network, community, and quantum. The cognitive model best matches the role of knowledge in Argyris and Schön's (1978) theory of OL that guided this study. In the cognitive model of KM, knowledge is an asset and organizations must be able to

effectively create, acquire, share, store, and call upon organizational knowledge to solve problems (Drucker, 1991; Kakabadse et al., 2003; Kogut & Zander, 1992; Winter, 1998).

Agarwal and Islam (2014) identified eight parts of the KM cycle as related to knowledge: creation, acquisition, capture, organization, transfer, application, evaluation, and reuse. *Knowledge transfer* speaks to how learning moves from individual, to team, to organization on the "continuum of learning" (Forman, 2004, p. 17). Knowledge transfer, along with the other aspects of KM, facilitates moving learning from single-loop to double-loop, and ensures that knowledge gained through individual learning by members of the organization translates into organizational knowledge. KM is an important piece of OL. The research behind KM informed the development of questions to ask participants during the qualitative interview phase of the study. For example, knowing that sharing information is important for OL, I asked participants what they do with their notes after a webinar or conference.

Transformational leadership. Another concept related to OL is *transformational leadership*, which is leading through empowering, inspiring, and energizing employees, by espousing a shared vision and eliciting acceptance of that vision, and through facilitating employees in looking beyond their own self-interest to embrace the good of the group (Bass, 1990). Characteristics of transformational leadership include charisma, inspiration, intellectual stimulation, and individualized consideration (Bass, 1990). Scholars often talk about transformational leadership in contrast to *transactional leadership* (Bass, 1990), which is characterized by a leader promising a reward in exchange for good performance, or in other words, contingent rewards (Odumeru &

Ogbonna, 2013). Based on the definitions, transformational leaders tend to help employees embrace their intrinsic motivation, while transactional leaders use extrinsic means to motivate their employees.

OL is often linked to the transformational leadership style. Imran, Ilyas, and Aslam (2016) received responses to a structured questionnaire from 204 bank employees in Pakistan—a 53% response rate—and found a positive effect of transformational leadership on OL using a linear regression analysis. Likewise, Manshadi, Ebrahimi, and Abdi (2014) and Noruzy, Dalfard, Azhdari, Nazari-Shirkouhi, and Rezazadeh (2013), working in an Iranian university and manufacturing companies, respectively, found positive and meaningful relationships between transformational leadership and OL. Noruzy et al. (2013) stated that "transformational leadership directly influenced organizational learning" (p. 1073). In their study of 280 managers, Noruzy et al. used a 5-item Likert scale developed by Podsakoff, MacKenzie, and Bommer (1996) to measure transformational leadership, and a 4-item Likert scale developed by García-Morales, Lloréns-Montes, and Verdú-Jover (2008) to measure OL. Through structural equation modeling, they found a direct relationship ($\beta = 0.35$) between transformational leadership and OL (Noruzy et al., 2013). Additionally, Manshadi et al. (2014) used similar methodology, though different measures, to isolate the aspects of transformational leadership—idealized influence and individual consideration—that best predicted OL.

In contrast, Vargas (2015) analyzed the literature using analytic-synthetic methodology and concluded that the modern leader should be able to invoke different leadership styles simultaneously in order to facilitate OL—that is, a combination of styles

would be most effective. Specific to libraries, Castiglione (2006) called for an assessment of transformational versus transactional leadership in relation to OL in libraries. However, over 10 years later, no researchers have answered that call.

Variables, such as transformational leadership, that increase the likelihood of an OL climate were reflected in this study in two ways. First, I incorporated questions about leadership, more specifically, the processes used to solve problems in the library, into my qualitative interview questions to obtain a better understanding of the overall OL environment of the libraries in FPCUs. Second, because transformational leadership is likely to increase OL, identifying aspects of that style may prove to be helpful in improving the OL climates of these libraries. I included such insights in the project resulting from this study.

Organizational change. OL is often associated with organizational change. Organizational change takes place when an organization transitions from its current state to a new, desired state. That change is said to be *sustainable*, or *transformational*, when the new processes and ways of working become the norm, and when the changes are incorporated into the shared theory in-use of the organization (Buchanan et al., 2005). *Theory in-use* represents the actuality of what the organization does, as opposed to the *espoused theory*, which is what the organization says it does. For example, an organization may say it supports employee learning at all levels (espoused theory), but in actuality does not reward professional development or permit paid time off for training (theory in-use). Often, the people within the organizations, both staff and management, are not aware of the gap between their espoused theories and theories in-use.

Implied in this idea of sustainability in organizational change is that the change, at least when intentionally implemented, is a positive one, though that is not always the case. In general, researchers have found that OL facilitates organizational change (Boyce, 2003; Mayer, LeChasseur, Donaldson, & Cobb, 2013; Zucchermaglio, Bagnara, & Stucky, 2012), especially when the OL is based in double-loop learning (Argyris, 2004; Argyris & Schön, 1978).

Modern organizations, and especially libraries (Limwichitr et al., 2015; Michalak, 2012), must constantly adapt. The Internet has changed the information landscape, and libraries have a constant need to prove their value and become leaders of technological developments that affect information (Attis, 2013). Because of this, the positive relationship between organizational change and OL speaks to the importance of an OL strategy. Studies on organizational change in academic libraries revolve around either OL (Limwichitr et al., 2015; McGuigan, 2012) or leadership (Carter, 2014; Farkas, 2013; Martin, 2016; Sucozhañay et al., 2014; Yi, 2015). While the leaders of academic libraries may not always be able to control the changes affecting them, they can proactively strengthen the OL dynamics of their libraries to better recognize and adapt to change.

Innovation. Innovation is a much-touted concept in the literature, and is often positively associated with OL. Dias and Escoval (2015), for example, defined *innovation* as "the implementation of a new or significantly improved product/service or process" (p. 53). Most other definitions also incorporate this concept of implementing something new. Recent studies originating in Pakistan (Kalyar & Rafi, 2013), Iran (Tohidi, Seyedaliakbar, & Mandegari, 2012), Spain (Santos-Vijande, López-Sánchez, &

Trespalacios, 2012), Portugal (Dias & Escoval, 2015), and China (Zeng, Gonzalez, & Lobato, 2015) all concluded that OL had a significant positive relationship with innovation.

Though most of these studies used quantitative questionnaires, Dias and Escoval (2015) took a mixed-methods approach, incorporating questionnaires, interviews, and a nominal group technique, which is a group brainstorming session structured to encourage everyone's participation (Tague, 2005). They found three levels of learning organizations among 95 hospitals in Portugal. The levels were based on how many OL tactics the hospitals used: 0-4 for basic, 5-8 for moderate, and more than 9 for advanced. The advanced learning organizations were 5 times more likely to develop innovation than the basic learning organizations (Dias & Escoval, 2015). In contrast with the results discussed thus far, Calisir, Gumussoy, and Guzelsoy (2013), studied 150 companies in Turkey and concluded that the relationship between commitment to learning and product innovation was insignificant. However, in this study, the researchers defined commitment to learning as "the readiness of the organization to change the way it does things by combining existing knowledge or incorporating new knowledge" (Calisir et al., 2013, p. 179). Though this concept is most definitely related to OL, the nuanced differences may account for the discrepant results.

Chiva, Ghauri, and Alegre (2014) took issue with the traditional view that the relationship between OL and innovation is one of linear causality. Instead, they suggested that OL and innovation form a complex system interacting with each other. For example, an OL environment may encourage innovation, but innovation can also help produce new

knowledge, which feeds into OL processes (Chiva et al., 2014). Both Argyris and Schön's (1978) double-loop learning theory and Senge's (1990) emphasis on systems thinking support complex over linear relationships between such variables.

Taking the concept a step further, Sheng and Chien (2016) investigated the effect of OL on two distinct kinds of innovation—incremental and radical. They found that while OL has a strong positive effect on incremental innovation, it may inhibit radical innovation, at least in high tech companies in Taiwan.

Finally, Balk, Kwant, and Neudecker (2014) explored innovation in a library setting—the National Library of the Netherlands. They developed a checklist of factors that determine innovation capacity of libraries, and included knowledge and OL as one of the factors. They further divided that factor into four sub factors: requisite variety: diversity of teams, innovation budget/transaction budget, learning from failure, and absorptive capacity for external knowledge. Balk et al. applied their checklist to two case studies of innovation at the National Library of the Netherlands to ensure the factors they identified were valid in a real-life scenario of innovation. In other words, did each factor contribute to the success of the innovative project? Together, the cases ticked 11 of the 14 factors on the checklist, which the authors concluded "demonstrates the relevance of the checklist" (Balk et al., 2014, p. 165). However, it is interesting to note that of the four knowledge and OL factors, only two—requisite variety: diversity of teams and innovation budget/transaction budget—appeared in the case scenarios. Further research would be needed to determine what effect, if any, the four knowledge and OL factors actually have on the success of innovative projects in libraries.

As in the case of organizational change, innovation is an essential aspect of doing business in the modern world. Developing an OL culture can help organizations become more innovative. OL is an important factor of success, and cultivating OL capabilities could have important positive outcomes for the libraries in FPCUs.

Libraries. As OL theory has been applied to a wide range of disciplines, it is no surprise that researchers have studied academic libraries through the lens of OL and its subcategories. As early as 1993, researchers explored the implications of OL and the learning organization on academic libraries (Fowler, 1998; Phipps, 1993; Riggs, 1997). More recently, research surrounding OL concepts in academic libraries has focused on individual learning as a pathway to OL (Leong, Phillips, Giddens, & Dickson, 2014; T. Yu, 2013; Yu & Chen, 2015), KM (Agarwal & Islam, 2014, 2015, Chidambaranathan & Rani, 2015b, 2015a; Islam, Agarwal, & Ikeda, 2014; Islam et al., 2015), the application of OL principles to special projects (Al-Harrasi, 2014; Beagle, 2012; Crawley-Low, 2013; Loo & Dupuis, 2015), and predictors of OL (Bertram-Elliott, 2015; Chidambaranathan & Rani, 2015b; Huang, 2014).

In a literature review, Limwichitr, Broady-Preston, and Ellis (2015) identified key challenges in building a learning organization within a university library context. One point to note is that some librarians may become confused by the distinction between their role in helping students and faculty learn, and their own individual learning to contribute to the organizational knowledge of the library (Limwichitr et al., 2015). The authors urged a clarification of the concepts relating to OL for academic libraries so

library leaders can better implement these concepts. They cited a lack of current literature where these concepts are clearly outlined for effective application in academic libraries.

Past OL researchers suggested that individual learning is an important first step for OL (Antonacopoulou, 2006; Argote et al., 2003; Hayes & Allinson, 1998; Kim, 1993; Senge, 1990; Simon, 1991). Leong et al. (2014) asked three key rhetorical questions regarding continuing professional development for library and information science professionals: (a) “Are we willing to learn?” (b) “Do we have opportunities to learn?” and (c) “Are we able to apply what we learn?" (p. 6). The first question speaks to the idea of motivation. Leong et al. concluded that leaders and managers play an important role in promoting the motivation for individuals to learn within an organization. Pursuant to the second question, leaders also support individuals in opportunities to learn by providing the time and the budget for them to do so. Finally, knowledge transfer is an important next step. Library employees must share what they’ve learned with their colleagues in order to transfer the knowledge into OL (Leong et al., 2014).

Yu and Chen (2015) similarly investigated individual learning and its contributions toward OL culture using survey research methods with 478 library employees from 162 colleges and universities. They focused on academic libraries in Taiwan to learn what methods library employees were using to learn, and what effect these methods have on organizational knowledge performance. They found that most library employees learn through informal self-learning rather than more formal workshops, degree-based courses, training, or seminars (Yu & Chen, 2015). Additionally, the authors suggested that “creating continuous learning opportunities” and “creating

systems to capture and share learning" contribute most significantly to OL culture (Yu & Chen, 2015). In another study, Bertram-Elliott (2015) found that the best predictor of OL capacity in academic libraries was support for professional development, even if it was only encouragement without financial support. Each of these studies identified the importance of incorporating information about individual learning, perhaps in the form of professional development, into the overall OL picture.

However, in a study conducted in Taiwan, Huang (2014) found that librarians were learning, but the knowledge was not necessarily transferring to the organizational level, demonstrating the importance of KM to OL. Two groups of researchers, in particular, have completed quite a bit of research in this area over the last several years. Agarwal and Islam (2014) explored the tools available to use in KM implementation in libraries, but found that no single set of tools was applicable to every library or every situation; furthermore, technology tools are meant to support KM activities, but more important are the people and processes involved. Islam, Agarwal, and Ikeda (2014) found that librarians were more familiar with the concept of KM than previously thought. The study was extensive, surveying 101 librarians from 35 different countries. However, a related study by Agarwal and Islam (2015) concluded that most libraries did not yet have a formal KM program. Taken together, these findings suggest that though librarians are aware of KM, they do not implement it. An exploratory qualitative survey with open-ended questions, administered by the same group of researchers (Islam et al., 2015) indicated that KM in libraries can improve communication and promote a culture of sharing, with 94% of respondents believing that KM can help libraries provide more

innovative service. However, this study was preliminary—its low response rate (24%) and small sample size (n = 17) discount the reliability of the data.

At the same time, Chidambaranathan and Rani (2015a, 2015b) researched KM in a survey of 122 library employees from 16 academic libraries in Qatar. They found that certain types of organizational cultures, namely clan culture (high commitment workplace, focused on teamwork), adhocracy culture (high creativity/innovation workplace, focused on autonomy and initiative), and market culture (results-oriented, competitive workplace, focused on achievement) are positively correlated with KM, with Pearson coefficients of 0.69, 0.61, and 0.35, respectively (Chidambaranathan & Rani, 2015a). The fourth type—hierarchy culture, which is characterized by a formal and structured workplace with a focus on dependability—had a slightly negative relationship with KM, r = -0.07 (Chidambaranathan & Rani, 2015a). Leaders wishing to promote KM in their libraries would therefore probably not benefit as much from creating a hierarchy culture. The same researchers tested correlations between certain demographic and employment-related characteristics and KM activities (Chidambaranathan & Rani, 2015b). The demographics of the library employees—including gender, level of education, age, and nationality—were not related to KM activities in the libraries (Chidambaranathan & Rani, 2015b). Similarly, many of the employment-related characteristics, including the hierarchy of positions and job tenure of respondents, were not significantly correlated with KM activities (Chidambaranathan & Rani, 2015b). One factor—the type of institution—was related to KM; libraries at the private Qatar Foundation institutions scored higher than the libraries at government-run institutions

(Chidambaranathan & Rani, 2015b). Both of these studies resulted from analyses of the same data set, collected with a 62% response rate in Qatar. Even still, the application of the results outside of that country is questionable.

Several libraries have applied OL principles to guide special projects. For example, Al-Harrasi (2014) successfully applied OL to facilitate collaboration between Omani academic libraries. Beagle (2012) viewed learning commons through the lens of OL and concluded that a learning commons is the "effect conduit" (p. 534) between individual and OL, which means that it facilitates the transfer of knowledge from individuals to the organization by providing a designated place to share information. Crawley-Low (2013) investigated the OL implications of the University of Saskatchewan's Library Leadership Development Program through qualitative surveys with 21 library employees who completed the program. The researcher found that "the library's investment in learning" (Crawley-Low, 2013, p. 60) enabled more than 50 library employees to better embody the principles that lead to OL.

Finally, Loo and Dupuis (2015) took a micro-level view of OL by applying its principles to the process of library enhancement planning. Through a qualitative evaluation methodology, they concluded that "organizational learning is about action: to broadly gather information about an organization, to create knowledge from it, and then to use this knowledge to improve the organization" (Loo & Dupuis, 2015, p. 675). They also listed best practices for OL in academic libraries:

- "receptivity to change,
- alignment with institutional goals and outcomes,

- systems thinking,
- collaborative efforts,
- assessment,
- learning,
- communication, and
- continuous and cyclical activities" (Loo & Dupuis, 2015, pp. 675-676).

The best practices and varied applications of OL as outlined in the literature identify the key conditions that are important to note when qualitatively assessing OL in libraries at FPCUs.

In addition to Chidambaranathan and Rani's (2015b) work on the predictors of OL in academic libraries, several other researchers have explored this topic recently as well. Huang (2014) surveyed 286 academic librarians in Taiwan and found the following:

- larger libraries engaged in more organizational knowledge activities than smaller libraries;
- permanent staff members engaged in more organizational knowledge activities than temporary staff members;
- managers engaged in more organizational knowledge activities than non-managers;
- librarians with more years of experience engaged in more OL activities than newer librarians;

- librarians with higher levels of education scored higher for knowledge acquisition activities, but not for knowledge absorption, sharing, obstacles, or transfer (Huang, 2014).

Huang's findings indicate that large libraries with permanent staff members would be more likely to have high levels of OL capabilities than small libraries with many temporary (i.e., adjunct) staff members, at least in Taiwan.

In a quantitative survey of 376 library employees in the United States, Bertram-Elliott (2015) found predictors similar to those in Huang's (2014) study. The researcher used Chen's (2006) instrument to measure OL in the libraries studied. Bertram-Elliott noted higher OL capacity for the libraries of respondents who had administrative duties and higher ranks (e.g., managers). Likewise, libraries of employees with more experience were found to have greater OL capacity than those with newer library workers.

Adding a new layer to Huang's (2014) findings on library size, Bertram-Elliott (2015) found that libraries serving fewer FTE students and with fewer students per librarian had higher OL scores. Huang measured library size by the number of library staff members, with no consideration of students served or librarian-to-student ratios. Bertram-Elliott considered these additional aspects of library size and found that high numbers of library staff members combined with low numbers of FTE students produced some of the highest OL scores. The results indicated that library staff members with a comfortable work load due to sufficient staff size can spend more time learning and sharing their knowledge to increase OL in the library.

Bertram-Elliott's (2015) research was the only study found in the literature related specifically to OL in libraries in FPCUs. Of the 376 respondents, 15, or 4%, were from FPCUs. Based on this small sample, the researcher noted that the mean OL score for libraries in FPCUs was 2.16, compared to an overall average of 2.17. Both scores fall into the medium level of OL capacity, according to Bertram-Elliott's categories. Bertram-Elliott maintained that libraries should be functioning in the high level of OL in order to meet the current challenges facing academic libraries. While these data on OL in libraries in FPCUs is a start, the number of participating FPCU library employees was small. A study focused solely on this type of library would better gauge the OL capacity of libraries in FPCUs.

Review of the Broader Problem

The value of academic libraries. The traditional assumption has long been that academic libraries benefit students. However, as the role of the library has shifted away from a repository for books, and more resources become available electronically, institutions and their stakeholders have begun to question what value academic libraries offer in a digital world (Oakleaf, 2011). As a result, academic librarians have conducted and published research to concretely demonstrate the benefits of academic libraries. Oakleaf (2015) credited Kuh and Gonyea (2003) with ushering in the era of measuring academic library value. Since then, the advantages of academic libraries for students in four key areas have emerged: learning, engagement, retention, and achievement. These areas do overlap, particularly in that learning and engagement contribute to both retention and achievement (Kuh, Cruce, Shoup, Kinzie, & Gonyea, 2008; Webber, Krylow, &

Zhang, 2013). Other researchers have explored the ROI of academic libraries (Kingma & McClure, 2015), commonly considered to be cost centers (Goldstein, 2012) or even "bottomless pits" (Munn, 1968, p. 58) in an institutional budget.

Student achievement. Achievement, typically expressed as grade point average (GPA), is a common measure for assessing student outcomes in higher education. Researchers have conducted more than 15 studies in recent years that positively correlate aspects of academic libraries with higher student GPA. Most of these focus on library use. For example, Cherry, Rollins, and Evans (2013) used library online login statistics and GPA data for 2,900 undergraduate students—the entire undergraduate population of the university—to calculate the relationship between the two variables. They found that, in general, the higher a student's GPA, the more times that student logged in to the library's online resources, based on the average number of log-ins per unique login ID, broken up into five GPA ranges (Cherry et al., 2013). Additionally, the researchers found a correlation between number of log-ins and GPA based on the academic disciplines of the students. Of the eight disciplines, the researchers found weak correlations in six, a moderate correlation in one, and a small negative correlation in one. These results do not prove causation or report on what students did once they logged in to the library's online resources, but do suggest a link between library use and academic achievement.

Likewise, Soria, Fransen, and Nackerud (2013, 2014) used student log-in data, combined with attendance at workshops or course-integrated instruction, to calculate relationships between library use and GPA of 5,162 first-year, non-transfer students at a

large public university. They found that students who used the library during their first semester had GPAs about 0.2 points higher than those who did not use the library, $p < .001$ (Soria et al., 2013, 2014). Furthermore, Soria et al. found that six specific kinds of library use were most significantly and positively linked with student achievement: using library workstations, using online databases, using electronic journals, checking out books, consulting with a peer research assistant, and meeting with a reference librarian. Soria, Fransen, and Nackerud (2017) extracted data for 1,068 students from their previous data set of first-year, non-transfer students at a large public university to investigate further. This set of students had taken the Student Experience in the Research University (SERU) survey, which included questions on academic library usage. The updated study provided additional insight into library use and student GPA, specifically that students who participated in library instruction sessions (in class or separate workshops) were more likely to have a higher GPA during that semester.

Allison (2015) conducted similar research linking library usage to GPA, but included graduate students as well as undergraduates. The researcher collected data for two academic years: 20,040 students in 2011-2012 and 21,564 students in 2012-2013, focusing specifically on students enrolled at the university in both academic years (14,722 students) and students enrolled during the 2011-2012 academic year but not the 2012-2013 academic year (7,078 students). Allison defined library use as library checkouts and off-campus log-ins to online library resources. The findings indicated that undergraduate students with higher-than-average GPAs used the library more than undergraduate students with lower-than-average GPAs (Allison, 2015). Again, a

limitation is that the results do not indicate causation. It is unclear whether using the library causes students to get better grades, or whether good students are naturally more prone to use the library.

Like in previous studies, Kot and Jones (2015) linked library usage—in this case measured by use of library workstations, use of library study rooms, and attendance at research clinics—to student GPA. However, they used a propensity score matching method to construct groups of library users and nonusers among 8,652 full-time undergraduate students at a large, public research university, meaning that students were grouped according to background characteristics, making it possible to better estimate the effect of library usage over other characteristics. Their results indicated that some groups of students were more likely than others to use library resources, regardless of GPA. For example, on-campus students were less likely to use library computer work stations than students who did not live on campus (Kot & Jones, 2015). After adjusting for student characteristics, the treatment group had average GPAs higher than the control group, with using a library study room at least once during the term providing the largest difference in GPA.

Student retention. Another area where academic libraries add value to the higher education experience is in student retention. Persistence between the first and second year of undergraduate studies, and through to graduation, is a commonly used measure of quality for higher education. Researchers have indicated that the academic library can be instrumental in preventing student attrition. Tinto (1999) discussed four conditions that best support student retention: information/advice, support, involvement, and learning.

Libraries contribute to each of these factors, with student learning addressed in this literature review as one of the four areas in which researchers have found academic libraries benefit students. I will discuss information/advice, support, and involvement in terms of student retention.

First, libraries can provide information and advice to students, even unrelated to library resources and services. Grallo, Chalmers, and Baker (2012) recorded student questions at the library reference and circulation desks for 2-week periods at several points throughout three semesters. They found that 47% of questions were unrelated to library research and concluded that "students were looking to the library for help with learning how to function in their new environment" (Grallo et al., 2012, p. 189).

Second, libraries can support students in their studies. Fleming-May, Mays, and Radom (2015) discussed the learning community in which the library participated at the University of Tennessee, Knoxville. The program was invitation-only and targeted students wait-listed for admission with the goal of helping them transition from high school to college during the summer before their first college semester. In this context, librarians taught a series of workshops intended to orient students to the resources available to them in the library and prepare them for the research assignments their instructors would assign in their courses. According to posttest results, 81% of students said they would be more likely to ask a librarian for help with research after attending the workshops, versus 57% in the pretest reporting sometimes, often, or never asking for help with research (Fleming-May et al., 2015). Further, the researchers administered a follow-

up survey 6 months after the workshops; 82% of students reported having used the library in the previous semester.

Murray (2015) administered a mixed-methods survey to library deans or directors at 271 public universities in the United States. The survey contained Likert-style questions to gauge libraries' self-reported involvement in 10 high-impact practices for student retention, as identified by the American Association of Colleges & Universities (AAC&U). The survey also included prompts for qualitative responses on how the library supported the high-impact practices. The 10 high-impact practices are:

- first-year seminars and experiences,
- common intellectual experiences,
- learning communities,
- writing-intensive courses,
- collaborative assignments,
- undergraduate research,
- diversity and global learning,
- service learning/community-based learning,
- internships, and
- capstone courses/projects (Kuh, 2008).

In all, the library deans and directors reported high involvement in the 10 practices, regardless of how long the dean or director had been in the position, or what faculty rank librarians at the institution held (Murray, 2015). In supporting the 10 practices, libraries are supporting the students, one of Tinto's (1999) four conditions for optimal retention.

Finally, library use can be considered a way students involve themselves in the campus community, which then contributes to student retention. For example, Haddow (2013) quantitatively analyzed library use data—measured by log-ins to electronic resources and physical library checkouts—and student persistence information of 6,330 undergraduate students in their first 18 months of study at a university with campuses in Australia, Malaysia, and Singapore. Haddow analyzed retention and library use data at three points for students who were enrolled in April 2010, June 2010, April 2011, and June 2011. The author compared library use data from students who persisted in their studies with those who withdrew, and found that withdrawn students had no library use, based on the data collected, more than twice as often as students who remained enrolled. For example, based on students enrolled in April 2011 (n = 4,883), 58.3% of students who had withdrawn by June 2011 had zero library logins, compared with 17.6% of students who persisted to June 2011. Likewise, 29.3% of students who persisted to June 2011 had more than 26 library logins, compared to 5% of withdrawn students (Haddow, 2013).

Murray, Ireland, and Hackathorn (2016) performed research similar to Haddow's (2013), but reached more conclusive results. Murray et al. analyzed records from 3,757 freshman and sophomore students at a large, public university in the Midwest United States. The records included library use—measured by physical check outs, use of electronic resources, library computer lab usage, use of the interlibrary loan service, participation in library instruction sessions, enrollment in credit-bearing information literacy courses, use of the library-managed writing center, and use of the library-

managed oral communication center—with different kinds of library use analyzed as separate variables, as well as collated into library use as a whole (Murray et al., 2016). They found that library use as a whole predicted retention—freshman students who used the library during their first spring semester were 9.54 times more likely to persist into the following fall semester, and sophomore students who used the library during the spring semester were 4.23 times more likely to persist into the following fall semester. The two library use variables that best predicted retention overall were check outs and use of electronic resources (Murray et al., 2016).

Because student retention is a "complex interplay of forces" (Tinto, 1993, p. 3), it is difficult to show causation between specific factors and their influence on student attrition. Demonstrating links between library use and retention, rather than establishing that lack of library use is a cause of attrition, is the primary weakness in studies on the topic. However, in lieu of better data, the available studies do suggest a positive relationship between library use and retention.

Student learning. Menchaca (2014) recently wrote that the need to track and improve undergraduate student learning is at a critical mass in higher education in the United States, citing Arum and Roksa's (2010) widely read research spotlighting the "limited learning on college campuses" (p. 120). Menchaca called on libraries to become "the training facilities where undergraduates go to develop the 'habits of mind' they need to succeed" (p. 364). Library involvement in student learning typically centers on information literacy. *Information literacy* is "the set of integrated abilities encompassing the reflective discovery of information, the understanding of how information is produced

and valued, and the use of information in creating new knowledge and participating ethically in communities of learning" (ACRL, 2016, para. 5). To help students learn the skills and abilities information literacy encompasses, librarians use a variety of practices and pedagogies categorized in toto as information literacy instruction or library instruction.

Pan et al. (2014) conducted a study at the University of Colorado Denver by engaging in librarian-faculty collaboration to create curriculum models centering on information literacy skills for beginning science students. The researchers created two complementary models, one taught in the fall semester and the other in the spring semester, and tested the models over 3 academic years. Their data were quantitative and qualitative, collected throughout the 3-year period and including follow ups with some students 1 and 2 years after the students completed the curriculum models. They found that the information literacy skills students learned in the target courses transferred to 21 other courses, including three in other disciplines, based on student-reported information in a qualitative survey (Pan et al., 2014). In a companion study by the same authors, Bruehl, Pan, and Ferrer-Vinent (2015) elaborated on the results of the qualitative follow-up survey. Based on coding of responses, the researchers found that the majority of students who responded (37 out of 88 polled) reported they valued the information literacy skills they gained during the two courses; 51% reported they continued to use the skills in their other coursework, and 19% reported they used the skills to satisfy their personal curiosity about science topics (Bruehl et al., 2015).

Another team of researchers, Squibb and Mikkelsen (2016), also used collaboration between faculty and librarians to help students learn information literacy skills. In their study, librarians and writing faculty designed a project called Teaching Research and Information Literacy (TRAIL), which embedded librarians into introductory composition courses at a research university. The team assessed TRAIL using a mixed-methods approach that combined course grades, GPAs, student reflections, final student papers, and faculty debriefs (Squibb & Mikkelsen, 2016). The researchers evaluated the qualitative data based on an original rubric designed to ascertain a student's level of performance on six information literacy abilities, including appropriate source selection, overcoming research challenges, and incorporating new information into existing practice. For each ability, evaluators rated students as marginal, emerging, developing, or advanced. Overall, 17.2% of students scored at the advanced level and 53.5% scored at the developing level (Squibb & Mikkelsen, 2016). Faculty members teaching the composition courses agreed that students in the courses using TRAIL exhibited better information literacy by the end of the course, especially in their abilities to "engage with research as an ongoing process" (Squibb & Mikkelsen, 2016, p. 170), than students in non-TRAIL courses.

Embedding librarians into first-year courses proved successful for Rae and Hunn (2015) as well. Their project consisted of a librarian-created online module available to over 1,000 students enrolled in an introductory business course. The module covered eight academic and information literacy topics:

- navigating the library website,

- unpacking the question,
- scholarly and peer-reviewed journal articles,
- searching the library catalogue,
- writing the plan,
- searching Google Scholar,
- writing the essay, and
- referencing (Rae & Hunn, 2015, p. 97).

The researchers collected mixed-method assessment data over two semesters, including inferred evidence such as usage statistics for the module, performance measures using student artifacts, and solicited evidence in the form of study surveys, focus groups, and interviews. In both semesters, more than 90% of students accessed the module, and the final essay grades for students who accessed the module were higher than for the students who did not (Rae & Hunn, 2015). While these data do not speak directly to student learning, the focus group and interview responses provided evidence that students learned as a result of using the module. For example, one comment from a student was “Had no idea what to do and resource gave me lots of ideas of what to do” (Rae & Hunn, 2015, p. 104). A comment from a tutor for the business course affirmed that the module “was a valuable learning and teaching tool” (Rae & Hunn, 2015, p. 105) to which they often referred students.

As educators, including librarians, continue to look for authentic means of assessing student learning, the influence of typical pedagogies and practices will become

clearer. In the meantime, the available research demonstrates that librarians contribute to student learning in the realm of information literacy.

Student engagement. Student engagement plays a role in achievement, retention, and learning, and so is an important area of influence in higher education. According to reports in the literature, libraries play a role in supporting student engagement and have employed unique and creative ways of doing so. Walsh (2014), for example, implemented a gamification platform, which was designed to make normal library activities more competitive and fun. To evaluate the effects of the platform, Walsh analyzed usage data, results of two mixed-methods surveys, and qualitative unprompted feedback on social media. For example, one user posted on Facebook: "Currently using the Lemontree app, and I've got to say gamifying my visits to the library is a smart move. Heck, got me up here more often" (Walsh, 2014, p. 46). One evaluation survey targeted users who had been registered on the platform for at least one semester. Of 762 users in that population, the researcher received 156 responses, for a 20.5% response rate. Of the respondents, 60% felt that using the gamification platform changed their library usage behavior, including borrowing more books, coming into the library more often, and using more electronic resources. In qualitative responses, participants mentioned "encouraging/incentivising/engaging" (Walsh, 2014, p. 48) as a theme 49 times. Walsh's results indicated that students felt engaged with the library because of the gamification platform, but the results were self-reported and have not been linked to evidence of students actually changing their behaviors because of gamification.

Another example of an academic library program designed to increase student engagement is the use of therapy dogs. Jalongo and McDevitt (2015) presented a case study of three pet therapy visits in three semesters at an academic library as a way for students to de-stress during finals. Across the events, 449 participants completed surveys, which included some quantitative questions and some qualitative questions. The qualitative responses revealed high levels of student engagement. For example, one student wrote: “These dogs made me want to go to the library more than anything academically related has and they are a great stress reliever” (Jalongo & McDevitt, 2015, p. 264). Other experiences with play-based programs in academic libraries are reported throughout the literature (Galway, Gard, & Collinson, 2014; Hiebert & Theriault, 2012), but have not been scientifically evaluated to determine links to student engagement.

In addition to unique programs like gamification and therapy dogs, traditional library use contributes to student engagement as well. Soria, Fransen, and Nackerud (2017) studied 1,068 non-transfer first-year students at a large, state university in the United States. Based on student results on the SERU survey, which measures student engagement along with other factors, and student library use statistics—consisting of use of online library services, use of physical collections, and interactions with library staff members—Soria et al. used hierarchal regressions analyses to calculate relationships between student engagement and library use. They found positive and significant correlations between three specific types of library use and student engagement: use of library books (traditional checkouts, eBooks, or interlibrary loan requests), use of online library resources, and use of reference services (Soria et al., 2017). They also found that

students' library usage explained a significant amount of the variance in their engagement levels, even after controlling for other variables.

Though the evidence linking academic libraries to student engagement is not fully developed, the formalized studies that exist indicate that libraries contribute to student engagement. They provide programs and activities that encourage students to get involved in the campus community. Importantly, using the academic library in and of itself has been linked to higher student engagement, though direct causation cannot be determined.

Return on investment. In recent years, as libraries have developed new ways to evaluate themselves and their contributions, some researchers have adapted the business idea of ROI to calculate the monetary benefits of academic libraries based on the money institutions of higher education spend on their libraries. Though some, such as Neal (2011), reject such strategies in favor of more robust qualitative exploration of the benefits of academic libraries, many champion ROI as a way for libraries to communicate to administrators and other stakeholders in the medium that makes sense for that audience: dollars (Kelly, Hamasu, & Jones, 2012; Lown & Davis, 2009). Though most researchers conducting ROI projects in academic libraries seek to measure value in terms of assistance with faculty and graduate research, some attempt to tie library value to the undergraduate level by addressing the library's monetary value in terms of student retention.

In determining what *value* means when calculating an academic library ROI, several researchers looked toward the library's most expensive and potentially most

beneficial resources: academic databases and journals. Pan, Wiersma, Williams, and Fong (2013) used both quantitative and qualitative methods to measure the value the library resources brought to the University of Colorado (CU) as a whole. Their methods included ROI, cost benefit analysis, citation analysis of scholarly articles published by faculty, and in-person interviews with faculty.

To calculate ROI, Pan et al. (2013) determined—based on faculty interviews and curriculum vitae—what articles faculty read or cited for their most recent research projects, and which of those the faculty accessed through the library. Then, they determined the cost to the library for those resources and how much faculty members would have had to pay for the articles if they purchased them directly from the publishers instead of accessing them through the library. Pan et al. calculated separate ROIs for each campus they studied: CU Boulder, ROI = 144%; CU Denver, ROI = 66%; and CU Anschutz Medical Campus, ROI = -19%. In this scenario, the ROI represents the benefit to faculty members for every $1 the library spent on journal subscriptions; for example, for every $1 CU Boulder spent on journal subscriptions, faculty members would have received $144 in potential savings (Pan et al., 2013). The variant results from the CU Anschutz Medical Campus may be attributable to the fact that faculty at the medical campus pay fees for articles the library accesses for them through interlibrary loan, while faculty at the other two campuses do not. The calculated ROIs are specific not only to CU, but to the individual campuses the researchers studied; the results are therefore not generalizable. However, the results do indicate that providing resources is one area in which academic libraries provide value.

Elsayed and Saleh (2015) also calculated ROI for the library at their institution, King Abdulaziz University (KAU) in Saudi Arabia, and set forth a ROI model for other librarians in Arab countries to follow. The researchers divided their study into two phases. In the first, they calculated ROI based on total downloads from library subscription databases. They determined an ROI of 6.67:1, meaning that the university would lose $6.67 for every $1.00 it did not spend on library databases. The authors in this scenario reversed the usual phrasing because KAU funds most research. In the second phase, Elsayed and Saleh calculated a second ROI based on a citation analysis of 52 research studies funded through KAU's Deanship of Scientific Research. Based on that data, they determined a ROI of -0.99:1, but determined their sample size was too small for that result to be conclusive.

Several studies on academic library ROI were part of a larger project called LibValue, completed in three phases over 6 years (King & Tenopir, 2013; Tenopir, 2010, 2012, 2013; Tenopir et al., 2010). Kingma and McClure (2015), researchers instrumental throughout the LibValue project, used contingent valuation methodology, including surveys of faculty and students, to determine the ROI of the Syracuse University library. They randomly sampled faculty members, sending online surveys to 222 and receiving responses from 91, which represents a 41% response rate and 9% of the total faculty population. They used a convenience sample to solicit survey responses from 841 students, receiving 782 responses, which represents a 93% response rate and 4% of the total student population. Based on estimations of library value in economic, environmental, and social terms, Kingma and McClure calculated that their library

provided $70.2 million in value of time and money to faculty and students each year, with a ROI of 4.13:1, or $4.13 in value for every $1.00 the university spent on the library.

The authors of two recent studies sought to determine ROI in terms of an academic library's contribution to student retention. Crawford (2015), for example, drew existing data on library expenses, library use, and student retention at 1,328 colleges and universities in the United States from the Integrated Postsecondary Educational Data System (IPEDS) and the Academic Library Survey. To determine relationships between the variables, Crawford employed *t* tests, analysis of variance, and bivariate Pearson's product moment correlations, finding a correlation of 0.490, significant at the 0.01 level, between library expenses per FTE and retention rate. Additionally, Crawford found a correlation of 0.554, significant at the 0.01 level, between library expenses per FTE and graduation rate, based on achieving a bachelor's degree within 4 years (Crawford, 2015).

Eng and Stadler (2015) took an approach similar to Crawford (2015) in that they sought to discover correlations between library expenses and student retention based on national statistics. They collected their data using the ACRL Metrics database, and looked at 2 years—1,179 institutions in 2010 and 1,194 institutions in 2011. Using a Pearson correlation coefficient to analyze the variables, Eng and Stadler found moderate positive relationships between total library expenditures and retention for both years they studied. In 2010, $r = 0.531$ for the relationship between total library expenditures and undergraduate retention; in 2011, $r = 0.592$ (Eng & Stadler, 2015). In both the Crawford and Eng and Stadler studies, the results indicated a positive ROI in that the more an

institution invests in its library, the higher the retention and graduation rates of its students.

However it's calculated, the growing body of research surrounding the value of academic libraries indicates that academic libraries have positive effects on the students they serve, in terms of achievement, retention, learning, and engagement. They provide economic value to faculty members and other researchers through the resources they make available. Finally, investing in academic libraries can make a difference for an institution's bottom-line in terms of supporting tuition-paying students in staying enrolled.

For-profit colleges and universities. FPCUs are colleges and universities in the United States that are not tax-exempt, but rather pay taxes like a business. Milton Friedman, a widely known economist, suggested in an interview with Spencer (1991) that the terms *taxable* and *nontaxable* fit better with the realities of higher education than *non-profit* and *for-profit*. The taxable institutions may be publicly traded, regionally accredited, and owned by larger parent companies. They also may be independently owned by a family or individual, accredited nationally or programmatically, and operated privately. Kinser (2006) identified three categories of FPCUs: enterprise colleges, super systems, and Internet institutions. Enterprise colleges are small and privately owned and operated. Super systems are the FPCU corporations that own multiple institutions with multiple campuses nationally and even worldwide. Finally Internet institutions have no physical campuses and offer all their degree programs and courses online. Some schools could fit into more than one category.

Ruch (2001), focusing specifically on regionally accredited, publicly traded FPCUs, outlined 10 distinctions between FPCUs and traditional colleges and universities:

- tax-paying versus tax-exempt,
- receive funding from investors versus donors,
- accumulate money as private investment capital versus endowments,
- serve stockholders versus stakeholders,
- traditional management model versus shared governance,
- motivated by profit versus motivated by prestige,
- focus on the "application of learning" versus the "cultivation of knowledge" (p. 18),
- market-driven versus discipline-driven,
- emphasize the quality of outcomes versus the quality of inputs, and
- power is centralized in the customer versus in the faculty.

The final point means that FPCUs are focused on customer service, identifying the student as the customer (Iloh, 2016; Schilling, 2013).

History. FPCUs have their historical origins in the very earliest institutions of higher education in the United States. As early as the 1600s, FPCUs were founded as alternatives to elite religious and philosophical schools like Harvard (Beaver, 2009). While schools for the elite members of society focused on the theoretical—Greek, Latin, philosophy, theology, and so forth—the curriculum of early FPCUs was steeped in the practical—writing, languages, surveying, bookkeeping (Bennett, Lucchesi, & Vedder, 2010; Ruch, 2001). The FPCUs provided opportunities for minorities, women, and lower-

class people to train for skills-based jobs. At this time and for the next several hundred years, FPCUs were small, proprietary institutions, often family-owned.

Changes in the FPCU industry began in 1972, when the Higher Education Act was reauthorized and made students at FPCUs eligible for federal financial aid for the first time (Bennett et al., 2010). Bañuelos (2016) argued that "while federal aid gave students the funds to attend FPCUs, labor market forces motivated them to seize these opportunities" (p. 575). Over the next 30 plus years, FPCUs continued to grow, in size and number, to meet the demand created by students with federal aid dollars. Many of these students were mid-career adults, or women raising children, and felt that traditional colleges and universities did not meet their needs (Bañuelos, 2016; Bennett et al., 2010; Ruch, 2001). They found the convenience and flexibility they needed in the FPCUs.

The influx of federal financial aid money to FPCUs also led to an increase in fraud, which in turn led to heavy federal regulation. According to Bennett et al. (2010), by the 1990s, most of the illegitimate schools had been weeded out. Because of this, and because of the move toward regional accreditation, starting with the University of Phoenix and the Keller Graduate School of Management in 1989 (Bañuelos, 2016), the FPCU industry began to enjoy unprecedented legitimacy that matched its incredible growth.

Growth. From 1986 to 2008, traditional colleges and universities grew less than 2% per year on average, while FPCUs grew at an average rate of 8.4% (Bennett et al., 2010). Additionally, the FPCU share of the higher education market grew from 2.4% in 1986 to 9.2% in 2008 (Bennett et al., 2010). Gilpin, Saunders, and Stoddard (2015)

attributed this growth to a responsiveness to labor market changes not found in traditional colleges and universities. Douglass (2012), on the other hand, explained that the rapid growth of the for-profit sector in U.S. higher education is a direct result of growing demand and lack of supply in the higher education market. Because public and non-profit private colleges could not keep up with the demand, FPCUs filled the gap, enrolling the students the traditional colleges and universities could not or would not serve.

FPCU enrollment peaked in 2010 and the sector is now in decline. Down in enrollments, prestige, and legitimacy, FPCUs are fighting government regulations and allegations of predatory behavior against consumers (Blumenstyk, 2016a, 2016b; Field, 2015). Between 2010 and 2015, undergraduate enrollment at FPCUs decreased from 1.7 million students to 1.1 million students, a 38% percent drop (National Center for Education Statistics, 2017). In contrast, public institutions of higher education saw just a 4% drop in undergraduate enrollment, and private nonprofit institutions of higher education actually saw undergraduate enrollment increases of 6% collectively (National Center for Education Statistics, 2017).

Libraries. One aspect of FPCUs that is rarely mentioned in the literature, and even more rarely studied empirically, is their libraries. Ruch (2001) suggested that in the FPCU world, libraries are "basically regarded as an expensive and somewhat marginal utility" (p. 41), in which the institutions would not invest if not for the requirements of their accreditors. Some have no physical library spaces at all (Kirp, 2003; Ruch, 2001), or maintain online collections from a standard package that may or may not support the curriculum (J. Y. Davis et al., 2011). Librarians at FPCUs have reported an institutional

lack of respect for libraries and librarians, who are not “taken seriously” and whose positions are simply “part of compliance” (Watson, 2014, p. 6). However, the picture painted with these anecdotal brushstrokes is not complete. As Ratzan (2002) editorialized 15 years ago, “the plural of anecdote is not evidence” (p. 169). Unfortunately, empirical studies about libraries in FPCUs are scarce.

In fact, J. Y. Davis et al. (2011) reported that they “were unable to find any published research on academic libraries in proprietary schools” (p. 570), and their study remains some of the only research on the topic. As library consultants for the Ohio Board of Regents, the researchers reviewed the libraries of 30 FPCUs in Ohio, collecting qualitative data on their strengths and weaknesses. Thirteen key weaknesses emerged:

- lack of understanding of the purpose of an academic library;
- lack of a library advocate in the organization;
- lack of an appropriately credentialed librarian;
- not understanding the differences between a public library and an academic library;
- lack of space;
- limited use of Web site;
- overreliance on electronic resources;
- inadequate bibliographic control;
- lack of standard services;
- lack of demand on the part of students and faculty;
- lack of curricular needs for a library;

- lack of interest in lifelong learning; and
- lack of academic qualifications in leadership (J. Y. Davis et al., 2011, pp. 574–577).

Strengths included (a) focusing on the student, (b) career services, (c) responsiveness to needed teaching improvement, (d) using tools from the business world, and (e) use of public libraries (J. Y. Davis et al., 2011, pp. 578–580).

J. Y. Davis et al. (2011) concluded that while some of the larger, corporate FPCUs they visited were on par with the libraries at traditional colleges and universities, "the majority of career schools had libraries that were inadequate" and that lacked "the foundational support accorded to libraries at traditional, nonprofit institutions and, therefore, trail them in both the scope and quality of their library services" (p. 580). Their most noteworthy recommendation was that FPCUs employ properly credentialed, professional librarians. They found that even in institutions that lacked support for the work and purpose of academic libraries, a "hardworking, well-qualified librarian" (J. Y. Davis et al., 2011, p. 580) could, over time, successfully collaborate with students, faculty members, and administrators to raise the profile and substance of the library on campus.

Since J. Y. Davis et al. (2011) published their study and called for additional research into the libraries at FPCUs, several researchers have obliged. Wagner (2013) investigated student use of library reference services at one campus of a multi-campus FPCU. Wagner surveyed students registered in two sections of the College Composition I course. Though the return rate was high—30 students out of a potential 39 students, or

76.9% of possible students, completed the survey—the small sample size affects the degree to which the results represent the campus population of 377 full-time students and limits the degree to which the results can be generalized to other FPCUs. The survey contained 10 quantitative questions with an option to answer *Other* and qualitatively explain that response. Respondents were all in their first or second semester at the campus. Wagner concluded that because the majority of students surveyed (21 of 30) indicated they had never used the campus library, the campus librarian should better market the library to students. The results support the idea that libraries are considered marginal or nonessential on some FPCU campuses.

In a case study, Guy and Eimer (2016) explored the interdepartmental collaboration between librarians, faculty, and student advisors at Rasmussen College, a FPCU. In November 2014, the college shifted to a one-stop support model (OSSM), making the student advisor the primary point of contact for students with questions about any aspect of their student services, financial aid, and even academic issues. Previously, the campus-support model meant that each campus employed a librarian to serve the students on that campus directly. Under the new model, librarians were assigned an entire discipline to support, rather than a specific campus. In the OSSM, librarians rarely interacted directly with students. Instead, the student advisors interacted with students and learned the basics of multiple student support services and academic departments to answer student questions. The librarians focused on teaching the advisors the basics of the library, and teaching faculty members the more advanced aspects of the library, so that the advisors and faculty members could, in turn, teach the students (Guy & Eimer,

2016). The case study highlighted how one FPCU library operated to serve students and faculty.

Very few research-based studies focus on the libraries in FPCUs. With hundreds of journals dedicated to library science and education, this dearth of evidence is surprising. The most comprehensive study on libraries in FPCUs is already more than 5 years old. Leaders of professional organizations, like ACRL, may not understand the unique challenges and circumstances librarians in FPCUs face and so are unable to properly support these members, leading to a gap in practice between the ACRL's recommended standards for academic libraries (ACRL, 2011) and the actual conditions in libraries at FPCUs.

Implications

Based on the findings of this study, I wrote a white paper or manual to educate staff members at libraries in FPCUs, such as members of ACRL's LFPEI interest group, about OL and its implications, which could lead to positive social change through libraries being better able to contribute to student learning and success. In turn, the libraries would be more likely to grow and develop, becoming more effective, positively influencing the ever-increasing populations of students who attend FPCUs. I will also present the white paper to the leaders of the LFPEI interest group. They could use the white paper to better understand the challenges and successes of the interest group members in their unique academic environments.

The manual addresses the basics of what OL is and information from the literature on practical steps library employees can take to promote and create an OL environment in

their libraries. The findings from this study informed the manual as well by reporting the library demographic characteristics found to be related to OL capacity. Additionally, having found through the survey and the qualitative interviews that library employees in FPCUs did not receive sufficient support in the form of money or time for their professional development efforts, I will want to ensure the manual is accessible to them.

Summary

Despite the successful application of OL in the arenas of higher education and libraries, a problem exists in the potential gap in practice between what FPCUs in the United States are currently doing and the processes that can help them create OL cultures in their libraries. As FPCUs continue to gain popularity and their academic libraries serve greater numbers of students, understanding how they work and how they can be more effective will be critical for alleviating the gaps in practice at libraries of FPCUs. Archives from LFPEI indicate that barriers such as a lack of extrinsic incentives and the proprietary nature of FPCUs could help explain the lack of literature. However, there is a demand among library employees at FPCUs for research, presentation, and learning opportunities.

A study focused on OL in the libraries of FPCUs can strengthen the body of knowledge and, by disseminating evidence on the topic, may contribute toward higher levels of OL in these libraries and narrowing the gap in practice between what FPCUs are currently doing and the processes that can help them create OL cultures in their libraries.

Through this sequential explanatory mixed-methods study, I asked three research questions—two quantitative and one qualitative—in an effort to assess and explore OL in

the libraries of FPCUs. These research questions were informed by an extensive review of the literature and grounded in the theoretical foundation of OL. Based on the findings of this study, creation of an online manual to educate staff members at libraries in FPCUs, such as members of ACRL's LFPEI interest group, about OL and its implications could lead to positive social change through libraries being better able to contribute to student learning and success.

In Section 2 of this project study, I will discuss the quantitative and qualitative methodology, including rationale for the research design, setting, and sampling procedures. I will also describe the data collection and analysis for both the quantitative and qualitative sequences of the study.

Section 2: The Methodology

Through this sequential explanatory mixed-methods study, I sought to assess and explore OL in FPCU libraries in the United States. Section 2 includes details of the mixed-methods design and approach; in it, I describe the setting and sample, data collection strategies, data analysis, and limitations of the study.

Mixed Method Design and Approach

For this study, I employed a sequential explanatory mixed-method design. First, I administered a quantitative survey to academic library staff members at FPCUs to measure the capacity for OL in these libraries using Chen's (2006) Processes and Phases of Organizational Learning Questionnaire (PPOLQ). I also collected library demographic information such as number of FTE library employees and number of FTE students enrolled at the institution. Then, I conducted a qualitative phase of interviews with library staff member volunteers who returned the survey and expressed interest in participating in the interview phase of the study. The interviews focused on OL processes and habits in their libraries. The information from these interviews strengthened my understanding of the quantitative results, and served to answer the third research question of how library staff members in FPCUs experience OL in their libraries.

Through triangulation of quantitative and qualitative data, I created a multifaceted picture of OL in the libraries of FPCUs. The data from the quantitative survey informed the questions asked during the qualitative interviews. Furthermore, integration of the quantitative and qualitative aspects of the study also occurred during data analysis. Specifically, I compared the themes identified during the qualitative analysis through

coding with the statements from the PPOLQ to identify and corroborate whether the data indicate single-loop learning or double-loop learning occurring in the libraries at FPCUs.

The mixed-methods approach allowed me to identify information about both the level of OL taking place in libraries of FPCUs, and the OL experiences of the employees. Researchers have focused their definitions of mixed-methods research on both the methods themselves (e.g., a mixed-methods study is one that combines both quantitative and qualitative approaches in the methodology; Johnson, Onwuegbuzie, & Turner, 2007), and on the philosophies behind the approach (e.g., focusing on a multifaceted view of a problem or situation; Creswell & Plano Clark, 2011).

I subscribe to Creswell and Plano Clark's (2007) claim that mixed-methods research "provides a better understanding of research problems than either [the quantitative or qualitative] approach alone" (p. 5), and that the data collected from this combined approach have "breadth and depth" that lead to better "understanding and corroboration" (Johnson et al., 2007, p. 123). Because the topic I studied—OL in the libraries of FPCUs—is not well represented in the literature, approaching the problem in two different but mutually-substantiating ways may set a better precedent for future researchers who explore the same issue.

Setting and Sample

The setting for this study was the LFPEI interest group of ACRL. The population for the study was library employees in FPCUs in the United States. However, for practical purposes, the target population was the 584 subscribers to the LFPEI electronic mailing list at the time I conducted the study.

Quantitative Sequence

For the quantitative survey portion of the study, I recruited participants via convenience sampling. Convenience sampling means that "the researcher selects participants because they are willing and available to be studied" (Creswell, 2012, p. 145). I administered the survey online via the LFPEI electronic mailing list, and any subscriber on that list could have opted to participate. Subscribers to the electronic mailing list need not be official members of the interest group.

A power analysis using G*Power (Faul, Erdfelder, Lang, & Buchner, 2007) to determine the necessary sample size indicated that based on the seven independent variables I used for the multiple regression analysis, my target response rate would have been 8%-18%. This means that I would have needed approximately 49 to 103 subscribers to participate to meet the criteria of alpha = .05, and power of .8 to identify a large effect size of .35 or medium effect size of .15, respectively. In actuality, 39 people responded to the survey. I eliminated one of those respondents from the data because the respondent did not work in a FPCU and therefore did not meet the selection criteria for the study. The actual response rate was 6.5%.

In an effort to increase responses, I sent out reminder postings on the electronic mailing list after the initial survey posting on July 11, 2017. The first reminder posting was 2 weeks after the initial posting (July 26, 2017), and the second reminder posting was 1 week after that—3 weeks after the initial posting (August 2, 2017). After I sent out the second reminder email, I became concerned about the response rate for the survey. It was clear that the current rate of responses would not allow me to reach the intended

sample size. Therefore, with Walden IRB approval, on August 4, 2017, I also posted the survey invitation in the LFPEI group on Facebook. According to the tracking statistics provided by Facebook, 20 people in the group viewed my post. However, it resulted in only one additional survey response.

As is typical for online surveys, the landing page for the survey was an informed consent statement. Participants were asked to agree with the statement by clicking a button in order to begin the survey. To protect the participants' confidentiality, I did not ask them to identify themselves as a part of the survey, except voluntarily in order to state their interest in participating in the follow-up qualitative interview portion of the study. In that case, the participants were able to voluntarily disclose their email address.

The survey respondents reported various levels of experience, education, and positions within the FPCU libraries. Table 1 lists the self-reported characteristics of survey respondents in this study.

Table 1

Characteristics of Survey Respondents

Respondent characteristics		Frequency	Percent
Position/rank	Student worker	0	0
	Staff/paraprofessional	1	3
	Professional librarian	13	34
	Professional other	0	0
	Department/area supervisor	9	24
	Head of the library	15	39
Highest degree attained	No college degree	0	0
	Associates degree	0	0
	Bachelor's degree	1	3
	Master's degree	36	95
	Doctorate degree	1	3
Do you have a MLS?	Yes	36	95
	No	2	5
Total years of experience	0-5 years	5	13
	6-10 years	10	26
	11-15 years	5	13
	16-20 years	5	13
	More than 20 years	13	34
Years at current institution	0-5 years	22	58
	6-10 years	13	34
	11-15 years	0	0
	16-20 years	1	3
	More than 20 years	2	5

Note: $N = 38$.

Figures 1 through 5 depict the various demographics of the survey respondents in a visual format that clarifies the makeup of the sample for this study. A typical respondent to the survey was the head of a library with a MLS or similar degree, working in libraries at least 11 years, but at their current institution for 5 or fewer years. However, just as likely, a respondent was a professional librarian with a MLS or similar degree, working in libraries 6-10 years, but at their current institution for 5 or fewer years. The library workers at FPCUs represented in the sample were varied, though almost all respondents reported a master's degree as their highest degree attained, and that master's degree was a MLS or similar degree.

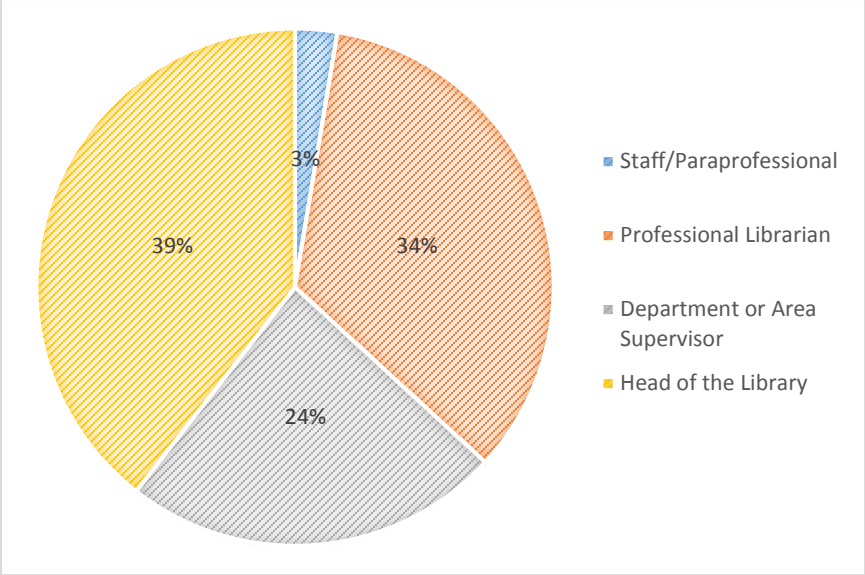

Figure 1. Position or rank of survey respondents.

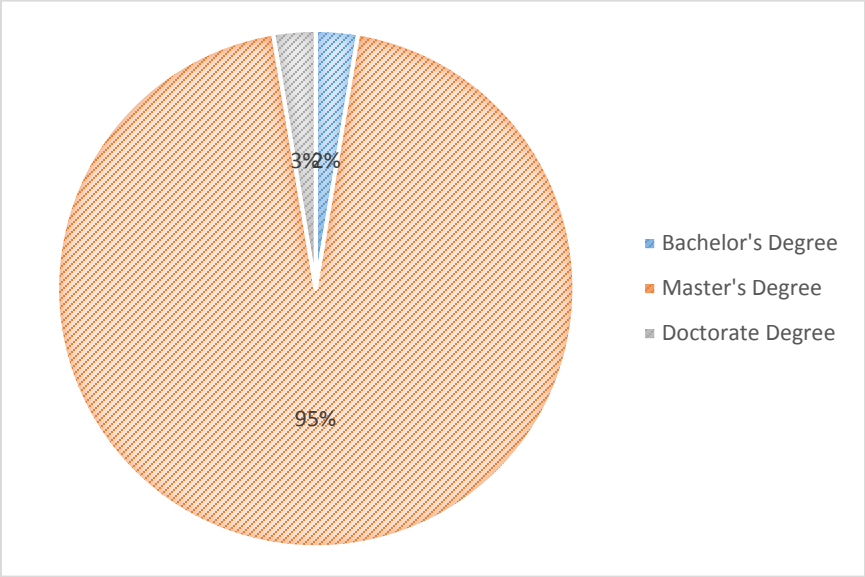

Figure 2. Highest degree attained by survey respondents.

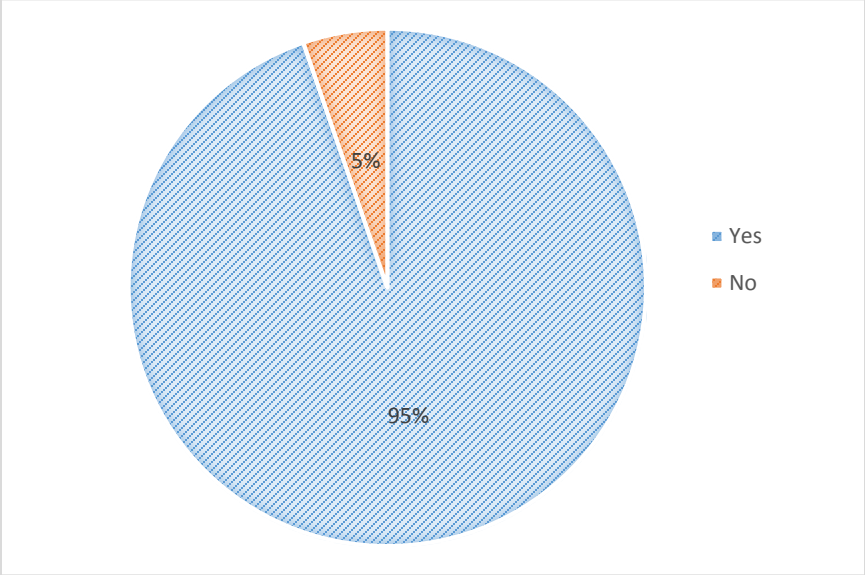

Figure 3. Do survey respondents have a MLS or similar degree?

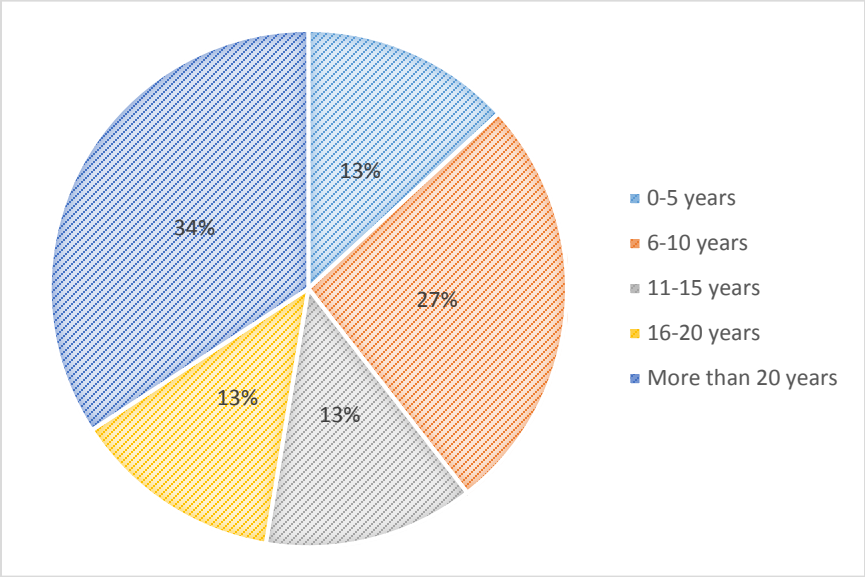

Figure 4. Total number of years survey respondents have worked in libraries.

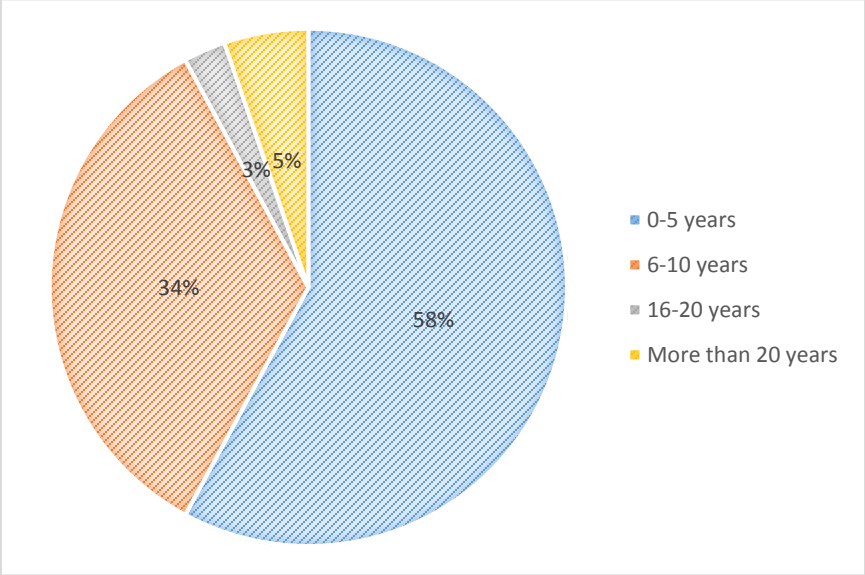

Figure 5. Number of years survey respondents have worked at current institutions.

Table 2

Characteristics of Survey Respondents' Institutions

Institution characteristics		Frequency	Percent
Student enrollment FTE	Fewer than 500	9	24
	500-999	4	11
	1,000-2,999	6	16
	3,000-4,999	1	3
	5,000-6,999	3	8
	7,000-8,999	2	5
	9,000-10,999	0	0
	11,000 or more	13	34
Institutional type	Associate's college	5	13
	Baccalaureate college	15	39
	Master's college or university	7	18
	Doctoral university	7	18
	Special focus institutions	4	11
Does the head of the library have a MLS?	Yes	34	89
	No	4	11
Number of library employees FTE	Fewer than 1	0	0
	1-5	15	39
	6-10	7	18
	11-15	8	21
	16-20	3	8
	21-25	0	0
	26 or more	5	13
Number of librarians FTE	Fewer than 1	2	5
	1-5	15	39
	6-10	11	29
	11-15	4	11
	16-20	2	5
	21-25	1	3
	26 or more	3	8

Note: $N = 38$.

The survey respondents were employed at FPCUs of various sizes and types. Table 2 lists the self-reported characteristics of the institutions for the survey respondents in this study. Figures 6 through 10 depict the various demographics of the survey respondents' institutions in a visual format that clarifies the makeup of the sample for this study. A typical respondent to the survey was from a baccalaureate college with 1,000 or fewer FTE students working in a library headed by a librarian with a MLS or similar degree and staffed by fewer than 5 total library employees, most of them librarians. However, just as likely, a respondent was from a master's or doctoral university with 11,000 or more FTE students, in a library headed by a librarian with a MLS or similar degree, and 11 or more library employees, most of them librarians. The FPCUs in the United States represented in the sample were varied, though almost all have libraries headed by a librarian with a MLS or similar degree.

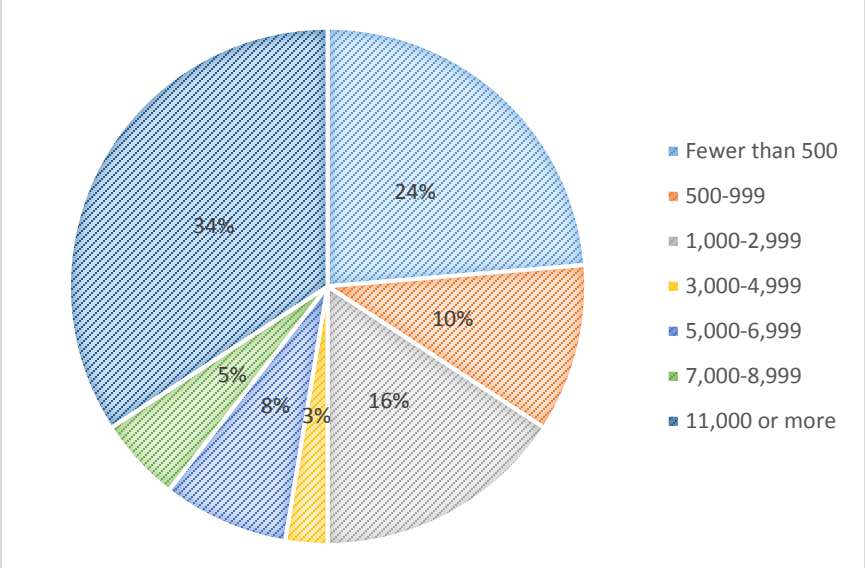

Figure 6. FTE student enrollment at the FPCU.

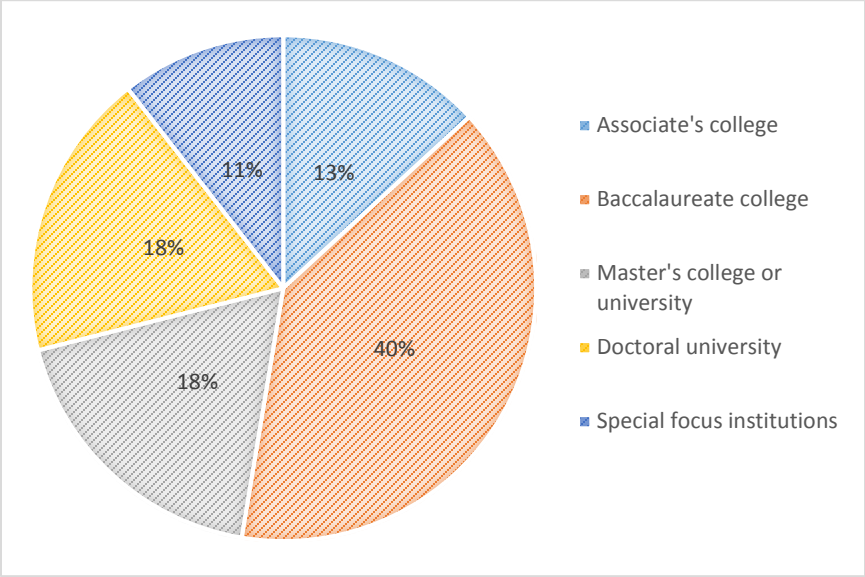

Figure 7. Type of institution based on Carnegie classification.

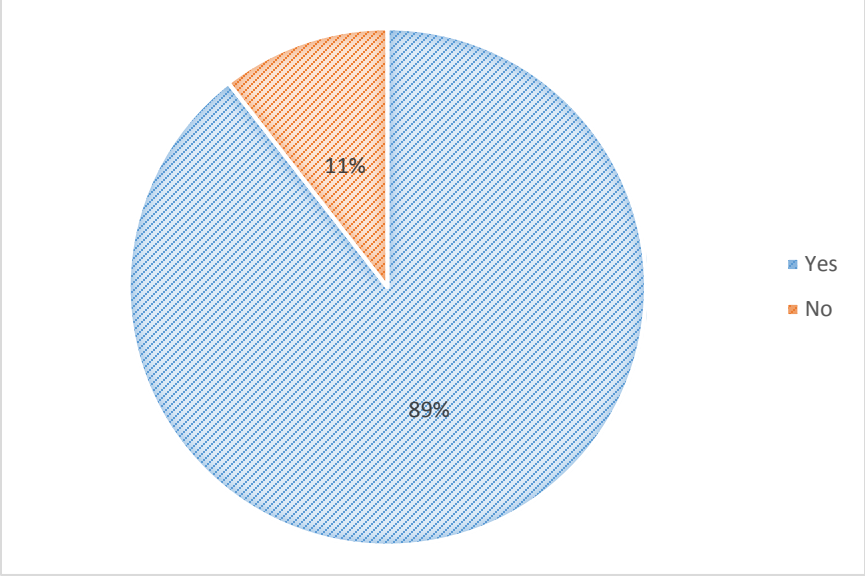

Figure 8. Does the head of the library have a MLS or similar degree?

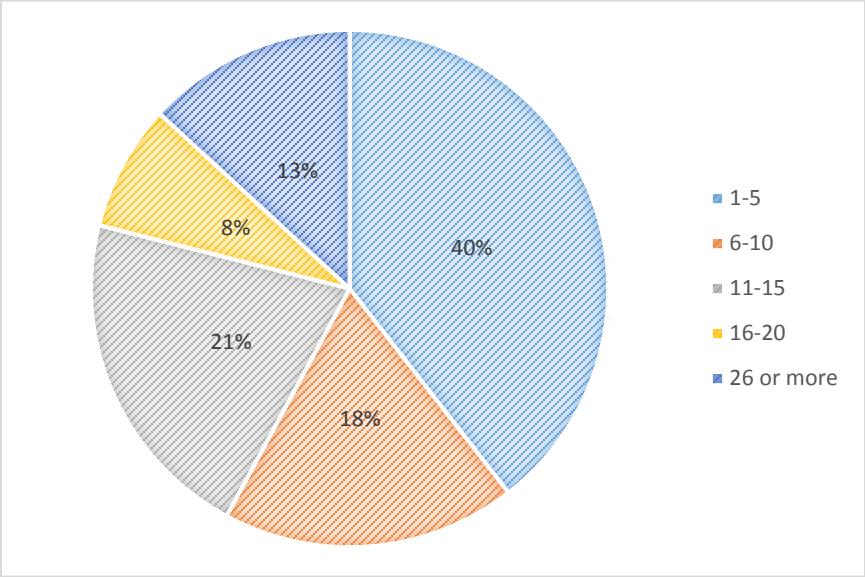

Figure 9. Number of FTE library employees at the FPCU.

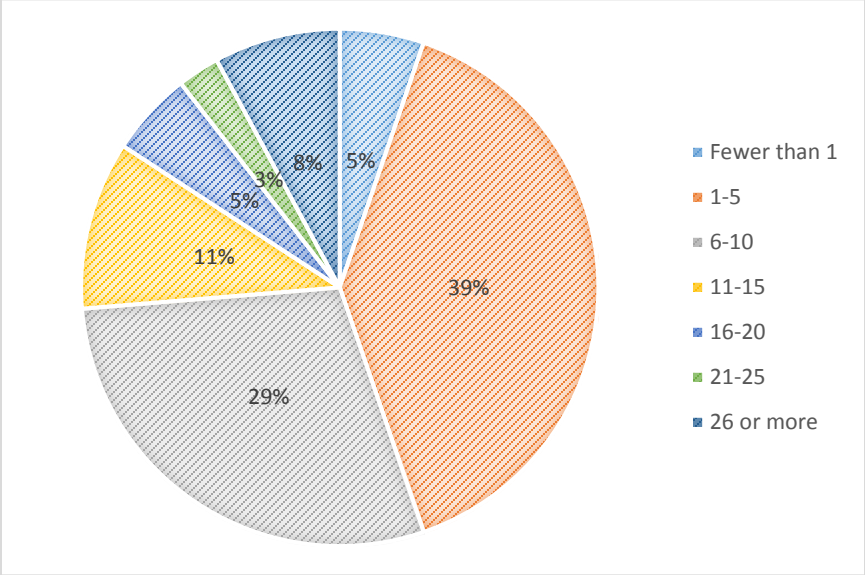

Figure 10. Number of FTE librarians employed at the FPCU.

Qualitative Sequence

For the qualitative interview portion of the study, my original plan was to use purposeful, intensity sampling to select 9-12 library employee volunteers who returned the survey and expressed interest in participating in the interview phase of the study. Purposeful sampling means selecting the participants that would best help answer my qualitative research question (Merriam, 2009). Intensity sampling is a type of purposeful sampling in qualitative research that is used to "illuminate both the unusual and the typical" (Palinkas et al., 2015, p. 535) cases so as to focus on the conventional case, but also explore the more uncommon. I planned to base my selection of the interview participants on their survey data, with most of the cases I chose being respondents whose OL scores were around the mean, and including a few whose scores were outliers in either direction.

However, as is common in qualitative studies (Merriam, 2009), it is difficult to set a concrete number of participants ahead of time. In actuality, 10 survey respondents indicated their willingness to participate in the interview. In an effort to reach the target number of interviews, I contacted all 10 volunteers for interviews, six of whom ultimately replied and participated. I sent follow-up emails to the four who did not respond, but still received no response. Therefore, no selection was possible; the sample was based on convenience.

The interview participants (M = 2.43, SD = 0.24) did represent both uncommon and typical examples from the overall survey respondents (M = 2.34, SD = 0.28). The highest OL score of the interview participants was 2.8, which was also the highest in the

entire survey sample and falls outside of one standard deviation from the mean of all survey respondents as well as the from the mean of the subgroup of interview respondents. The lowest OL score of the interview participants was 2.1, which falls just within one standard deviation from the mean of all survey respondents, but outside of one standard deviation from the mean of only interview participants. The remaining four interview participants had OL scores within one standard deviation of the mean for all survey respondents and for only the interview participants. Figure 11 shows how the interview participants' OL scores compared with all survey respondents' OL scores.

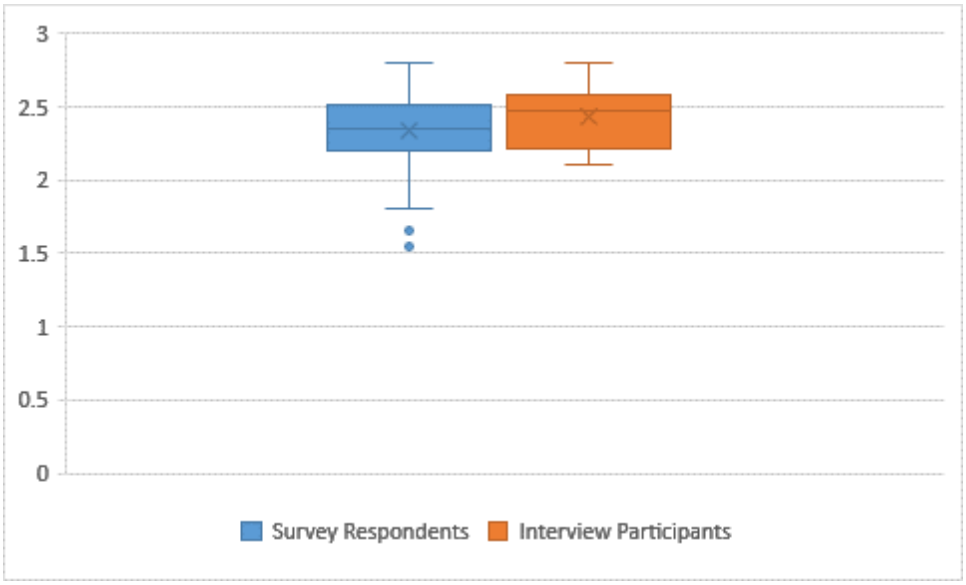

Figure 11. OL score ranges of all survey respondents and interview participants only.

Based solely on OL score, the interview participants represented both the typical (within one standard deviation) and the atypical respondents (outside of one standard deviation in either direction). The sample of interview participants provided a comprehensive view of how most library employees at FPCUs approach OL and how some library employees may approach OL differently.

To establish a researcher-participant working relationship during the qualitative interview phase of the study, I attempted to be as neutral as possible to the participants' responses, avoided reacting to what they said, and did not give any indication of my personal views (Merriam, 2009). It was also important to actively listen to what the participant had to say so that I could better understand the participant's point of view without imposing my own (Lodico, Spaulding, & Voegtle, 2010). The interview participants were not people I knew prior to the study and I had no position of authority over them in any way. Other considerations included introducing myself to the participants and reminding them of the confidentiality of their responses (Lodico et al., 2010). One aspect that had the potential to affect my relationships with the participants was that I was also a library employee in a FPCU. This may have helped me to better understand their perspectives, but also harbored the potential risk of assuming their experiences were like my own. I addressed this concern through developing an interview protocol (Appendix D) with questions written in neutral, unbiased language and adherence to the protocol questions during interviews.

To protect the participants of this study during the qualitative phase, I received institutional review board (IRB) approval from Walden University to carry out the research. I also created consent forms for interview participants to sign prior to the interviews. The consent form included a description of the study, an assurance of confidentiality, and a reminder that their participation was completely voluntary (Lodico et al., 2010). I ensured confidentiality by personally handling all notes and recordings. Physical notes were kept in a locked drawer, and digital recordings were kept on a

password-protected computer. Additionally, I assigned alphanumeric codes to each participant and used the code instead of the participant's name on all notes and recordings. Participants were not asked or required to divulge the name of the institution for which they worked, and if they voluntarily shared that information, the name of the institution was redacted in all notes and transcripts.

Data Collection Strategies

Quantitative Sequence

In the quantitative sequence of the study, which occurred first, I administered a quantitative survey to academic library staff members at FPCUs to measure the capacity for OL in these libraries using Chen's (2006) PPOLQ. I will store the raw data on a flash drive in a locked cabinet at my home for at least 5 years following the study.

Instrumentation. I used the first 20 items of the PPOLQ (Appendix B) to measure OL capacity, which addressed RQ1. I received permission to use this instrument from the author (Appendix E). These items are statements, and the respondent marked how often each statement is true for them or their library: *frequently*, *sometimes*, *seldom/never*, and *uncertain*. The statements were designed to gauge perceptions of communication and learning within libraries and were based in part on Crossan, Lane, and White's (1999) 4Is framework. In the 4Is framework, individuals, groups, and organizations share information via four related processes: intuiting, interpreting, integrating, and institutionalizing (Crossan et al., 1999). These four processes occurring on the appropriate levels—intuiting and interpreting at the individual level, interpreting

and integrating at the group level, and integrating and institutionalizing at the organizational level—lead to OL (Crossan et al., 1999).

Chen (2006) also used Argyris and Schön's (1978) OL theories of single and double loop learning to develop the questionnaire. Specifically, the statements that make up items 1-20 of the questionnaire are largely designed to determine whether the respondent's library is practicing single or double loop learning, with Chen's assessment being that libraries with high OL capacity are using double-loop learning most of the time, libraries with medium OL capacity use both single and double-loop learning, and libraries with low OL capacity use single-loop learning most of the time.

The PPOLQ also contains items 21-33, but those statements were not relevant to this study because they focus specifically on institutional evaluation (IE) and how IE affects the OL environment (e.g., "IE caused this library to make more changes"; Chen, 2006, p. 100). IE was outside the scope of this study.

Scoring. Though Chen (2006) did not develop numerical ranges to determine a library's OL capacity based on a respondent's answers to items 1-20 of the PPOLQ, Bertram-Elliott (2015) did so in a later study. In this study, the researcher used the first 20 items in Chen's PPOLQ to measure the OL capacity of academic libraries. To do so, Bertram-Elliott assigned each answer choice a numerical value: 3 for *frequently*, 2 for *sometimes*, 1 for *seldom/never*, and 0 for *uncertain*, and calculated a mean score for each respondent. Finally, Bertram-Elliott developed the following scale to interpret OL scores:

- 0.0-0.4: Little to no OL;
- 0.5-1.4: Low OL;

- 1.5-2.4: Medium OL;
- 2.5-3.0: High OL (p. 151).

In my study, I used a similar approach. Items 1 and 14 in the PPOLQ were worded in such a way that an answer of *frequently* would denote low OL, not high OL. For those two items, therefore, I reversed the scoring as follows: 1 for *frequently*, 2 for *sometimes*, 3 for *seldom/never*, and 0 for *uncertain*.

Reliability and validity. Chen (2006) described the efforts undertaken to assure the reliability and validity of the PPOLQ. Reliability for survey instruments indicates consistency, that is, a group of people responding to the survey would produce approximately the same responses each time over repeated attempts (Lodico et al., 2010). Chen used a pilot test to hone the wording of the questionnaire so that the instructions and items "made sense and expressed similar meaning to all participants" (p. 97), thereby increasing the questionnaire's reliability. A commonly used measure of reliability, particularly internal consistency reliability, for research instruments is the Cronbach's (1951) alpha coefficient. Nunnally (1975) set the standard for Cronbach's alpha coefficient at 0.70, though the closer that coefficient is to 1, the more reliable the instrument is considered to be. Bertram-Elliott (2015), who also administered the PPOLQ online through an electronic mailing list, calculated the Cronbach's alpha coefficient for Chen's (2006) PPOLQ to be 0.87. For this study, I calculated the Cronbach's alpha coefficient for the PPOLQ to be 0.76.

Validity in survey research indicates whether the survey measures what it was intended to measure, and is the most important aspect of a survey (Lodico et al., 2010). Chen (2006) explained that to ensure the validity of the PPOLQ, he did the following:

- had a panel of experts review the questions,
- used similar published instruments as guidelines, and
- held a focus group discussion to evaluate the questions.

Library demographic information. Along with the PPOLQ, I asked respondents to answer several library demographic questions in order to collect data for the independent variables corresponding to RQ2. Appendix C contains the full list of questions and response choices, but some examples of information I gathered include number of FTE librarians and number of FTE students enrolled at the institution. The reason for gathering these data is twofold. First, Huang (2014) determined that larger libraries had higher OL capacities than smaller libraries, so library size, the number of library employees, may be related to OL capacity in this study as well. Second, both Huang and Bertram-Elliott (2015) found that librarians with more years of experience engaged in more OL activities than newer librarians, meaning that librarian experience may be predictive of OL capacity. Another question asked how long the respondent has worked at the current institution. Several researchers, including Carley (1992), Rao and Argote (2006), and Lopez and Sune (2013) suggested that high employee turnover contributes to low OL, particularly in institutions where individual knowledge is not adequately converted to group or institutional knowledge.

Administration. I created the online survey—comprised of the PPOLQ and the library demographic questions—using Google Forms online survey software and administered the survey by sending the link, with a request to participate, in an email to the LFPEI electronic mailing list. To complete the survey, willing participants needed to click on the link within the email and answer questions online. This method of administering a survey has become increasingly common in the social sciences, and though the method has some weaknesses, researchers consider it a valid option (Avcıoğlu, 2014). Online surveys provide benefits that are difficult to overlook, including low cost, flexibility, access to geographically diverse and scattered populations, and convenience (Roberts & Allen, 2015; Teo, 2013). In a study of 367 respondents who had been randomly sorted into two groups to receive either online or paper-based surveys, Teo (2013) found measurement equivalence between the two methods.

A known weakness of online survey administration is low response rate (Creswell, 2012; de Leeuw, 2012; Van Selm & Jankowski, 2006), which I experienced in this study as well. One researcher evaluated nine studies and determined that while the average response rate for paper-based surveys was 56%, the online response rate was only 33% (Nulty, 2008). However, the researchers in all but one of the studies Nulty analyzed administered the paper-based survey face-to-face and the online survey asynchronously, accounting for the large discrepancy in response-rate. In the one study where the researcher did not administer the paper-based survey face-to-face (Watt, Simpson, McKillop, & Nunn, 2002), there were similar response rates between the two methods—32.6% for online and 33.3% for paper-based. Shih and Fan (2008) evaluated a

larger number of studies—39—in their meta-analysis and found that on average, the response rate for mailed surveys was higher at 45% than the response rate of 34% for online surveys. In a separate meta-analysis, Manfreda, Bosnjak, Berzelak, Haas, and Vehovar (2008) evaluated 45 studies that compared online surveys to any other kind of survey method, including telephone and mail, and found that response rates for online surveys averaged 11% lower than response rates for other methods of survey administration. Olson (2014) attributed lower response rates for online surveys partially to "survey fatigue" (p. 93) and argued that respondents and non-respondents could differ in significant ways, negatively affecting the results of the survey.

Despite the low response rate, my study benefited from an online survey distributed via electronic mailing list because I was able to reach members of the target population throughout the United States in a convenient, inexpensive, and time-efficient way. In an effort to increase responses, I sent out reminder postings on the electronic mailing list after the initial survey posting. The first reminder posting was 2 weeks after the initial posting, and the second reminder posting was 1 week after that—3 weeks after the initial posting. As an additional follow up, I also posted the survey information and link in the LFPEI Facebook group. However, only one additional response resulted from that tactic.

Qualitative Sequence

In the qualitative sequence of the study, which followed the quantitative phase, I interviewed six library staff member volunteers who returned the survey from the quantitative phase and expressed interest in participating in the interview phase of the

study via a question at the end of the library demographic questions in the second part of the survey. Interested respondents provided their email address in their survey response so I could contact them regarding the interview phase. The interviews focused on OL processes and habits in their libraries.

Interview protocol. I produced the interview protocol (Appendix D) based on a review of the literature identifying factors that may contribute to OL. For example, researchers widely believe that individual learning is important to OL (Antonacopoulou, 2006; Hayes & Allinson, 1998; Kim, 1993; Senge, 1990; Simon, 1991), and therefore it was appropriate to explore the interview participants' individual learning practices such as professional development opportunities and what support, if any, they receive from their institution for those learning opportunities. Bertam-Elliott (2015) found that the best predictor of OL capacity in academic libraries was support for professional development, even if it was only encouragement without financial support.

Likewise, the ways in which learning is disseminated through an organization in the form of knowledge transfer and other aspects of KM can be significant to understanding a library employee's experience of OL (Agarwal & Islam, 2014; Forman, 2004). Due to the volume of research surrounding leadership and OL (Manshadi et al., 2014; Noruzy et al., 2013; Vargas, 2015), I incorporated questions about leadership into the interviews to obtain a better understanding of the overall OL environments.

Through the interview protocol, I was able to collect sufficient data to answer my qualitative research question (RQ3), which was: How do library staff members in FPCUs experience OL in their libraries?

Procedure for interviews. My initial plan was to interview 9-12 participants. However, only 10 survey respondents expressed their willingness to participate in the interview phase, and of those 10, only 6 responded to my follow-up email. Each interview was scheduled to last approximately 1 hour, though most were completed in a shorter time frame. I did plan for the option of a second interview if an hour was not enough time, but that proved unnecessary. Because the interview participants were geographically scattered, I used the online telephone software, Skype, to conduct the interviews. Seitz (2015) suggested that participants may feel more at ease with this type of interview because they are in their own space for the interview instead of somewhere unfamiliar.

In addition to the benefits, there are some challenges related to using Skype as an interview conduit. Seitz (2015) coalesced the experiences of 45 university student researchers to develop a list of obstacles and potential solutions for conducting qualitative interviews via Skype. Potential obstacles include dropped calls, difficulty hearing, and "loss of intimacy compared to traditional in-person interviews" (Seitz, 2015, p. 230). However, careful planning can help remedy the majority of these obstacles, including ensuring both the researcher and participant have a stable Internet connection and the newest version of the software downloaded (Seitz, 2015). Though technical problems may be more likely when complex technology like Skype is involved, even traditional face-to-face interviews have some risk of technical issues, such as a recorder malfunctioning (Oates, 2015). Skype has been established as a viable means of

conducting interviews in qualitative research (Deakin & Wakefield, 2013; Hamilton, 2014; Oates, 2015; Sullivan, 2012).

Keeping track of data. In addition to capturing audio recordings of the Skype interviews for repeated playback and understanding, I also took notes during the interviews. As Merriam (2009) suggested, I took notes less on the content of what the participant said, and more on my own reactions and thoughts based on the participants' responses. I also took notes on emerging trends I saw coming out in the interviews. I kept a research log using the application Evernote on my smartphone. As I thought of ideas or made connections with my data, I logged those thoughts electronically. I also transcribed the interview recordings manually.

Triangulation. I built triangulation into the qualitative data collection and analysis process by interviewing multiple people, allowing me to compare and contrast their experiences and find links between multiple sources of data (Creswell, 2012). For example, when more than one participant reported the same experience or thought, it built credibility for that experience or thought as a trend rather than an isolated phenomenon. I considered the themes with mentions from the most number of participants to be the most significant in answering the qualitative research question.

Another aspect of triangulation in this study was the use of the demographic data collected during the quantitative sequence. These data provided additional information through the interview sequence about each participant's library environment. The survey data also provided a way to compare and contrast the libraries of interview participants to triangulate with the interview data.

Role of the researcher. One consideration that could have affected my relationships with the participants that I have not already addressed is that from 2013-2015, I held volunteer leadership roles within ACRL's LFPEI interest group. From 2013-2014, I was the incoming convener, and from 2014-2015, I was the convener. These roles provided me with some additional insight into the members of the interest group and their experiences in their libraries. This had the potential to influence my data collection and analysis in that those experiences helped create my perspective and preconceived opinions on the topic of libraries in FPCUs. The first step I took in reducing this potential bias was identifying it and being aware of it. Other strategies built into the research design that helped minimize bias have already been discussed, including purposefully collecting interview data from employees at libraries with varying levels of OL capacity, triangulation, and using a carefully developed interview protocol.

Data Analysis and Results

The quantitative data collection processes resulted in the following data: an OL score for each respondent and responses to library demographic questions. I collected these data using an online survey. The OL scores, which represented OL capacity, helped answer the first quantitative research question: What capacity for OL is present in libraries at FPCUs? Along with the OL scores, the library demographic variables contributed to the second quantitative research question: Which FPCU library demographic variables are most strongly related to OL capacity? The qualitative data collection processes resulted in interview recordings, transcripts, and notes. I collected

these data through Skype interviews. These data helped address the qualitative research question: How do library staff in FPCUs experience OL in their libraries?

RQ1: Quantitative

The first research question I sought to answer was a quantitative research question: What capacity for OL is present in libraries at FPCUs? To answer this question, I calculated an OL score for each survey respondent after all responses were received and the survey had been closed. To do so, I assigned each response choice on the PPOLQ a numerical value: 3 for *frequently*, 2 for *sometimes*, 1 for *seldom/never*, and 0 for *uncertain*, except in the cases of Items 1 and 14, which were reversed and therefore had the following scoring: 1 for *frequently*, 2 for *sometimes*, 3 for *seldom/never*, and 0 for *uncertain*. The OL score was the mean score for all the responses for each respondent. To further analyze these data, I computed descriptive statistics for the OL scores for all respondents, including mean, median, and standard deviation. I also determined which category each respondent, and the respondents in aggregate, fell into based on Bertram-Elliott's (2015) ranges:

- 0.0-0.4: Little to no OL;
- 0.5-1.4: Low OL;
- 1.5-2.4: Medium OL;
- 2.5-3.0: High OL (p. 151).

This information helped to answer RQ1.

The mean OL score for the 38 survey respondents was 2.34, which falls into the medium OL range based on Bertram-Elliott's (2015) ranges. Of all the respondents, 68%

(n = 26) earned OL scores in the medium range, while 32% (*n* = 12) earned OL scores in the high range. Descriptive statistics for OL scores are displayed in Table 3.

Table 3

Descriptive Statistics for OL Scores

Measure	OL score range		All scores
	Medium	High	
Mean	2.21	2.62	2.34
Median	2.25	2.58	2.35
Standard deviation	0.24	0.12	0.28
Range	0.90	0.30	1.25
N	26	12	38

In general, the answer to the first research question is that a medium capacity for OL is present in libraries at FPCUs. According to Chen (2006) and Bertram-Elliott (2015), scores in the high category are necessary for optimizing operations because high OL capacity indicates consistent double-loop learning.

Bertram-Elliott's (2015) study used the same ranges and method of calculating OL scores as I did in this study, though the focus was on academic libraries in general, not only libraries at FPCUs. Bertram-Elliott's study included 15 FPCU library respondents, 4% of the total sample, with an average OL score of 2.17. Though the score is within the medium range, it is lower than the mean score of 2.34 for the 38 respondents in my study, all from FPCUs.

RQ2: Quantitative

The second research question I sought to answer was also a quantitative research question: Which FPCU library demographic variables are most strongly related to OL capacity? My hypotheses were as follows:

$H_0$2: None of the library demographic variables will be significantly related to OL capacity for libraries in FPCUs.

H_A2: At least one library demographic variable will be significantly related to OL capacity for libraries in FPCUs.

To answer this question, I conducted a multiple regression analysis to see what, if any, relationships existed between the dependent variable (OL score) and each of the seven independent variables. The seven independent variables were:

- number of FTE students enrolled at the institution,
- Carnegie classification of the institution,
- number of FTE librarians employed at the institution,
- whether the head of the library (director, dean, and so on) had an MLIS or equivalent degree,
- number of years the respondent had worked at the institution,
- whether the respondent had an MLIS or equivalent degree, and
- the respondent's position.

My original plan was to include 10 independent variables, however, I left three out of the calculations to avoid multicollinearity in the data. The three independent variables I eliminated were:

- the number of total FTE library employees at the institution,
- the number of years the respondent has worked in libraries total, and
- the respondent's highest degree attained.

The survey included in Appendix C shows the possible categories for each of these variables. I used SPSS software for the multiple regression analysis to determine whether any of the independent variables were predictive of the dependent variable.

Assumptions. Before conducting the analysis, I checked the appropriate assumptions about the data to ensure that a multiple regression analysis would be a good fit for these data. OL score is a continuous variable because it is a scale for which we know both the order of the values as well as the differences between them. OL score as the dependent variable therefore meets the requirements of the first assumption. The second assumption is that there are at least two independent variables and they are either continuous or categorical. In this case, there were seven independent variables, all categorical.

The third assumption relates to independence of observations. I used SPSS to calculate a Durbin-Watson statistic of 2.06 for my data, which indicates independence of residuals. The fourth assumption requires that linear relationships exist between the dependent variable and each of the independent variables, as well as between the dependent variable and the independent variables together. I used SPSS to create a scatterplot of the studentized residuals against the predicted values. The scatter plot, which is Figure 12, showed a linear relationship between the dependent variable and the independent variables together.

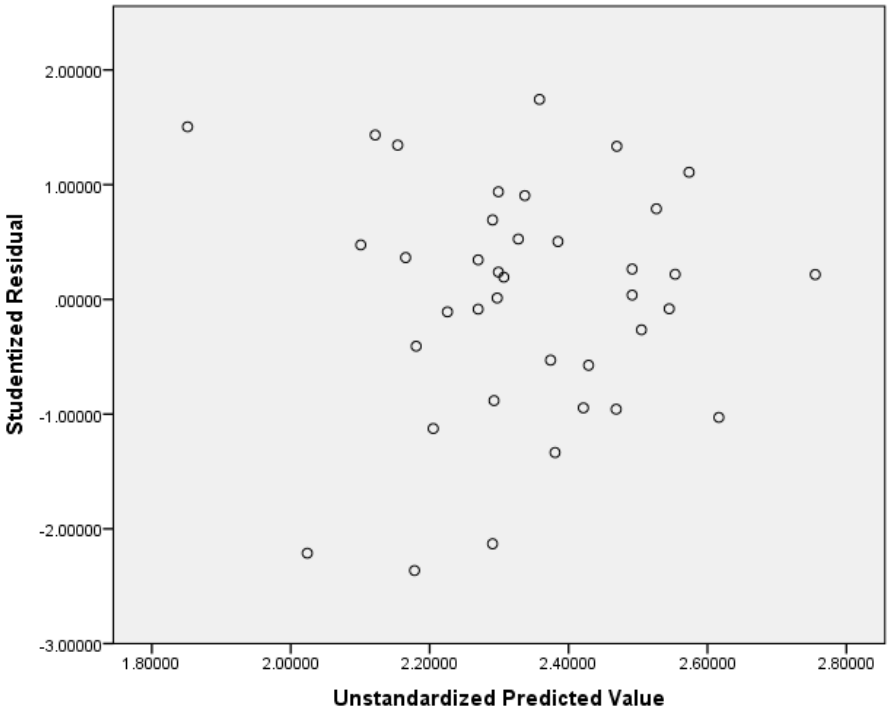

Figure 12. Scatter plot of relationship between dependent variable and combined independent variables.

The independent variables are all categorical, so did not need to be considered in the assumption of linear relationships between the dependent variable and each independent variable separately.

The fifth assumption is that the data shows homoscedasticity of residuals. This indicates that the variance in OL score is similar across all values of the dependent variables. I used a macro program from Daryanto (2013) called Heteroskedasticity Test plugged into SPSS to calculate the heteroscedasticity of the residuals using the Breusch-Pagan test and the Koenker test. Both showed that the data has homoscedasticity. The p-value of the Breusch-Pagan test was .102 and the significance of the Koenker test was .119, where values above .05 indicate homoscedasticity in both cases.

The sixth assumption is that the data do not show multicollinearity. Though my original plan was to include 10 independent variables, at this point I removed three to avoid multicollinearity. I eliminated:

- the number of total FTE library employees at the institution,
- the number of years the respondent has worked in libraries total, and
- the respondent's highest degree attained.

The number of FTE library employees at the institution who are librarians is a subset of another variable: the number of FTE library employees at the institution. Therefore, the variables are too similar to include both in a multiple regression analysis. Likewise, the number of years a respondent has worked at the current institution is a subset of the respondent's total number of years worked in libraries. Because of my interest in the question of employee turnover, I decided to include the former rather than the latter. Finally, all but two respondents indicated that their MLIS or equivalent degrees were their highest attained. Therefore, I thought the results would be less meaningful than if the question had been answered with more variety.

After eliminating three variables, the data did not show multicollinearity. Based on computations of correlations using SPSS, none of the variables had correlations greater than 0.7. Additionally, the collinearity statistics for the data, as calculated using SPSS, showed that all the tolerance values were greater than 0.1 and all the VIF values were less than 10.

The seventh assumption is that the data do not include significant outliers, highly influential points, or high leverage points. These data include no significant outliers, as

evidenced by the fact that all cases are less than three standard deviations from the mean. The data also do not include any influential points, as reflected by there being no Cook's distance values above 1. However, I did find high leverage points. Two cases had leverage points that were in the *dangerous* zone (above .5) and 12 had leverage points that were in the *risky* zone of above .2 but below .5. Because these high leverage points did not contribute to high influence and because the high leverage points might have been due to the presence of two dichotomous variables, I determined to note the cases with high leverage points, but not to remove them from the analysis.

Finally, the eighth assumption required that the residuals be approximately normally distributed. Based on the histogram in Figure 13, the data are reasonably normally distributed.

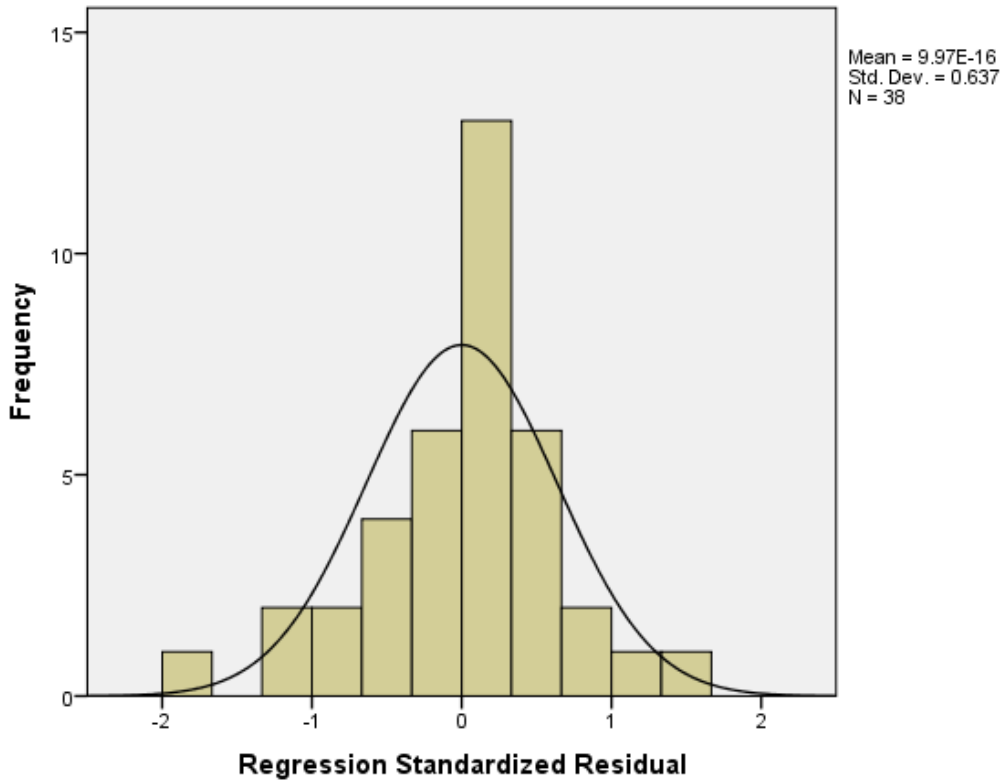

Figure 13. Histogram of normal distribution of residuals of dependent variable, OL score.

Results. With the data sufficiently meeting the assumptions, I conducted a multiple regression analysis to determine whether any of the seven independent variables were predictive of OL scores. Table 4 shows the coefficients for each of the significant independent variables, including significance results for those coefficients.

Table 4

Variables Significantly Related to OL Score

Independent variable	B	*SE*	Beta	*t*	*p*
Students: 500-999	-.64	.25	-.70	-2.52	.024
Students: 1000-2999	-.49	.12	-.64	-3.93	.001
Students: 5000-6999	-.33	.15	-.31	-2.17	.046
Carnegie: Doctoral university	-.49	.15	-.67	-3.31	.005
Librarians: 26 or more	-.85	.22	-.82	-3.88	.001
Position: Head of the library	.20	.09	.35	2.14	.050

The independent variable that had the most statistically significant relationship with OL score was the number of FTE students. All three of the statistically significant groups (500-999 students, 1000-2999 students, and 5000-6999 students) showed a negative relationship with OL score; the pattern that emerged is that the more students enrolled at an institution, the lower the OL score for the library. Combined with the statistically significant finding that libraries who employed 26 or more librarians also had a negative relationship with OL score, I concluded that larger libraries serving larger institutions were more likely to have lower OL scores. The finding that libraries at institutions classified as Doctoral Universities in the Carnegie classification also had a negative relationship with OL score further supports this idea because institutions with that classification tend to be larger research universities. Bertram-Elliott (2015) similarly found that libraries serving fewer students and with fewer students per librarian had higher OL scores.

The inverse relationship between size and OL score could be due to increased difficulty communicating within the library when there are a larger number of employees. Another possibility is that library employees with fewer colleagues or at smaller schools must be more resourceful, and therefore compensate for fewer human resources with better OL strategies, especially due to the importance of retaining institutional knowledge when a member of a small staff leaves the institution.

Another finding that neared significance ($p = .05$) and should be mentioned was that survey respondents who were the head of the library were more likely to have higher OL scores. A possible explanation for this finding is that library directors and deans may have a broader view of all the processes and connections at work in the library and therefore be more likely to respond to the survey questions with full information about their library. A professional librarian from the same library may rate their library lower on some of the PPOLQ statements simply because the librarian is not aware of all the strategies in place. Additionally, some of the PPOLQ statements focused on individual practices related to OL, for example, “I give feedback to my library colleagues when they explain their ideas to me” and “the library gives me substantial supports (e.g., finance, time off) to professional development I undertake.” Library directors and deans may engage in these activities more often because of the nature of their jobs, or have greater support for professional development because of the importance of their role in the library versus a librarian.

RQ3: Qualitative

The third research question I sought to answer was a qualitative research question: How do library staff members in FPCUs experience OL in their libraries? To answer this question, I coded textual data from interview transcripts and notes to find recurring themes and major topics. As is common in qualitative research, data analysis took place throughout the qualitative phase, even before all the interviews had been completed. Creswell (2012) laid out six steps for analyzing and interpreting qualitative data: collection, preparation, reading, initial coding, coding for description, and coding for themes. Many of the steps were simultaneous and iterative. First, I transcribed the interviews so that they were in text format and easier to code. I began with open coding, which involved identifying and labeling categories. Then, I further analyzed the data by sorting the categories into themes based on patterns and relationships.

Of the six interview participants, only two said they had heard the term *organizational learning* before this study and then explained the concept correctly. Three indicated they were unfamiliar with the term, and one indicated familiarity with the term, but then was not able to explain it accurately. However, it was apparent through the interviews that all the participants were familiar with the concepts involved in OL, even when they did not know the term. In fact, the two participants who could accurately explain OL were from libraries with OL scores of 2.45 and 2.1, falling into the medium category, while one of the participants who had not heard the term before was from a library with a high OL score of 2.8—the highest score in this study. From this, I

concluded that a knowledge of the term *organizational learning* and an understanding of what OL entails are separate.

Several themes emerged early in the data collection, including a common theme of external pressures from the larger institution making OL more difficult for the library. Other themes included communication, decision making, and employee turnover. Interview participants also mentioned various OL strategies they used in their libraries.

External pressures. Four of the six interview participants described institutional problems or pressures that externally affected the OL capabilities of the library. One interview participant described an unstable and "chaotic" institutional environment that contributed to high turnover in library staff and inconsistent expectations for the library as a department. The participant blamed "the external pressures of just the craziness, utterly ridiculousness that is our culture" for an average of 100% turnover every year in library employees, with the exception of the participant, who had been with the institution for about 6 years.

Another participant talked about a large organizational change that completely shifted the way the library was staffed and the work the library staff members did almost overnight. The participant said that the administration of the institution did not consult staff in the library, or other affected departments, before making the change, or even warn them it was coming: "that was definitely a top of the college down decision. That was pushed on to everybody . . . . It was this is how it's going to be done." The change necessitated the library staff members to develop new procedures and organizational

structures, including a large reduction in the number of library staff, as well as new strategies for communicating with one another and external departments.

A third participant commented that their “challenges tend to be within the context of what challenges the institution is facing.” That institution grew quickly, expanding to multiple campuses within just a few years and causing changes to the library’s staffing models and other procedures.

Several participants mentioned pressures due to accreditation or licensing requirements, and challenges with budgets set by the overall institutional leadership. One participant discussed the budget issue in regard to employment at a different FPCU previous to the current position saying that the institution’s administration would respond “no, we can’t afford to do that because they needed to funnel budget into admissions and recruitment" when approached to approve library initiatives.

In the first example from the library with the high turnover, the interview participant directly attributed some of their OL practices to combatting that challenge, specifically a robust onboarding system that incorporated a formal 6-week process with daily tasks and assessment points:

> I started [designing the onboarding process] when I first came on board and after the past year, I guess it was a year and 3 months, I realized that I have a whole new staff and I thought this is crazy. So that’s when I started building everything as best as I could. And with the new turnover of staff, I would say those training materials probably get updated or touched about every 3 months.

Of the three interview participants whose libraries had OL scores in the high range, two reported significant external pressures from the larger institutional environment that made OL more challenging. Conversely, two of the three interview participants whose libraries had OL scores in the medium range reported little pressure of that kind, with one stating "we're just kind of left to our own devices." One possibility based on these data is that the external pressures may have helped foster OL. Knowing the challenges they faced, the library staff members were proactively taking steps to keep their libraries as stable as possible despite the external conditions.

Communication. All six interview participants talked about communication in their libraries, including the difficulties surrounding communication, the benefits of it, and the strategies they used to communicate better. One participant commented: "communication is always a challenge and that's part of this knowledge transfer." Participants approached this challenge in various ways.

The staffing structures at the participants' libraries were all unique, with many instances of team members who worked in different physical locations. Some had library teams that were all completely remote and online. Others had some campus-based library staff members and some remote library staff members: "And there's a team of online librarians and then there's the on-ground librarians and there's not always good communication between them." Another situation was library staff working at campuses that are geographically scattered. One of the participants I interviewed was a solo librarian working to build the campus-based library at a brand new college. Even the one participant who described a more traditional structure, with library colleagues working

down the hall from one another, also mentioned a part-time team member who worked from home.

Again, the challenge of making a team work when the team members were in different physical locations forced the library staff members to proactively find ways to communicate better. One participant explained:

> We found that one meeting in a week wasn't enough so we were also finding that every other week we would do—we call it a wake up with the library team meeting. People are just supposed to like have their cup of coffee at their computer while we meet. It's as informal as our meetings get. There's no agenda; it's just an opportunity every other week for us to talk about things that maybe never made it on an agenda or that kind of thing.

Two participants used almost the exact same phrase to express the "constant communication" between members of their library teams. Another expressed that "communication is very key." A third participant discussed the importance of informal communication:

> I would say [communication is] pretty high, like I said, the supervisor's office is just down from my cube. I'm in there, oh, probably four or five times a day just discussing you know an interesting article I saw or a little side project I've been working on and you know progress of that, whether he's heard of anything we need to work on, you know, to pass on to me, things of that nature. Like I said, I'm in there like probably four or five times a day.

While this participant's library team was able to achieve informal communication through face-to-face interactions, other library teams whose members I interviewed could achieve it through instant messaging and other technological strategies

One participant talked about the communication that happens with colleagues outside of the library, saying "most of the activities that I perform to get my job done, to move library services forward and be successful, involve my relationships and interactions with people that are not within my reporting line." This statement spoke to the interconnectivity of the library and other departments within the institution.

Whether within a library team or with others outside of the library, communication played a significant role in OL at the libraries whose librarians took part in the interviews. Because of the obvious link between communication and transferring knowledge, it is a critical OL process.

Decision making. Within each interview, and based on the interview protocol (Appendix D), I asked each participant to walk me through the process their library undertook recently to solve a problem or challenge. Their answers highlighted the various decision making strategies within their libraries. Overall, four of the participants described extremely collaborative approaches to decision making. One described a more fragmented, fend-for-yourself type of environment. The final participant described a top-down approach to decision making.

One participant described meeting with the library leaders about a concern with the workload the librarians were expected to take on. The participant presented potential solutions: "I certainly made sure that I brought a list of suggestions when I initially had

that conversation with managers." The managers were "receptive to the feedback and they immediately started making changes as much as they could." Ultimately, however, the details of those changes would "definitely be mostly collaborative," though, "some of it has to be top-down when bigger decisions are made" that might affect other departments.

Another participant described the library's collaborative process to work on creating online subject guides: "So the lead librarian and I sat together and we kind of hashed out the first, what we wanted the first 10 topics to be." Another participant talked about the process of designing the physical library space with a stakeholder who was very involved in the process. The participant proposed a library layout based on the parameters of the room and the goals of the space. When the stakeholder had a certain vision these recommendations did not meet, the stakeholder "proposed changes" but also relied heavily on the participant's expertise with libraries. The participant explained that the stakeholder "wanted to know what I thought." The end result was a consensus that made everyone happy.

A fourth participant explained a collaborative process, but with layers of approvals:

> So, for example, if we're working on an initiative that will impact [some of the] campuses, my direct authority with regards to the provost, so the provost supervises the conversations, but I only really include him if there's a problem. But my main goal is to get buy-in from the executive directors of the . . . campuses that are impacted, as well as the academic dean buy-in, as well as the

> buy-in from the individual librarians making sure that initiative is carried out. And then it goes through an academic council as well which is comprised of basically all program directors and then also academic department leaders.

By the time the decision is approved in this scenario, many people have signed off on it, which likely means a more successful implementation, but with a lot of initial work to get to that point.

The fifth participant described an environment in which there was not much support from other library colleagues. The only librarian on the campus, the participant was connected to librarians on other campuses through email and a corporate library group that oversaw the libraries as a whole. The participant needed to weed, or downsize, the physical library collection on campus because the library space was decreasing in size. The participant related the process used to reach out to colleagues for help, with little success: "I contacted the corporate people to see if they had any recommendations. And they didn't really." The participant then reached out to librarians on other campuses, but none had experience with a massive weeding project, "so I didn't get much help from them." The participant finally did research and made a plan that involved incorporating the opinions of faculty members on the campus. The process described was one of isolation and fragmentation between the campuses and the corporate library employees.

Finally, one of the participants spoke about the top-down process used for making decisions for the library and team, emphasizing the participant's own role as the person who ultimately must take responsibility for the decision: "If it's a library-related issue,

then I have to determine the most appropriate response to meet the expectations." This strategy may come from the heavy business environment described at the institution:

> It's all based on the business case that I make for what I want to do, how do I want to approach a resolution of the problem. And that's, that's pretty much the answer to any question in my organization is what, what do you provide for the business, the business argument for proceeding in the way you wish to proceed, and so that's what I really had to be very conscious of in every decision making situation and it does not usually that [pause] that it's a [pause and laughs] how to put this, um, among my team members it's not a democratic consensus decision. It's, it's generally I'm meeting the expectations of stakeholders at a higher level and so when, sometimes when I'm presenting the solution that has to do with business needs that are outside the realm of libraries. It's, so I have a bigger picture of what, what arguments are going to hold water, so to speak, with the powers that be.

However, the participant clarified that if the decision was "internal-facing" with no "visible impact on students or on the institution itself," then "nobody else cares how we do it." In those cases, the decision-making process is more collaborative: "We talk about it as a team, I do some assigning, I also allow a lot of flexibility with who feels that they really want to tackle something while someone else doesn't." Circumstances played a role in decision-making at this participant's institution.

Collaborative decision making in which the library leader acted more as a facilitator for a team decision may have contributed to higher OL because members of the team were able to share their knowledge to help move the organization forward.

Employee turnover. Employee turnover was a trend I expected in the data; however, it was less pronounced than I anticipated. Just two of the participants indicated that turnover was high in their library. One participant had the most extreme case, with "100% turnover . . . every year." The participant stated that "a lot of staff are leaving the institution on a fairly regular basis" and that turnover is "huge." A second participant stated: "There seems to be more turnover now. You know, in the for-profit world things are a little shaky. And so I think there's some insecurity." The participant identified being at the institution for more than 16 years, and stated "I'm turning into an old timer," though other librarians at the institution had been there the same amount of time or longer.

Three of the participants reported a steady workforce in the library with "very little turnover." However one of those admitted that with the recent and rapid growth of the institution, most of the library staff members were fairly new hires anyway:

> Turnover is not, um, tremendous. They're very new in their roles, so I don't, I can't predict what will happen in 10 years. I don't, I just don't know. [pause] I think that for right now it feels stable. It feels like people are not getting ready to walk out the door.

The conversation about turnover was not applicable to the sixth participant, who less than a year before our interview was hired as the first library employee at a new institution, and was still the only library staff member employed.

OL strategies. Interview participants mentioned a variety of OL strategies, largely related to communication (transferring knowledge) and professional development (creating knowledge). Two strategies mentioned by each of the six participants were webinars and funds from their institution for professional development. Five out of the six interview participants mentioned conferences, a local archive, and conference calls or regular team meetings. The full list of OL strategies mentioned in the interviews can be found in Table 5.

Table 5

Mentions of OL Strategies by Interview Participants

OL strategy	No. of participants who mentioned
Webinars	6
Funds for professional development	6
Conferences (virtual or face to face)	5
Local archive	5
Conference calls/regular team meetings	5
Professional membership	4
Reading (books, articles)	3
Local library email list	3
External courses/trainings	3
One on one meetings with director/supervisor	3
Informal conversation/instant messaging	3
Employee professional development plans	2
Local academic conference (sponsored by institution)	2
Training manuals/documents	2
Live trainings (from the library)	2
Vendor-sponsored training	2
Library strategic/long range plan	2
Formal onboarding process	1
Training tools/learning modules	1
Workshops	1
Faculty development sessions	1
Local/corporate learning management system	1
Taskforces/teams	1
Cross-training library employees	1
Project management system	1

Webinars. All six participants mentioned participating in webinars as a strategy for professional development. One participant said they attended "three to four [webinars] each week," while another summed it up as "a whole host of webinars." One participant specified participation in free webinars, while another emphasized library support for participation in webinars that "have a cost" or "fee associated to it." Some

named specific sources for the webinars, namely the National Library of Medicine, the Medical Library Association, the Association of College & Research Libraries, and "vendors" like ProQuest or EBSCO.

Webinars, especially free webinars, are likely the simplest and most convenient way for library staff members to gain new knowledge. They are accessible, ubiquitous, and are available on a variety of topics. Library staff members could create new knowledge for their organizations by learning through these webinars. If they also took the step of sharing what they have learned with other members of their libraries, they further supported OL in that transfer of knowledge.

Funds for professional development. While each participant said they received some sort of financial support from their institution for professional development, the extent of that support differed. One said that the institution would pay for professional organization membership, but not for conferences, workshops, or other professional development sessions. Another stated that funding was variable and depended on the year's budget:

> It depends on the institutional budget for the year. Last year was a bad one for my department in that all of our travel funding was cut. So for the last year, I paid for three conferences out of my own pocket. And I felt like that was absolutely critical.

The participant reported that through the current year's library budget, the administration did allow for conference attendance with institutional funding.

However, others indicated steady financial support for these types of activities, citing professional memberships, conferences, workshops, books, and courses all paid for through the institution. One participant shared thoughts on why the institution might be so supportive:

> They've been very supportive and open because, and I hate to say it this way, but they are not familiar of how libraries work, what needs to get done in order to make it happen, and so whatever I need to do that would [pause] make it easier for me to do my job, they've been very supportive of.

The participant stated that the institutional leaders had been reasonable and open to funding professional development opportunities for library employees.

Conferences. Five of the six participants mentioned attending conferences as an OL strategy. Some specified face-to-face conferences, while others named virtual conferences. One participant explained how the process of library employees attending conferences worked at the school:

> They can pursue additional funding for service training, additional money for conferences and then bring back those best practices so that we can actually work as a strategic organizational unit and support all of our programs and campuses rather than the piecemeal that we've been doing as individual campuses pop up.

Participants mentioned specific conferences like the ACRL Conference, the Medical Library Association Annual Meeting, the annual Charleston Library Conference, Library 2.0, Digital Shift, Forward Focus, and several state library association conferences. One participant stated:

> So we do have a professional development budget to attend library conferences. But what's nice is, you know, I can also, I'll also be attending a nursing conference as well. So really I've also attended instructional design conferences. So by no means does it have to be related to my master's degree in that sense. So they're very supportive in that sense.

The participant explained not needing to limit attendance to library-specific conferences, as long as the focus of the conference was relevant to work responsibilities.

Another participant, who worked as a solo librarian at a newly-founded college described transferring knowledge from the conference to others at the institution who were not directly involved with the library:

> I always give them like a little write up, you know, of, of, you know, just kind of little points and then how the content that I learned, how I can apply it here at the institution, and it's—what's interesting is that this is not something that they asked me for, it's just something that I give them. And they've been like oh my gosh, I can't believe that this is so, you know, that they're always like really pleasantly surprised.

Others also detailed sharing highlights and notes from conferences at library team meetings, or in the library's local archive of documents.

Local archive. Five of the six participants mentioned using a local archive in which to store documents or other shared resources for library employees. In some cases, this was a local intranet site. Others mentioned the software SharePoint from Microsoft, which is typically included in the Microsoft Office suite many companies license.

Another participant talked about plans to implement an institutional repository that would be used institution-wide, but would include an area specifically for library employees and the resources they need. These local archives are accessible, digital spaces that library teams use to store training documents or other sources of knowledge. They are a strategy for retaining knowledge within the organization.

Team meetings. Five of the six participants reported meeting with the library team regularly and consistently. Often these were weekly meetings that took place by teleconference or via online meeting tools. Several cited these team meetings as the forum during which library team members could share what they learned at a recent conference, webinar, or other training. Such regular meetings were an effective strategy for transferring knowledge within the library, especially when team members were encouraged to share their knowledge, rather than passively listening to a director or other team leader talk.

Integration of Quantitative and Qualitative Data and Findings

This study used the sequential explanatory method; the qualitative phase of research followed the quantitative phase and helped to explain the quantitative results in more depth (Creswell & Plano Clark, 2011). In this type of study, integration of the quantitative and qualitative data and findings happens only in a discussion of the ways the results of each phase are connected. I will discuss in what ways the qualitative results help explain the quantitative results. Both sets of findings were integrated to reach conclusions about OL in the libraries at FPCUs.

OL strategies. As indicated, interview participants mentioned a variety of OL strategies in use at their libraries. Table 6 details the number of OL strategies mentioned compared with the OL score of the participant's library.

Table 6

OL Scores and Strategies Mentioned by Participant

OL score	OL score range	No. of OL strategies mentioned
2.10	Medium	11
2.25	Medium	10
2.45	Medium	16
2.50	High	14
2.50	High	7
2.80	High	8

The number of OL strategies mentioned does not have a linear relationship with the OL score. This could be due to the nature of the interviews. I did not ask participants to name all the OL strategies their institutions employed, but simply counted each time a participant happened to mention a specific strategy. Therefore, the strategies the participants named cannot be assumed to be an exhaustive list of all OL strategies the institution used.

External pressures. Though interview participants described external pressures that affected their libraries, the PPOLQ results told a different story. Item 17 on the PPOLQ is "This library develops new routines because the library reflects on itself, not because of external pressures." Overall, 42.1% of survey respondents answered *Frequently*, indicating that external pressures are not having a large effect on OL; 55.3% answered *Sometimes* and just one respondent answered *Seldom/Never*. The numbers are

even more striking when only the interview participants are taken into account: 66.7% answered *Frequently* and 33.3% answered *Sometimes*. Contrasted with the findings in the interviews, this may indicate that survey respondents felt more in control of their library's progress than they actually were.

Funds for professional development. One of the PPOLQ items included in the survey was "The library gives me substantial supports (e.g., finance, time off) to professional development I undertake." Table 7 outlines the responses to that survey question. The average score for that item was low, 1.95, when all responses are taken into consideration; the mean for only the interview participants was slightly lower at 1.83.

Table 7

Responses for the Supports for Professional Development Survey Question

Group	Mean	Median	Frequently	Sometimes	Seldom/never	Uncertain
All survey respondents	1.95	2	36.8%	23.7%	29.0%	7.9%
Interview participants	1.83	2	50.0%	0.0%	33.3%	16.7%

However, the interview participants all described some form of financial support for professional development. The apparent dissonance between the survey results and the interviews may indicate that the library employees do not consider the support they receive to be substantial or sufficient.

OL scores. The OL scores for all survey respondents versus the subgroups of interview participants provided further information about how the two groups were

related. Table 8 shows the descriptive statistics for each group. Mean OL scores for both groups indicated OL capacity in the medium range for both groups.

Table 8

Descriptive Statistics for OL Scores

Measure	All responses	Interview participants
Mean	2.34	2.43
Median	2.35	2.48
Standard deviation	0.28	0.24
Range	1.25	0.70
N	38	6

Though the interview participants were fairly representative of the total group studied based on the descriptive statistics, they were from institutions with slightly higher OL scores than the overall survey respondents. The qualitative data, therefore, may not provide as clear a picture of libraries with lower capacities for OL.

Validity and Trustworthiness

The key to valid and trustworthy findings is valid and reliable instruments. I previously discussed the reliability and validity of the PPOLQ, but in the qualitative phase of my study, I was the instrument through which data were collected. According to Merriam (2009), "ensuring validity and reliability in qualitative research involves conducting the investigation in an ethical manner" (p. 209). One way to do so is by using member checks, which involves getting feedback from the participants on the emerging findings: "participants should be able to recognize their experience in your interpretation or suggest some fine-tuning to better capture their perspectives" (Merriam, 2009, p. 217). No interview participants in this study modified content during a member check.

Another tactic is to spend enough time gathering data until you hear the same experiences over and over again—a strategy called "adequate engagement in data collection" (Merriam, 2009, p. 219). Though I was limited in the number of interviews I conducted, the data I gathered was sufficient to see trends in experiences. Along with this method, it is a good idea to actively seek data that differs from the norm, which was accomplished with the interview participants in this study.

Conclusion

Through this sequential explanatory mixed-methods study, I assessed and explored OL in FPCUs in the United States. In the first phase of the study, I administered a quantitative survey to academic library staff members at FPCUs to measure the capacity for OL in these libraries using Chen's (2006) PPOLQ. The survey also included library demographic questions. The data from the quantitative phase of the study helped answer my first two research questions: what capacity for OL is present in libraries at FPCUs, and which FPCU library demographic variables are most strongly related to OL capacity. I calculated OL scores for each of the 38 respondents. I also calculated a mean OL score for all respondents and concluded that a medium level of OL capacity exists in libraries at FPCUs in the United States.

I then used those scores and the responses to the library demographic questions to conduct a multiple regression analysis to determine what, if any, relationships existed between the dependent variable (OL score) and each of the independent variables (library demographic variables). I found that the independent variable that had the most statistically significant relationship with OL score was the number of FTE students—the

more students enrolled at an institution, the lower the OL score for the library. I concluded that larger libraries serving larger institutions were more likely to have lower OL scores.

In the qualitative phase of the study, which followed the quantitative phase, I interviewed six library participants who returned the survey from the quantitative phase and expressed interest in participating in the interview phase of the study. The interviews focused on OL processes and habits in their libraries. The data from the qualitative phase of the study helped me answer my third research question: how do library staff members in FPCUs experience OL in their libraries. Through coding interview transcripts and notes, I identified several recurring themes relating to OL including the challenge of external pressures and the importance of communication.

Finally, to integrate the two research phases, I discussed the ways the qualitative results helped explain the quantitative results. Specifically, links between the results related to external pressures indicated that library employees in FPCUs may underestimate the effect external pressures from within their institutions actually have on their library's practices. Also, combining the two types of data clarified that while library employees in FPCUs often receive financial support for professional development opportunities, it may not be what they consider substantial or sufficient.

Section 3: The Project

Based on the findings of my study, I wrote a policy paper. Specifically, this paper is a training manual that explains OL and recommends strategies for library employees in FPCUs to foster OL in their environments (Appendix A). I plan to disseminate the manual by publishing it open access via an institutional repository, or a site like Education Resources Information Center (ERIC). I would then send an email to the LFPEI electronic mailing list giving information about the publication, including a link to access it. It would also come up in online searches for information about OL and FPCUs because of being indexed in an institutional repository and ERIC.

My goals for this manual include educating library employees in FPCUs about OL, helping them implement OL strategies in their libraries, and helping them overcome common challenges to OL. The project has potential to expand into more, such as a conference presentation, a published article, a workshop, or a series of webinars.

Section 3 includes the rationale for this project type, a review of the literature relevant to policy or white papers, a detailed description of the project, a plan for evaluating the project, and possible social change implications resulting from the project.

Rationale

A policy paper was the most appropriate option based on the findings from my study. An evaluation report would not have been appropriate because this was not an evaluation study. A curriculum plan also was not appropriate because this study was not related to a particular curriculum and did not focus on students in a course. Finally, a professional development or training curriculum and materials would have been a second

choice, but it would not have been as useful a project for the population—library workers in FPCUs—as a position paper or manual for several reasons. For one, a professional development project requires planning for 3 full days of training. The population of library workers for this study are geographically distributed throughout the United States, not in one physical location. While it would be possible to conduct 3 days of training in an online venue, it might be difficult to engage participants for that time period online with no meaningful incentives provided. Additionally, many of the respondents in the sample were from libraries with few staff members; some were solo librarians, which would make it difficult for them to attend and give their full attention to a 3-day online workshop. The timing would have to be just right—during a semester break, for example. But that would be difficult, too, because not all institutions have concurrent breaks.

A freely distributed online manual, on the other hand, would work well for this population. The library staff members would be able to read it at their own pace, stopping when they need to assist a library user, and coming back to it without having missed anything. Through an online repository and electronic mailing lists, the manual could be distributed widely to library workers in FPCUs, and other types of institutions, across the country, and even to library workers in other countries working in similar environments. Learning about OL, including practical strategies for fostering OL, can help library staff members at FPCUs strengthen their libraries to more effectively support student learning. A manual would also add to the body of published knowledge about libraries in FPCUs, helping organizations like the LFPEI interest group better understand the context of

library staff members in these institutions and better support them and their leaders, which may lead to improved educational services for students at these institutions.

Review of the Literature

Whereas in the literature review in Section 1, I focused on OL and related topics within the literature, which was important for both the creation of the study as well as the content for the project, in the literature review presented here I focus on the genre used for the project: a position paper. Several phrases potentially described the format of the project: position paper, white paper, policy paper, policy recommendation, training manual, and how-to manual.

In the review of the literature, I searched multidisciplinary databases such as Academic Search Complete, Expanded Academic ASAP, and ProQuest Central. I created search strings based on combinations of the following terms: *policy recommendation*, *white paper*, *how-to manual*, *policy paper*, *position paper*, *training manual*, *professional organization*, *professional association*, *create*, *writing*, *genre*, and *format*. Predictably, when limiting to peer-reviewed scholarly sources, these search strings returned examples of this publication type far more often than information about this publication type. I used additional strategies such as citation indexing and citation mining to discover additional sources. Finally, I expanded my search to include websites and other non-scholarly sources because of the limited academic literature on the topic. I identified saturation at the point that the same several publications were appearing over and over again in search results as the only relevant items in the list of results.

Terminology

First, a disambiguation of terms is needed. The term *white paper* denotes a broad genre that has under its umbrella a number of more specific document types. McPherson (2010) noted that documents called white papers are present in a variety of fields and play a variety of roles: “the white paper has simply become a catch-all term for a document that defies any more precise description” (p. 9). Pershing (2015) defined a white paper as “a form of an essay that uses facts and logic in a persuasive way to recommend and promote a solution to a particular problem” (p. 2). Powell (2012) added that white papers are “strategically crafted to marshal support for an idea” (p. 97). Three potential goals of a white paper are to “provide useful ideas and information for readers to use in understanding issues, to solve a particular problem, or to do their jobs better” (Pershing, 2015, p. 2). These are all objectives that I had for the project described in this section.

McPherson (2010) concluded that white paper as a genre is “too general to describe without subcategories” (p. 9). One subcategory is a *marketing white paper*, which is “a document that describes a new or improved technology in order to generate interest in—and promote sales of—that technology” (Malone & Wright, 2018, p. 114). The marketing white paper was not relevant to this project, though some style and formatting elements proved useful. *Technical white papers* are “used to present technical material to a nontechnical audience” (Willerton, 2013, p. 106), explaining new technologies and trends to a broad audience. A *government white paper* is a document that relates to public policy and typically asserts a position on a policy-related topic

(Malone & Wright, 2018). Government white papers may also "be intended to educate and to invite response" (Lumby & Muijs, 2014, p. 523). While the site for this project is not a government agency (it is an interest group that is part of a professional organization), some of the same goals apply here as in government white papers.

Powell (2012) explained that a *position paper* is a less technical term for a white paper and used the terms interchangeably. According to Doyle (2013), a *policy recommendation* or *policy paper* is "simply written policy advice prepared for some group that has the authority to make decisions" (para. 1). Though the terminology is different, a policy recommendation essentially serves the same purpose as a government white paper. A *training manual* or *how-to manual* is a document that acts as the primary source of information, rather than as a complement to live sessions with a trainer, in an educational context (Lanigan, 2010). Because one potential white paper topic, according to Bly (2010), is "best practices in a specific industry or discipline" (p. 38), training manuals can be considered a type of white paper or position paper.

Organization and Content

Mattern (2013) emphasized that white papers are formatted in a variety of ways and there is no one correct way to write one. According to Naidoo and Campbell (2014), it is important to begin a white paper by describing the problem at hand before proceeding to outline the solution. Graham (2017) outlined that the content of white papers should be "educational, practical and useful" ("If there's no standards," para. 3). Campbell and Naidoo (2017) stressed that the design of the white paper should "help readers navigate the content" (p. 99). For training manuals, Lanigan (2010) recommended

dividing content into logical sections, with short paragraphs and transitions between paragraphs and sections. Sakamuro, Stolley, and Hyde (2018) suggested section headings that facilitate a reader scanning the document quickly. In support of this advice, Graham maintained that white paper readers tend to scan and skip around rather than reading cover to cover.

The title of the white paper is also important. Mattern (2013) stressed an informational title over an attention-grabbing one, but recommended including both elements when possible. While marketing white papers may or may not have a title page (Mattern, 2013), Lanigan (2010) suggested that training manuals should have a title page, a publisher and copyright page, and a table of contents page, similar to the formatting of a book. Graham (2017) recommended including an introduction or executive summary at the beginning.

A white paper should be written in a scholarly voice, avoiding humor or other informal conventions (Stelzner, 2007). Writing for white papers should be efficient and concise (Doyle, 2013), highlighting the relevance of the content to the intended audience and avoiding "wasting the reader's time" (Powell, 2012, p. 99). This starts with identifying and understanding the intended audience (Biswas & Paczynska, 2015). Language should be appropriate to the audience and clear, avoiding jargon (Lanigan, 2010; Naidoo & Campbell, 2014) and employing a "crisp authoritative tone" (Powell, 2012, p. 100). Lanigan (2010) recommended active voice over passive voice to help draw readers in. Additionally, white papers should employ secondary research in addition to

original research, and the sources should be cited (Biswas & Paczynska, 2015; Campbell & Naidoo, 2017; Naidoo & Campbell, 2014; Sakamuro, Stolley, & Hyde, 2018).

White papers can use images and graphics to support the text, as long as that use is not gratuitous (Campbell & Naidoo, 2017; Lanigan, 2010; Naidoo & Campbell, 2014). Powell (2012) suggested that not all white papers used images, but recommended doing so because images facilitate the application of the paper to an online platform. Sakamuro et al. (2018) stated that images or other graphics like charts and graphs "deepen the reader's understanding and make the white paper more appealing and persuasive" (para. 8). Additionally, Powell recommended "a polished layout" (p. 100) and stressed the importance of visual design. Lanigan (2010) further suggested the use of white space and bulleted lists in breaking up text and improving the visual appeal of the document. Lanigan suggested conducting usability testing for training manuals by selecting several people who are part of or similar to the intended audience and soliciting their feedback.

Application

A topic appearing throughout the academic literature (e.g., Byman & Kroenig, 2016; Newman, Cherney, & Head, 2016) is the inherent challenge of bridging the gap between academic or scientific research results and education for practitioners who could actually create change based on that evidence. Concise, clear, and relatively short writings like white papers are an oft-mentioned solution (Cairney, Oliver, &Wellstead, 2016; Kon, 2016; Newman et al., 2016).

In the case of government white papers and policy recommendations, Newman et al. (2016) sought to determine the degree policymakers in Australia actually used

academic research to inform decisions. They found that a high percentage of public servants in Australia used academic research databases and reported using the academic research they accessed as sources in their own writings (Newman et al., 2016). However, whether that research ultimately influenced policy decisions was unclear. Additionally, in their systematic review that included studies from multiple countries and policy topics, Oliver, Innvar, Lorenc, Woodman, and Thomas (2014) found that the availability of and access to academic research was a barrier to the use of evidence in policymaking. Newman et al. recommended that formatting the results and implications of research into summaries or other easily digestible forms may facilitate the translation of academic research to practical application. These findings provide good advice not only for researchers seeking to influence public policy, but also for researchers hoping to address gaps in practice and have their findings influence practice in any context.

Similarly, Kon (2016) investigated the degree to which hospitals and their employees applied professional organization policy statements to their own local procedures. Kon found that clinicians did rely on these policy statements as a means to save time and provide evidence-based guidance. Again, practitioners may not have the time or expertise to conduct or compile the research on their own, but they are willing to implement findings that have been presented to them in an accessible summary format, such as policy statements. Cairney et al. (2016) also noted the importance of concise documents like white papers in the dissemination of actionable research results in their suggestion to scientists to combine evidence and persuasion to strategically package findings with policymakers in mind.

Finally, Byman and Kroenig (2016), who subtitled their article on bridging the gap between research and policy decisions "A How To Manual," advised academics to "produce actionable findings and recommendations" (p. 291). They further recommended "writing short, spin-off pieces for nonacademic outlets with the policy implications clearly spelled out" (Byman & Kroenig, 2016, p. 291). These pieces should avoid jargon, the use of which excludes readers who may not be experts in the field. As Byman and Kroenig explained: "Policymakers need to know what specifically they should do differently on Monday morning and authors need to make the importance of their argument immediately obvious to busy policymakers" (p. 310). These points speak to the significance of providing specific strategies and how to implement them, as well as writing in clear and accessible prose. Communication is the goal, not obfuscation.

Another aspect to consider is the ease with which the target audience can find the white paper. Juricek (2009) identified white papers as *grey literature*, a phrase that denotes information published outside of commercial publishing entities, such as publications from businesses, professional organizations, and government agencies. Though white papers are sometimes published in traditional academic journals, often they are only available on the website of the sponsoring organization. This means that white papers can be difficult to find through library databases, and also require additional scrutiny on the part of the reader to identify bias and assess reliability (Juricek, 2009). With librarians and other library employees as the audience for the white paper presented with this study, it is important to note this limitation and create strategies to overcome it. For example, indexing the manual in an institutional repository and in ERIC will make it

more findable for librarians. Both avenues are often used to increase the discoverability of grey literature like white papers (Ferreras-Fernández, García-Peñalvo, & Merlo-Vega, 2015).

Project Description

Based on the findings of my study, I wrote a policy paper, specifically a training manual that explains OL and recommends strategies for library employees in FPCUs to foster OL in their environments. The basic outline of the manual is:

1. What is organizational learning?
2. Why is organizational learning important?
3. Factors that contribute to organizational learning (from the literature and my data)
4. Challenges to organizational learning and how to overcome them
5. Strategies for organizational learning (including examples of how to implement the strategies, from the literature and my data)
6. Promoting organizational learning when you're not in charge
7. Further reading/resources

The resources I needed to complete this manual were few. First, the results from my study, as well as evidence from the literature, comprised the base content for the manual. I had already gathered this information in previous parts of the doctoral study process. I found that I needed some additional evidence from the literature and searched to find those missing pieces. I also needed word processing software, to which I already

had access. The review of the literature I performed about white papers provided advice and guidelines for the writing and formatting of the manual, which I incorporated.

The implementation plan has several points, which will begin soon after conferral of my doctorate degree. I plan to submit the manual for inclusion in two online repositories: the Walden University ScholarWorks institutional repository (http://scholarworks.waldenu.edu/) and ERIC (https://eric.ed.gov/). To do this, the first step will be to convert the manual into PDF format, taking into account any submission requirements of the repositories. The Walden University institutional repository called ScholarWorks accepts submissions of work produced by Walden alumni (Walden University, n.d.). These works are available open access to the public.

ERIC's submission guidelines are clearly and publicly delineated. ERIC accepts submissions that are education research, including "individual papers, briefs, reports, or books" (United States Department of Education, n.d.a, "Allowable Content," para. 3). ERIC's online submission guidelines require that the PDF is 508-compliant (United States Department of Education, n.d.a), which means that the PDF adheres to the U.S. Department of Health & Human Services (2018) accessibility guidelines. These guidelines require the appropriate metadata to be set in the PDF file (document title, language, and so on), the use of bookmarks for documents longer than nine pages, hyperlinks to be clear and accessible, correct tagging for lists and headings, and several other points related to images, tables, and other elements of the document (U.S. Department of Health and Human Services, 2018). ERIC also requires that PDF submissions include an abstract and cover page (United States Department of Education,

n.d.a). Once accepted, ERIC will add the manual to their collection within 30 days (United States Department of Education, n.d.b). Like with ScholarWorks, submissions to ERIC are open access.

Once the manual is live on either site, I plan to send an email to the LFPEI electronic mailing list giving information about the publication and including a link to access the manual. That link will be to whichever repository has the manual live first. I will also post the same information and link to the LFPEI Facebook group page for further dissemination. In addition to those plans for sharing the link to the open access manual with the target audience, library employees in FPCUs, the manual will also be discoverable through its indexing in both ScholarWorks and ERIC. ScholarWorks is part of the larger Digital Commons network, the content of which is findable through search engine results and through the Digital Commons Network database (https://network.bepress.com/). Publications indexed in ERIC are likewise findable through search engines, as well as through library databases because many academic libraries provide access to ERIC, either through the free, public site, or through the ERIC dataset commercially sold to libraries through EBSCO (2018).

To help the manual be more findable, metadata is crucial (Gallop, 2017). This includes an informative title, one that includes many of the relevant key words that people looking for information on libraries in FPCUs might use in a search. It also includes assigning the manual key words or subject terms within the repositories. Appropriate key words and phrases to list for the manual in Appendix A are *organizational learning*, *academic libraries*, and *for-profit colleges and universities*.

I do not anticipate barriers to this implementation plan, as it is fairly straightforward. However, a potential barrier could be if the manual is not accepted for inclusion in one of the repositories. I do not foresee this being an issue because the manual does meet the stated guidelines for inclusion for both platforms. As long as it is accepted for inclusion in one or the other, the implementation plan will be on track. I am opting to submit to both repositories for greater discoverability, but inclusion is just one of the two would also be acceptable.

From there, I may be able to develop journal articles, webinars, conference presentations, or other opportunities to share the manual content with library employees in FPCUs. Librarians in other types of institutions, including traditional colleges and universities, and public libraries, might also benefit from the suggestions, though would need to modify the advice slightly to better fit their institutions. I am particularly interested in the possibility of developing a webinar or webinar series because the results of my study indicated that webinars are a common method for professional development for library employees in FPCUs.

Project Evaluation Plan

Prior to publication, I plan to have several other librarians review the content of the manual, as Lanigan (2010) recommended. This will help ensure the writing is clear and the suggestions useful for the intended audience. I also will include contact information within the manual inviting responses, suggestions, or questions from readers.

The nature of this project, a freely available online manual, lends itself well to an outcomes-based evaluation. Suggested analytics for evaluating the effectiveness of a

white paper include number of downloads and social shares (Scripted, 2014). The number of downloads is a common impact metric for documents in online institutional repositories (Bruns & Inefuku, 2016; Obrien et al., 2016), along with altmetrics like social media posts and shares (Erdt, Nagarajan, Sin, & Theng, 2016; Holmberg, Haustein, & Beucke, 2016). These numbers show how widely the white paper has been distributed, which is also the overall goal of this evaluation plan.

While I would want to track these numbers over time, the most meaningful numbers would be those showing the number of downloads immediately following the dissemination of the link through the LFPEI electronic mailing list. Downloads in the 2 weeks following the email would effectively show how many subscribers to the electronic mailing list saw the email and found it relevant to themselves. I am using 2 weeks because the LFPEI electronic mailing list has a digest option that sends new posts to subscribers once a week. Subscribers who opt for the digest emails may not see the email with the link to the manual for a week or more after I send it.

An additional, but less concrete, measure includes overall interest in the publication. This interest may manifest itself through discussion on the electronic mailing list, invitations from LFPEI leaders to present at upcoming meetings, or invitations from ACRL or LFPEI to hold webinars about OL for libraries. These secondary outcomes relate to the key stakeholders for this project, the members and leaders of ACRL's LFPEI interest group.

Project Implications

Through online repositories and electronic mailing lists, the manual could be distributed widely to library workers in FPCUs across the country, and to library workers in other countries working in similar environments. Learning about OL, including practical strategies for fostering OL, may help library staff members at FPCUs strengthen their libraries to more effectively support student learning. An OL culture has been found to contribute to organizational performance, both in the business world (García-Morales, Jiménez-Barrionuevo, & Gutiérrez-Gutiérrez, 2012; Jain & Moreno, 2015), and specifically in academic libraries (Yu & Chen, 2012). More knowledge about the processes involved in OL in libraries at FPCUs may lead to higher levels of OL in these libraries and therefore, better performance and improved services for library users. Because academic libraries contribute to student engagement (Soria, Fransen, & Nackerud, 2017), student learning (Pan, Ferrer-Vinent, & Bruehl, 2014), academic performance (Allison, 2015; Kot & Jones, 2015), and retention (Eng & Stadler, 2015; Mezick, 2015; Soria, Fransen, & Nackerud, 2013), the effects of improved library services for the students who attend FPCUs may be positive and long lasting.

The manual will also add to the body of published knowledge about libraries in FPCUs, helping organizations like the LFPEI interest group better understand the context of library staff members in these institutions, better support them and their leaders, and may lead to improved educational services for students at these institutions. More knowledge about OL and its implications could lead to positive social change through libraries being better able to contribute to student learning and success. In turn, the

libraries would be more likely to grow and develop, becoming more effective, positively influencing the ever-increasing populations of students who attend FPCUs.

Conclusion

In Section 3, I discussed the project I undertook based on the findings of my study: a policy paper, specifically a training manual that explains OL and recommends strategies for library employees in FPCUs to foster OL in their environments. I shared my plan for disseminating the manual through Walden's ScholarWorks, ERIC, and an email with a link to the LFPEI electronic mailing list. The goals of the manual include educating library employees in FPCUs about OL, helping them implement OL strategies in their libraries, and helping them overcome common challenges to OL. Section 3 included the rationale for the project type, a review of the literature relevant to policy or white papers, a detailed description of the project, a plan for evaluating the project, and possible social change implications resulting from the project.

Section 4: Reflections and Conclusions

The research study I undertook and presented in Sections 1 and 2 informed the project described in Section 3. In Section 4, I will offer final reflections and conclusions on the research, the project, and the processes involved. I will discuss the strengths and limitations of the project, offer recommendations for possible alternative approaches, reflect on scholarship, project development, leadership, and change, reflect on the importance of the overall work, and offer implications, applications, and directions for future research about OL in the libraries of FPCUs.

Project Strengths and Limitations

The project based on my study, a manual entitled *Organizational Learning for Libraries at For-Profit Colleges and Universities*, has both strengths and limitations in addressing the problem of a gap in knowledge and practice relating to libraries at FPCUs. The first strength is that it provides concise, action-oriented information that leaders and other employees at FPCU libraries can immediately apply in their own organizations. Findings from the literature showed that to translate research into practice, research needs to be communicated to policymakers or other relevant leaders and stakeholders in concise formats. Cairney et al. (2016), Kon (2016), and Newman et al. (2016) all recommended that researchers communicate their findings in easily digestible formats like policy statements and summaries. Byman and Kroenig (2016) further emphasized that these writings should avoid jargon and make specific recommendations for action. I followed these recommendations when creating the manual, so I anticipate that it will be effective in helping library employees make concrete changes in their organizations.

A second strength is that the manual will be widely and freely available. In their study of 125 PhD theses, Ferreras-Fernández, García-Peñalvo, Merlo-Vega, and Martín-Rodero (2016) found that open access publishing increased visibility and use of those theses. Theses, like white papers, are considered grey literature (Juricek, 2009), which are typically more difficult to find and access through traditional means. Hua, Sun, Walsh, Glenny, and Worthington (2017) studied 912 journal articles in the field of oncology and found that open access articles were cited 1.24 times more often than non-open-access articles. Mikki (2017) conducted a similar study, but focused on the scholarly input of the country of Norway in particular. Mikki found that open access articles received twice as many citations on average as non-open-access articles. In a broader, larger-scale study, Piwowar et al. (2018) examined 300,000 articles from various disciplines and countries and found that open access articles received 18% more citations than average. Woszczynski and Whitman (2016) likewise argued in favor of the potential benefits of open access, including the wider availability of knowledge. The evidence from the literature supported the idea that scholarly information, even grey literature, published through open access means has the potential to be more visible and used more widely than information published in the traditional model behind pay walls. Making the manual an open access publication is a strength in this project because doing so contributes to greater visibility.

One limitation of the manual is that while it is straightforward and useful to measure its dissemination as described in Section 3, it is much more difficult to measure its effectiveness and whether or not library employees in FPCUs are actually applying its

strategies to their work. I could do a follow-up study several years from now to see if the OL scores for libraries in FPCUs have increased, but there would be no way to attribute any change in average score to the manual as there are too many other factors involved.

Recommendations for Alternative Approaches

Though I anticipate that the manual I wrote and will publish will be a valuable contribution toward solving the problem of a gap in knowledge and practice relating to libraries at FPCUs, other solutions could also be effective. As the results of the study indicated, library employees at FPCUs often relied on webinars and attendance at conferences for their professional development. Adapting the same information I included in the manual into a webinar or series of webinars could, therefore, be an advantageous alternative. In this alternative, each webinar would be 1 hour long, with a webinar in the series held for 3 or 4 consecutive weeks on the same day of the week and at the same time. The webinar series should be offered free of charge because although some interview participants indicated their participation in fee-based webinars, others specified that only free webinars were realistic options for them due to funding constraints. The webinars could be sponsored by ACRL's LFPEI interest group. A limitation of this alternative is that unless the webinars were recorded and the recordings made publicly available, the potential reach of the webinars would not be as wide as with the published manual.

A presentation or workshop as a part of a larger conference could also be a good alternative to a published manual. Like webinars, conferences were another means of professional development often mentioned in the interviews. Depending on the

conference, presentations are typically 60-90 minutes long, while workshops can be up to 2 hours long. A limitation would be that the material would need to be condensed to fit into that time frame. Another limitation is that most conferences are not free, and so members of the target audience would have additional barriers to receiving the training. One exception might be a free, online conference, which the LFPEI has sponsored in the past—one in 2014 and one in 2015—but has not sponsored recently. Again, the limitation of a narrower reach is also a factor. However, either of these options may be an effective supplement to the open access published manual.

Another consideration is altering the definition of the problem entirely. According to my study results, not only did the libraries at FPCUs have average OL scores only on the medium level (when scores in the high category demonstrate the consistent double-loop learning that is necessary for optimizing operations; Bertram-Elliott, 2015; Chen, 2006), they also may struggle to neutralize the effect of pressures coming from their larger institutions such as top-down decision making, chaotic turnover in leadership, or budget issues. Certainly this secondary problem does reflect in the OL scores, but it was sufficiently pronounced in the study results to warrant its own exploration. Short of a macro-level focus on the structure, leadership, and finances of the FPCU industry in general, solutions may not be close at hand. However, strengthening the OL capabilities of libraries in FPCUs may equip them with the tools they need to overcome these larger issues as much as possible.

Scholarship, Project Development, and Leadership and Change

Undertaking this research and project were learning and growth experiences for me. Through the literature review and study processes, I gained a deep understanding of OL, as well as a better understanding of the academic libraries that serve students in FPCUs. The most challenging area was data analysis, both for the quantitative and qualitative portions of the study. My choice to do a mixed-methods study had positive consequences for my growth as a scholar. I experienced the strengths and limitations of both kinds of data. My perspective shifted as I began to understand the rich value inherent in qualitative research. I was surprised to learn that I felt more satisfaction and fulfilment through the completion of my qualitative research than through the quantitative research. With the exception of the hours spent transcribing interviews, my experience collecting and analyzing the qualitative data was enjoyable and meaningful. Getting to know actual members of the population I was studying through the interviews gave me a deeper understanding of the challenges they were facing and the variety of FPCUs in the United States.

Project development was another area of growth for me. Before I started my research, I felt strongly that my project would be curriculum for a professional development workshop. As I learned more about library employees in FPCUs through my research, I realized that a multi-day workshop would present too many participation challenges for my target audience. It would also not have as far a reach as I desired. Because of these factors, and also taking my strong writing skills into consideration, I decided that a position paper, white paper, or training manual would be a better

deliverable. The process of planning, writing, and producing the manual helped me to think about my study in terms of practical application. I focused on strategies that library employees could use to increase OL in their libraries.

Finally, I grew in leadership and change throughout this experience as well. I began this program with a passion to bring more awareness to libraries at FPCUs. As such a librarian myself, I often lamented the lack of information, leadership, and direction in this unique niche of academic librarianship. My first inclination was to pair my passion for libraries at FPCUs with my passion for information literacy and library instruction. However, my attendance at the American Library Association Annual Conference in June of 2015 changed my plans. I attended a presentation where Bertram-Elliott (2015) presented findings based on her doctoral dissertation about the links between OL and leadership in academic libraries. I knew that I wanted to work on something similar for my doctoral work. The focus on libraries in FPCUs was a natural choice. My primary goal was to influence and help other librarians in situations similar to ones I had experienced. This study and project have put me in a position to be a leader among my colleagues and influence change in the population I studied.

Reflection on the Importance of the Work

The results of this study, along with the guide I have created for my project, will help library employees in FPCUs better understand OL and how they can improve OL in their libraries. Improved OL could contribute to organizational performance, including increased innovation, facilitation of organizational change, and optimized organizational effectiveness. Because academic libraries contribute to student engagement (Soria et al.,

2017), student learning (Pan et al., 2014), academic performance (Allison, 2015; Kot & Jones, 2015), and retention (Eng & Stadler, 2015; Mezick, 2015; Soria et al., 2013), the effects of improved library services for the students who attend FPCUs may be positive and long lasting.

The manual would also add to the body of published knowledge about libraries in FPCUs, helping organizations like the LFPEI interest group better understand the context of library staff members in these institutions and better support them and their leaders, which may lead to improved educational services for students at these institutions. More knowledge about OL and its implications could lead to positive social change through libraries being better able to contribute to student learning and success. In turn, the libraries would be more likely to grow and develop, becoming more effective, positively influencing the ever-increasing populations of students who attend FPCUs.

Implications, Applications, and Directions for Future Research

Implications

The positive social change implications of this study are twofold. First, although FPCUs have surged in popularity in the American higher education landscape, with a 166% increase in enrollment between 2000 and 2015 (National Center for Education Statistics, 2017), there is little published research on the libraries at those institutions. Though the professional organization, ACRL, has attempted to support library employees in FPCUs through their LFPEI interest group, a broader understanding of the unique challenges this group faces would help the leaders of the interest group determine more effective ways to offer that support.

Second, because of the demonstrated links between academic libraries and student success measures such as engagement (Soria et al., 2017), learning (Pan et al., 2014), academic performance (Allison, 2015; Kot & Jones, 2015), and retention (Eng & Stadler, 2015; Mezick, 2015; Soria et al., 2013), libraries that can operate more effectively, possibly through taking steps to increase OL capacity, may also be able to serve their students more effectively. Many students in the United States opt to attend FPCUs. Contributing to the success of students at FPCUs contributes to the overall education levels of the American public.

Recommendations for Practice

Through the results of the study, I determined practices and habits library employees at FPCUs can employ to increase the level of OL in their libraries. The most influential of these is communication. Regularly meeting, either formally or informally, in a dedicated time slot as a library team is beneficial for OL. It is during these meetings that learning, including learning from professional development opportunities, can be transferred from the individual to the team. Institutionalizing learning further through archiving in an institutional repository, library intranet, or other such tool, can help the library team retain knowledge over time.

Another recommendation is for library leaders to support their employees in professional development opportunities like webinars and conferences, when possible. Prioritizing professional development in the library budget can make it more likely that the institution can financially support individual learning that can then be transferred and archived for the team as a whole. When it is not feasible to provide financial support,

library leaders can encourage employees to take advantage of free training opportunities, including free webinars, collective knowledge on electronic mailing lists, and library-related publications which can often be obtained freely through interlibrary loan relationships. Members of library teams can be proactive in seeking out these learning opportunities, even if their leaders are not providing direct encouragement or support.

Directions for Future Research

My primary recommendation for future research is undertaking this study on a broader level, with a larger number of participants. Doing so would produce results that are more generalizable to the entire population of library employees at FPCUs. Additionally, it might be interesting to study OL capacities and experiences in libraries at non-profit higher education institutions as well, and then compare and contrast the results to determine if the libraries at FPCUs are on par with more traditional institutions.

Conclusion

As higher education as a whole shifts to data-driven, outcome-based decisions, leaders of academic libraries also recognize the importance of using available knowledge to achieve maximum performance for their patrons. To this end, the business principle of OL can and should be applied to libraries to increase innovation, facilitate organizational change, and optimize organizational effectiveness. The libraries at FPCUs may particularly need the boost in effectiveness that OL may provide because they are supporting increasing numbers of students in sometimes challenging environments where changes and forces external to the library can affect library processes.

The results of the study indicated that the libraries at FPCUs had a medium capacity for OL at present. The number of FTE students enrolled at an institution was highly related to the OL capacity of that institution's library—the more students the library served, the lower the library's OL capacity. Moreover, library employees at FPCUs suggested through their experiences that collaborative decision making, attending webinars, funds for professional development like attending conferences, and communication, such as through regular team meetings, contributed to OL in their libraries.

I compiled these best practices, along with other advice and recommendations from the literature, into a manual entitled *Organizational Learning for Libraries at For-Profit Colleges and Universities* (Appendix A). I plan to publish the manual through ERIC and Walden's own ScholarWorks, making it freely available online to library employees in FPCUs in the United States and around the world. My hope is that the manual will help library employees strengthen OL in their libraries, leading to more effective processes that permit the libraries to better support the students they serve. Better library support for students, in turn, could lead to increased student engagement, student learning, academic performance, and retention at FPCUs, creating positive social change for the large number of students enrolled at those institutions.

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Appendix A: The Project

Organizational Learning for Libraries at For-Profit Colleges and Universities: A Manual

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Organizational Learning for Libraries at For-Profit Colleges and Universities

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This manual was originally drafted as a component of my EdD degree from Walden University.

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Introduction

This manual is intended to be an introduction to the concept of organizational learning for librarians working in for-profit colleges and universities, though the suggestions and ideas herein are applicable to librarians working in a variety of institutions. We'll discuss what organizational learning is and why it's important for you to consider in relation to the work you do. I'll also share examples of factors that contribute to organizational learning, as well as factors that make organizational learning more challenging.

In addition, I provide research-based, concrete suggestions for increasing the organizational learning capacity of your library. Though many of the suggestions in this manual would require some degree of leadership authority to implement, the section "Promoting Organizational Learning When You're Not In Charge" provides practical suggestions for lower-level library staff members who want to promote organizational learning on a grassroots level in their libraries.

What is Organizational Learning?

Organizational learning is simply defined as the process by which an organization creates, retains, and transfers knowledge in order to correct errors and continuously improve (Argote, 2012). The term incorporates such concepts as professional development, knowledge management, as well as individual and group learning opportunities.

Inherent in the concept of organizational learning is the expectation that more learning will help an organization be more effective (Argote, 2012; Argyris & Schön, 1978; Fiol & Lyles, 1985; Senge, 1990). Organizational learning involves a process of knowledge transfer in which individual learning (e.g., a librarian attending a webinar or reading this manual) is shared with other individuals and teams within the organization (e.g., the librarian shares what was learned at the webinar with colleagues at a team meeting or in an email summary), and ultimately is archived (e.g., in a local library intranet or institutional repository) and becomes part of institutional customs and memory. The learning can then remain with the organization even as individuals leave.

Scholars recognize two types of learning: single-loop learning and double-loop learning. Single-loop learning is correcting an error without significant changes to the way things are normally done (Argyris & Schön, 1978). It is learning that is "action-oriented, routine, and incremental, occurring within existing mental models, norms, policies and underlying assumptions" (Van Grinsven & Visser, 2011, p. 380).

Double-loop learning, in contrast, is correcting an error in a way that involves significant changes to the normal way of doing things, i.e., not only "detecting error but questioning the underlying policies and goals as well" (Argyris, 1977, p. 116). It is learning that involves "changing mental models, norms, policies and assumptions underlying day-to-day actions and routines" (Van Grinsven & Visser, 2011, p. 380).

As an example, think of the differences between a standard thermostat and new artificial intelligence enabled smart thermostats. The standard thermostat detects when a room is getting too cold and turns on the heat to correct the temperature of the room. This is single-loop learning. A smart thermostat may make determinations about what temperature is the appropriate temperature for the room in the first place. This is double-loop learning. Single-loop learning results in maintaining the status quo, while double-loop learning leads to progress. Single-loop learning is effective for quick, surface changes, while double-loop learning is effective for long-lasting and sustainable deep change.

One concept related to organizational learning is the learning organization, which Peter Senge (1990) popularized almost 30 years ago. Learning organizations are "organizations where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together" (Senge, 1990, p. 3).

Essentially, organizational learning is a complex process that helps an organization, like your library, create, share, and retain knowledge internally so that knowledge can be better harnessed and applied for progress.

Why is Organizational Learning Important?

In general, organizational learning has been found to contribute to organizational performance, including facilitating organizational change (Mayer, LeChasseur, Donaldson, & Cobb, 2013) and increasing innovation (Dias & Escoval, 2015). In academic libraries, specifically, organizational learning has helped increase innovation (Islam, Agarwal, & Ikeda, 2015), facilitate lasting change (Whitworth, Calvo, Moss, Kifle, & Blåsternes, 2014), and optimize organizational effectiveness (Chidambaranathan & Rani, 2015b).

Modern organizations, and especially libraries (Limwichitr, Broady-Preston, & Ellis, 2015), must consistently adapt. The Internet has changed the information landscape, and libraries have a constant need to prove their value and become leaders of technological developments that affect information (Attis, 2013). Because of this, the positive relationship between organizational change and organizational learning speaks to the importance of an organizational learning strategy.

In my research specific to organizational learning in the libraries of for-profit colleges and universities, I found that, on average, the organizational learning capacity in these libraries was at the medium level. However, organizational learning capacity at the high level is necessary for the flexibility and innovation required in today's environment.

The bottom line is that organizational learning can help your library progress and better serve your users. Importantly, organizational learning can also be a catalyst that helps you better demonstrate the value of your library to your institution.

Factors that Contribute to Organizational Learning

Research has shown that certain conditions make organizational learning more or less likely. This section will outline some of those findings.

Library/Institution Size

Though the research is a bit mixed on the specifics, it is clear that the size of an institution (i.e., number of students) and the size of the library (i.e., number of employees) contributes to organizational learning. My own research found that the number of students enrolled at an institution had a negative relationship with organizational learning score, meaning that the more students there are, the lower the organizational learning capacity. Similarly, Bertram-Elliott (2015) found that libraries serving fewer students and with fewer students per librarian had higher organizational learning scores. The results indicated that library staff members with a comfortable workload due to sufficient staff size can spend more time learning and sharing their knowledge to increase organizational learning in the library.

In contrast, Huang (2014) found that larger libraries engaged in more organizational learning activities than smaller libraries. The discrepancy might be explained by the idea that *more* organizational learning activities do not necessarily translate into *better* organizational learning.

Transformational Leadership

Transformational leadership is leading through empowering, inspiring, and energizing employees, by espousing a shared vision and eliciting acceptance of that

vision, and through facilitating employees in looking beyond their own self-interest to embrace the good of the group (Bass, 1990). Characteristics of transformational leadership include charisma, inspiration, intellectual stimulation, and individualized consideration (Bass, 1990). Transformational leadership can also be linked to organizational learning.

In their research, Imran, Ilyas, and Aslam (2016) found a positive effect of transformational leadership on organizational learning. Likewise, Manshadi, Ebrahimi, and Abdi (2014) and Noruzy, Dalfard, Azhdari, Nazari-Shirkouhi, and Rezazadeh (2013) found positive and meaningful relationships between transformational leadership and organizational learning. Noruzy et al. stated that "transformational leadership directly influenced organizational learning" (p. 1073). Manshadi et al. isolated the aspects of transformational leadership—idealized influence and individual consideration—that best predicted organizational learning. Thus, the transformational leader who most effects organizational learning is one who charismatically models the behavior desired in employees and respects employees as individuals, including their differences, and helps them reach their potentials (Manshadi et al., 2014).

Teamwork

Organizations that emphasize teamwork as a part of their culture are also likely to have higher capacity for knowledge management, which is a key component of organizational learning (Chidambaranathan & Rani, 2015a). Teamwork facilitates sharing learning throughout an organization, which is a key factor in transferring knowledge from

an individual to the organization. Valuing teamwork may also contribute to group learning, in which experienced members of a group compensate for new team members with little effect on performance (Reagans, Argote, & Brooks, 2005).

Formalized Knowledge Management Processes

Yu and Chen (2015) found that "creating systems to capture and share learning" contributed most significantly to organizational learning culture, though Agarwal and Islam (2014) found that no single set of tools was applicable to every library or every situation.

Support for Professional Development

Bertram-Elliott (2015) found that the best predictor of organizational learning capacity in academic libraries was support for professional development, even if it was only encouragement without financial support.

Challenges

Several primary challenges to increasing organizational learning capacity in our libraries are part of the reason for lower-than-needed organizational learning. I discuss some of the challenges in this section, and then provide strategies to overcome these challenges in the next section.

Limited Understanding

One issue that poses a challenge to increasing organizational learning in academic libraries is a limited understanding of the term and what it entails. Limwichitr et al. (2015) explained that there are many different definitions of organizational learning used in various disciplines and coming from several perspectives. Among library employees specifically, there is confusion about the distinction between their role in helping students and faculty learn, and their own individual learning to contribute to the organizational knowledge of the library (Limwichitr et al., 2015). In my own research specific to libraries at for-profit colleges and universities, about 33% of interview participants said they had heard the term *organizational learning* before and then explained the concept correctly. However, it became apparent that all the participants were familiar with the concepts involved in organizational learning, even when they did not know the term.

Adding to the issue is a lack of published literature addressing organizational learning in the academic library environment, or at least a lack of literature where these concepts are clearly outlined for effective application in academic libraries. Though more and more studies are published in the library and information science literature that focus

on organizational learning and related concepts, many are still focused on theory rather than practice.

Large or Scattered Library Teams

A library team that is especially large, or a team that is spread between different physical locations working on different campuses or working remotely, can be a challenge to better organizational learning. My research showed a negative relationship between the number of students enrolled at an institution and the organizational learning score of that institution's library, meaning that the more students a library serves, the lower its organizational learning capacity. One possible reason for this finding is that communication between library team members becomes more difficult with more employees or with employees who are spread out geographically. Collegiality and informal conversations become more difficult.

Heavy Librarian Workloads

Library employees who are overworked, perhaps due to unmanageable student-to-librarian ratios, have less time to devote to individual learning and sharing their learning with others. When individual learning does not happen, it is less likely that organizational learning will take place. A library team under these conditions may maintain the status quo, and sometimes eke out improvements, but more substantive progress will be difficult.

External Pressures

Another challenge to organizational learning is pressure coming from outside your library, but within the larger institution, and over which the library has no control. Budget cuts, changes in institutional leadership or structure, or a perception among institutional leaders and faculty that the library is unnecessary are all examples of external pressures that can make organizational learning more difficult.

Strategies

Challenges to organizational learning can be overcome with intentionality in applying strategies for organizational learning. In fact, my research found that often the libraries with the most challenges had the highest organizational learning scores, perhaps because the teams at these libraries had to be more resourceful and proactive to keep their libraries as stable as possible despite the challenges. While we have seen that there are some factors that are more likely to contribute to organizational learning, what does that mean in a practical sense? This section outlines specific strategies library employees can incorporate into their practice to help increase organizational learning.

Communicate

A key strategy for increasing organizational learning is communication. Regular communication, both formal and informal, between members of the library team is crucial.

Schedule regular team meetings. Schedule a dedicated time slot for regular meetings for the library team as a whole to meet and discuss problems, concerns, and ideas. Share a meeting agenda several days beforehand to give team members an opportunity to prepare their thoughts, but also make sure the agenda includes time for an open forum, where anyone in the meeting can share a relevant topic with the group.

Encourage informal communication. Don’t underestimate the power of informal communication. In libraries where team members work in the same physical location, this could be water cooler talk, but informal communication also happens

electronically. Many organizations have an internal system for instant messaging, such as Skype for Business, that library employees can use to informally chat with their colleagues about projects and ideas. Instant messaging as a means of communication is particularly useful for library teams that are scattered, either working on multiple campuses or working remotely.

Meet one-on-one. Managers should meet regularly with their direct reports one on one. While leaders can and should encourage employees to reach out to them as questions or concerns arise, it is also helpful to have a dedicated time slot set aside when employees know they will have uninterrupted time with their supervisor. Both the manager and the direct report should come to the meeting prepared with an informal list of points they want to discuss. When managers and their direct reports do not work in the same physical location, technology tools like phones with video screens or online meeting software are helpful so that both parties can see and hear each other as if they were face to face.

Develop Onboarding Processes

New employees must learn a large amount of information about local processes in a short amount of time. Facilitating that process can increase overall organizational learning.

Create manuals. Create and regularly update manuals for specific positions and job aids or standard operating procedures documents for common tasks. If you are starting from scratch, consider assigning an employee in the position to create the first

draft of a manual about their responsibilities and the work they do—essentially an upload of their individual knowledge of the position to share with the rest of the team. Doing this is particularly important for people who have been in a position for a long time as they likely have institutional knowledge others on the team may not. Even if it is unlikely the employee will leave their position anytime soon, having the record is valuable, especially for purposes of cross-training or helping newer employees in similar roles learn.

Develop an onboarding curriculum. In addition to training materials like manuals, consider developing a formal onboarding curriculum that new employees must undertake. One librarian I interviewed described a formal, 6-week onboarding process that involved set daily tasks and assignments. There were built-in assessment points, and supervisors could track progress via a learning management system. The training also incorporated live webinars from vendors or other sources, which are automatically added to the new employee's work calendar. In the case of this library, the formal onboarding process was in reaction to, and a solution for, high turnover of librarians; a strategy to keep organizational learning high despite external pressures.

Support Learning

Because organizational learning often starts at the individual level, one way to increase the organizational learning capacity of your library is supporting professional development for all library employees. However, keep in mind that learning for the sake of learning is not the goal. Rather, library team members should learn in order to do their jobs better, innovate, and share what they've learned.

Pay their way. Where possible, financially support library employees attending trainings, conferences, or other opportunities that may involve a registration cost or travel expenses. Library employees and leaders can advocate for the inclusion of such funds in the library's budget. Daland (2016) recommended as a best practice that at minimum, 0.5-1.0% of the library's budget should be reserved for employee learning.

Promote opportunities. Even when financial support is not possible, encouraging library employees to take advantage of free opportunities is helpful. These resources could include free webinars, collective knowledge on electronic mailing lists, and library-related publications which can often be obtained freely through interlibrary loan relationships. When you see an email come through about an upcoming webinar, for example, you can forward it to colleagues who may be interested.

Allow time for learning. If library employees are willing to pay their own expenses for a conference, library leaders can make sure that time away is classified as work time so the employee does not need to take personal or vacation time to attend. Likewise, managers can ensure employees have down time outside of staffing a reference desk, monitoring library chat, or other responsibilities, that they can use to pursue learning. Daland (2016) recommended best practice is 10% of work hours dedicated toward learning activities. Another aspect of allowing time for learning is advocating for new positions, or filling vacant positions promptly, if the workload becomes unmanageable.

Require and reward learning. Emphasize that learning is a priority by incorporating continuous learning into annual evaluations or performance reviews. This should not be so prescriptive as to specify what each individual should be learning about, but it should be clear that everyone should be learning something they can apply to their jobs.

Share Learning

Once individual learning takes place, the knowledge needs to be transferred, or shared, so that it can become organizational learning. Develop formal ways to share information that a library employee gains from professional development opportunities.

Report back. After an employee attends a conference or other substantial learning opportunity, make sure the next library team meeting includes time for that employee to share key points from the experience. Make reporting back after a conference a standard expectation, in whatever format works best for your library.

Train the trainer. Assign employees who have attended skills-based training to teach what they have learned to others on the team. This could be one-on-one or in a group scenario. Alavi and Leidner (2001) recommended skills training as the best way to share knowledge that is highly context specific, whereas storing knowledge in repositories makes more sense for more general knowledge.

Store Learning

Going a step beyond simply sharing, institutionalize new knowledge further by archiving it in an institutional repository, library intranet, or other such tool. Create your

own databank of library knowledge that employees can return to over time for new ideas or a reminder of the proper process for a task. Library teams need to explore and experiment to discover which technologies or systems work best for their own circumstances. This databank is a great place to store the manuals, job aids, and standard operating procedures you or others on your team may have created. Also include handouts, slide decks, or even recordings from webinars or conferences members of your team have attended. Make sure these materials are only available internally, not publicly, and that you have permission to archive them.

Promoting Organizational Learning When You're Not in Charge

If you are not a director or manager in your library, it may seem that some of these suggestions are out of your control. However, there are still steps you can take to contribute to the organizational learning atmosphere at your library.

Seek Out Opportunities to Learn

Opportunities for library employees to learn are everywhere, often for no or little cost. Be proactive about finding and taking advantage of these opportunities.

Subscribe to electronic mailing lists. Not only will you engage in interesting discussions on the list, but you will also receive notifications about webinars, conferences, and other trainings from various organizations, associations, and providers.

Search and browse the literature. Library workers are already skilled in searching the literature to learn more about topics. Use those skills to find out more about a topic or project on which you would like to work. Interlibrary loan is often an option even if your library does not hold the resource you want to read.

Participate in free webinars. Many professional organizations, interest groups, or other associations hold free webinars on library-related topics. Webinars are convenient to attend from your desk. Often, the hosts will provide participants with access to a recording after the webinar, which is useful if you are multitasking during the webinar time and need to re-watch parts later.

Share What You Learn

Have conversations with your colleagues and supervisor about what you are learning, including what you are learning about organizational learning. When you see free webinars or other opportunities you think would interest colleagues, forward them the information. Offer to assist or informally mentor a new colleague. Sharing learning is a two-way process (Collinson & Cook, 2003), so you should also be open to discussing something a colleague learned and wants to share with you. Ask for help from a knowledgeable colleague when you need it.

Communicate

Develop positive working relationships with your colleagues. Chat with them informally, either in person or through email or instant messaging. Share your ideas and listen to theirs. Collegiality goes a long way toward fostering an environment of organizational learning.

Suggest Practical Solutions

While it is great to share what you learn, it is better to use what you learn to develop and suggest practical solutions to problems in your library. The “so what?” question is important to administrators. How is what you learned going to benefit the library and what steps does the library team need to undertake to implement it? Be willing to take the lead in carrying out the solutions you suggest.

Wrap-Up

Organizational learning is a team effort. Leaders and managers who are committed to the strategies and processes outlined here can have a significant impact on the organizational learning capacity of their library environments. On an individual level, library workers can also do their parts to practice and encourage organizational learning strategies as a part of their work responsibilities. The result is libraries that are more prepared to innovate, adapt, and work effectively, better situating them to serve their students and other users.

As you implement some or all of the suggestions in this manual, I encourage you to persevere through the challenges you will likely face. Also, remember that organizational learning is not an all-or-nothing process. If you can make even small changes to better encourage organizational learning, your library organization, and your patrons, will benefit. Best wishes in your organizational learning journey!

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Appendix B: Process and Phases of Organizational Learning Questionnaire (PPOLQ)

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Information about how your library is learning

There are 20 statements in this part (S1-S20). For each statement, please place one tick in the appropriate column, under one of the following headings:

Happen(s) frequently Happen(s) sometimes

Seldom or never happen(s) I am uncertain

	Frequently	Sometimes	Seldom/Never	Uncertain
S1. When intending to solve problems, this library uses its routines to solve problems.				
S2. When intending to solve problems, this library replaces routines.				
S3. When this library intends to solve problems, I have innovative ideas about how this library can better respond to the problems.				
S4. When I have such innovative ideas, I explain them to my library colleagues.				
S5. I give feedback to my library colleagues when they explain their ideas to me.				
S6. We have formal discussions (e.g. meetings), in our team or library, about the ideas.				
S7. We have informal discussions (e.g. conversations in tea breaks), in our team or library, about the ideas.				
S8. The formal or informal discussions generate some sorts of consensus.				
S9. When this library, as an organization, takes action according to the consensus, the action results in the development of new routines.				
S10. When this library is in the process of developing new routines I personally gain worthwhile information.				

S11. The library encourages its employees to undertake professional development activities (e.g. seminars, workshops, training courses, or academic study).				
S12. The library gives me substantial supports (e.g. finance, time off) to professional development I undertake.				
S13. The process of development of new routines naturally involves the creation of new information. In this library such new information is documented.				
S14. The library director plays a crucial role in determining whether the library should develop a new routine to replace an old one.				
S15. In this library there are some groups/teams (e.g. professional and nonprofessional groups) in which team members express opinions to each other.				
S16. This library has an intention of making organizational changes.				
S17. This library develops new routines because the library reflects on itself, not because of external pressures.				
S18. The organizational climate of this library helps its employees to express their ideas or opinions freely.				
S19. The use of information technologies (e.g. Internet, Bulletin Board System, e-mail) influences the process of development of new routines within the library.				
S20. I think that this library should continuously develop new routines.				

Appendix C: Library Demographic Questions

21. Are you employed in the library of a for-profit college or university?
    a. Yes
    b. No

22. How many full-time equivalent (FTE) students are enrolled in the institution? Please include all students at all campus locations and online, if applicable.
    a. Fewer than 500
    b. 500-999
    c. 1,000-2,999
    d. 3,000-4,999
    e. 5,000-6,999
    f. 7,000-8,999
    g. 9,000-10,999
    g. 11,000 or more

23. What type of institution is it (based on Carnegie classification)?
    a. Associate's college
    b. Baccalaureate college
    c. Master's college or university
    d. Doctoral university
    e. Special focus institutions (e.g. law, health sciences)

24. How many FTE library employees (staff or faculty, not including student workers) are employed at the institution? Please include all library employees at all campus locations and remote, if applicable.
    a. Fewer than 1
    b. 1-5
    c. 6-10
    d. 11-15
    e. 16-20
    f. 21-25
    g. 26 or more

25. Approximately how many of the FTE library employees are librarians (with an MLIS or equivalent)?
    a. Fewer than 1
    b. 1-5
    c. 6-10
    d. 11-15
    e. 16-20
    f. 21-25
    g. 26 or more

26. Does the head of the library (director, dean, manager, etc.) have an MLIS or similar degree?

a. Yes
b. No

27. How long have you been employed at this institution?

a. 0-5 years
b. 6-10 years
c. 11-15 years
d. 16-20 years
e. More than 20 years

28. How long have you worked in libraries total?

a. 0-5 years
b. 6-10 years
c. 11-15 years
d. 16-20 years
e. More than 20 years

29. Do you have an MLIS or similar degree?

a. Yes
b. No

30. What is your highest degree attained?

a. No college degree
b. Associates degree
c. Bachelor's degree
d. Master's degree
e. Doctorate degree

31. What is your position within the library? Please choose one that most closely matches your position.

a. Student worker
b. Staff/paraprofessional
c. Professional librarian
d. Professional other
e. Department or area supervisor
f. Head of the library (Director, Dean, etc.)

32. If you would like to participate in this study further by agreeing to be interviewed via Skype, please enter your email address below.

_____

Appendix D: Interview Protocol

Establish Skype connection; audio check

Script

Hello and thank you for participating in this interview today. My name is Julie Evener and I am a doctoral student at Walden University conducting my doctoral study in partial fulfillment of the requirements for the degree of Doctor of Education.

This interview will last approximately 60 minutes and will focus on organizational learning and your experience of it in your library. Is it okay if I record this session using the audio and video record feature in Skype so that I can accurately represent your thoughts and ideas? If at any time during the interview you wish to stop recording or stop the interview altogether, please just let me know. Everything you say here today is confidential. Your answers will be used to better understand the experiences of library employees at for-profit colleges and universities, especially in relation to organizational learning.

You have given written consent to participate in this study. Your participation is completely voluntary. Again, if you'd like to stop at any time, please let me know. Do you have any questions or concerns before we begin?

Questions

1. To start, can you tell me more about your library – size, number of employees, any special focuses, etc.?

2. Had you heard the term *organizational learning* before participating in this study?

    a. *If yes* – Please explain your understanding of the term.

3. For the purposes of this study, I am defining organizational learning as the process by which an organization creates, retains, and transfers knowledge in order to correct errors and continuously improve. The term incorporates such concepts as professional development, knowledge management, as well as individual and group learning opportunities.

    Based on that definition, in what ways does your library practice organizational learning?

4. Can you briefly tell me about a problem or challenge your library faced recently or is currently facing?

Was the problem resolved?

a. *If yes* – Can you please tell me about the process your library used in resolving the problem?
Where did the solution come from?
How was it shared with others in your library?
What role did your library director play in this process?
What changed at your library as a result of this solution?

b. *If no* – Do you have any ideas on what to do or how to resolve this issue?

i. *If yes* – Please tell me about them.
Have you shared these ideas with others in your library?
Who? In what ways?
How were your ideas received?
What process do you think your library will use to solve the problem?
What role will the library director play in this process?
What changes do you anticipate in your library as a result?

ii. *If no* – Have you talked to anyone else in your library about their ideas on what to do or how to resolve the issue? Formally? Informally?
What process do you think your library will use to solve the problem?
What role will the library director play in this process?
What changes do you anticipate in your library as a result?

5. Please describe any professional development opportunities, like webinars, workshops, seminars, professional reading, conferences, etc., you may have participated in the last year.

a. What support, if any, did your institution provide to enable you to pursue those opportunities? Financial, time off, etc.

b. After the [workshop, conference, etc.], did you take any steps to share your learning with others in your library or at your institution? If yes – how?

6. Before we end, is there anything else you'd like to share? Do you have any questions or new ideas to add?

Appendix E: Permission to Use PPOLQ Instrument

From: **陳冠年** <wc@kmu.edu.tw>
Date: Wed, Mar 15, 2017 at 11:57 PM
Subject: Re: Requesting Permission to use PPOL Questionnaire for a Doctoral Study
To: Julie Evener <julie.evener@waldenu.edu>

Dear Julie,
I allow you to use the questionnaire in my article for your doctoral study. Please put my name in the acknowledgement of your future dissertation and the article in a published journal. I am happy to receive your completed dissertation.
Thanks.
K. Chen

「知識是叫人自高自大，惟有愛心能造就人。」"Knowledge puffeth up, but charity edifieth."--哥林多前書 Corinthians 8:1

On Wed, 15 Mar 2017 21:05:34 -0400, Julie Evener wrote

Dr. Chen:

I am a doctoral student at Walden University working on my doctoral study on the topic of organizational learning in libraries at for-profit colleges and universities under the direction of my doctoral study committee chaired by Dr. Vicki Underwood. For my study, I would like your permission to use your *Processes and Phases of Organizational Learning* questionnaire as displayed on page 99 of your 2006 article cited below.

Specifically, I would like to:

- Reprint questions 1-20 in electronic format for online administration. An invitation and link to complete the survey will be sent via the Association of College & Research Libraries, Librarianship in For-Profit Educational Institutions email distribution list.
- Include the modified 20 questions in the appendices of my completed study, which will be published in ProQuest's Dissertations and Theses database. These pages will be omitted from my copyright of the dissertation.
- Properly cite your instrument as follows, unless you prefer a different format:

Chen, K.-N. (2006). Library evaluation and organizational learning: A questionnaire study. *Journal of Librarianship and Information Science, 38*(2), 93–104. doi:10.1177/0961000606063891

I am happy to answer any questions you may have, and to send you a copy of my doctoral study document when it is completed. May I please have your permission to use the *Processes and Phases of Organizational Learning* questionnaire in the ways I have described?

Thank you,

Julie Evener
Doctoral Student
Higher Education Leadership
Walden University

cc: Dr. Vicki Underwood