

TRANSFORMING AN ACADEMIC LIBRARY TO A LEARNING COMMONS MODEL:
STRATEGIES FOR SUCCESS

by

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ABSTRACT

The rise of technology and a new generation of learners have profoundly influenced the learning and teaching principles in the twenty-first century. Academic libraries, as an intrinsic part of the students' educational journey, are increasingly embracing these developments by morphing into a new model of service termed as the learning commons. This study sought to investigate strategies that contributed to the success of transforming a traditional library into a learning commons model, as well as factors that hindered the change process. The goal of this mixed method of inquiry was to elicit a clear picture of the participant librarians' viewpoints on the research topic. The study's sample consisted of three academic library directors or deans. The study sites included three independent university libraries located in Orange and Los Angeles counties in Southern California. The quantitative segment of the research comprised of an initial survey. The qualitative inquiry utilized three types of instruments for collection of data: (a) individual semi-structured interviews with librarians, (b) on-site observations, and (c) information from online and print resources. The resulting data was analyzed using an inductive approach. The most significant findings that contributed to the success of the transition comprised of technology, understanding students' needs through regular surveys, support of administration, library staff collaboration, cafe, and policy changes regarding food and noise in the library. The analysis also suggested that funding, resistance to change, building partnerships with all stakeholders, and forming an effective working team were some of the foremost challenges to adapting the learning commons model of service. The overall findings of this study showed that careful planning of the transformation and identifying factors that influenced the change process were essential for the successful implementation of the learning commons concept.

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CHAPTER 1: INTRODUCTION

The role and functions of an academic library have evolved drastically as the result of a new social, economic, and technological reality. Libraries are responding to these developments by changing focus from collection and storage of information to becoming active partners in students' educational journey. The learning commons model of service is a concept that is founded on the vision of supporting the integrated learning needs of the digital generation. Many institutions have already adopted the learning commons model that may include space re-design and re-purposing learning and teaching support resources and services. However, planning and implementing the transition from a traditional academic library to a learning commons model is a daunting challenge for most of the smaller institutions (Cunningham, 2007). A key to successful transformation is identifying strategies that will lead to planning and implementing a productive and thriving learning commons that will motivate students to develop critical thinking and engage in creative learning within an information and technology-rich environment.

Chapter One presents the background of the study including a section on the millennial generation, researcher's background, statement of the problem, the purpose of the study, the significance of the study, definition of terms, theoretical framework, research questions, limitations, delimitations, and the assumption of the study.

Background of the Study

Libraries are gateways to knowledge and the culture of a society. Traditionally, libraries have been the repositories of print materials with the librarians as the guardians of the resources (Simmons, 2000). Libraries have supported knowledge and scholarship for generations of learners by providing refuge and quiet spaces for reading and research (Gayton, 2008; Sapon-White, King & Christie, 2004). According to the type of services delivered to the users, libraries

are broadly categorized into the academic library, special library, public library, and national library (Rubin, 1998). Academic libraries serve the educational objectives of the institution, and therefore they exist to meet the needs of the academic community. The growth of academic libraries reflects the development of higher education and their roles have evolved as the priorities and goals of the educational institutions have progressed (Shiflett, 1981).

Modern academic libraries are at the crossroads of seemingly ubiquitous technology and online information. The millennial students are increasingly relying on digital and media, collaboration, and creativity for learning and communication (Hoffman, Franks, & Edson, 2015). Since late 20th century, there has been a growing dialogue that the traditional brick and mortar library is no longer an essential part of the institution or student's educational experience (Ross & Sennyey, 2008). Numerous academic libraries across North America reported a measurable decline in the usage of library reference services, door count, and print collections in the early 1990's (Beagle, 2009). This shift in library usage coincided with the arrival of the internet and online technology. The topic of relevancy and value of the academic library as place and space is still debated extensively by academic librarians and educators (Antell & Engel, 2006; Buschman & Leckie, 2007; Campbell, 2006).

Although the role of an academic library has undergone considerable change in the past three decades, a library is still an indispensable part of a student's educational experience. Twenty-First century libraries are increasingly shifting focus from collecting and preserving materials to becoming an active partner in students' success and retention and the overall educational mission of the institution. A study conducted by the University of Minnesota during the Fall 2011 semester indicated that first-year undergraduate students who used the library had a higher-grade point average (GPA) for their first semester and higher retention in the freshman

class from the non-library users (Soria, Fransen & Nackerud, 2013). An additional analysis of Association of Research Libraries (ARL) member libraries concluded that the ratio of professional library staff to students statistically has proven to have a significant positive relationship with both retention and graduation rates (Antell & Engel, 2006).

A statistical study of this researcher's library, Concordia University Irvine Library (CUI Library) services and resources showed a 250% increase in the door count from 2008-2015. This substantial shift in library use was a result of transforming the library into a student-centered environment, including creating additional study stations by removing bookshelves. Although the CUI library has not transitioned to a learning commons model, the focus has shifted from the collection of materials to matching learners and educators with the information tools and resources they need. In 2012, the CUI library reference desk answered only 282 face-to-face and email reference sessions. This number increased to 980 questions in 2015 after implementation of a real-time chat reference assistance tool. The most noticeable increase became apparent in the number of students who attended library instruction workshops. In 2012, only approximately 1,000 graduate and undergraduate students participated in library instruction sessions. This figure almost doubled in 2015 due to a new library initiative of offering online library classes using the Adobe Connect platform. A library is a necessary component of student's educational journey, but it must renew to accommodate the technological advancements and the changing expectations of twenty-first century learners.

A new service model adopted by many academic libraries to meet the educational and research needs of the students is the concept of the learning commons. The learning commons model integrates the services of the traditional library and the new world of information in a seamless physical and virtual space in support of education, collaboration, and development of

the students of the modern age (Heitsch & Holley, 2011). A "learning commons brings together the functions of libraries, labs, lounges, and seminar areas in single community gathering place" (Lippincott & Greenwell, 2011, p. 2). The academic libraries still could uphold their status as the "heart of the university," but they must be willing to transform their mission and goals and adapt to the technological advances expected by the learners of the twenty-first century, who are also known as the millennial generation.

The Millennial Generation

Before the digital age, college and university students were mostly the same age (18-22 years) and attended the traditional face-to-face classes. This category of students is termed "traditional," and they usually enrolled directly from high school and attend full-time (Terenzini & Pascarella, 1998). Today, students are more diverse, ranging from 17-year-old high school graduates to 40-year-old working parents. However, the most prominent group of this mix is students born between 1982 and 2000, dubbed the "millennials" (Pew Research Center, 2015). According to a United States Census Bureau 2015 report, millennials are more ethnically diverse than the generations that preceded them, with 44.2% being part of a minority race or ethnic group. Although they are not intrinsically different from any other students, the millennials are unique because of their relationship to technology and digital media (McGlynn, 2005). "Kids these days. Just look at them. They've got those headphones in their ears and a gadget in every hand. They speak in tongues and text in code. They wear flip-flops everywhere. Does anyone understand them?" (Hoover, 2009, p. 1).

Millennials present a visible gap between their comfort level of technology and the technological skills of their teachers and professors (Starlink, 2004). The millennial generation has grown in an era where information is available 24 hours /seven days a week. The seamless

access to information has influenced their global outlook and their views on racial and ethnic diversity and gender roles in society (Redding, 2011). According to a 2014 Nielsen survey, millennials ranked technology use as most important to them (24%), followed by music/pop culture (11%), and liberal/tolerant values (7%). Millennials are also affecting higher education noticeably by their preference for mobile technology and collaborative and interactive learning (McHaney, 2012). Their preference for a portable learning environment is apparent by their use of mobile devices such as iPods and laptops rather than desktop computers. Texting and instant messaging (IM) are the standard methods of communication with peers and family. They consider email a tool for communicating with professors and other university contacts for clarifying course information and other academic matters (Jones, 2008). The internet is the first, and most often, the only source of conducting research and finding information and a tool to “express ideas that they would not have voiced in class” (Starlink, 2004, p. 10). According to a 2016 Nielsen Social Media Report, a typical millennial on average spends approximately six hours per week using a variety of communication media, including social media tools and online chatting. A survey study on millennials use of technology concluded that the majority of college students used IM during schoolwork (93%), non-computer activities (93%), and computer activities (97%) (Golder, Wilkinson, & Huberman, 2007). Moreover, millennials have an innate competence to multitask. Compared with older generations, the millennial generation uses different media simultaneously, such as listening to music while reading (Carrier, Cheever, Rosena, Benitez, & Changa, 2009). Millennials also differ from previous generations by their preference for group activities and collaboration. They respond well to assigned group projects and team building exercises and are accustomed to sharing their thoughts and opinions (Kendall, Etheredge, Moody, & Cooper, 2014). This egalitarian ethos and the comfort with teamwork is

something that millennials bring to the academic world and the work environment (Phillips & Trainor, 2014). An additional characteristic of this new generation is the expectation for best services, facilities, and instant responses to their questions and needs (Seal, 2014).

Howe and Strauss (2007) noted that through the coming years, the millennials would transform the academic world as the baby boomers did in the 1960's. Millennials are not passive learners, and they expect to be active participants in their learning and education. If an educational institution does not have the technology, resources, and facilities that will support their learning activities and lifestyle, they will choose a university that does (Turner & Thompson, 2014).

Student Retention and Academic Libraries

Student retention is an issue of increasing concern for many institutions of higher education in the U.S. According to a National Center for Education Statistics (NCES) 2017 report, the retention rate among first-time, full-time degree-seeking students who enrolled at four-year degree-granting institutions in 2014 was 81%. Retention rates were higher at institutions that were more selective and lowest at the least selective institutions. The retention rate for private nonprofit four-year institutions was 82% overall, ranging from 63% at institutions with open admissions to 96% at institutions that accept less than 25% of applicants. The retention rate for private for-profit four-year institutions was 55% overall, ranging from 51% at institutions with open admissions to 76% at institutions that accept between 25% and 50% of applicants. Described as a “leaking pipeline attrition” effect by Seidman (2005), student dropout has a wide-ranging impact on the institution, the student, and society. The student will have to repay their debt despite the failure to graduate and struggle with gaining employment and work-related advancements. NCES has reported that in 2016, the employment rate was higher for

those with higher education. For example, the employment rate was highest for young adults with a bachelor's or higher degree (88%) than those who had some college (77%) or those who had completed high school (69%). Also, the institution loses a source of income, and the surrounding community suffers from adverse economic impacts when students leave or face a high level of unemployment.

A study by Hanover Research (2014) found that seven constructs influence student retention: academic advising, social connectedness, student involvement, faculty and staff approachability, business procedures, learning experiences, and student support services. The study supports Tinto's theory of student retention (Draper, 2008) that recommends institution-wide improvement of classroom practices, academic support, student engagement, and faculty interaction as essential factors for improving retention among all students. A key component of Tinto's model of retention is the importance of student integration in the academic and social life of the institution, whereby library use is a form of student engagement and integration within such institutions.

Academic libraries demonstrate through a variety of approaches (e.g., instruction, reference, space and facilities, and collections usage) their roles in contributing to student engagement, success, and retention. One of the first scholarly studies of academic library use observed a positive relationship between library use and persistence, as students who borrowed books from the library dropped out 40% less often than non-borrowers (Kramer & Kramer, 1968). Mezick (2007) explored the impact of library expenditures and staffing levels on retention and found a moderate relationship between expenditures and retention. An additional analysis of 3,757 student records from the Spring 2013 semester of a regional public university in the Midwest focused on "library use, as a whole" (Murray, Ireland, & Hackathorn, 2016).

This study found freshman library users were nine times more likely to be retained than nonusers and sophomore library users were four times more likely to be retained than nonusers. Using the library for any reason was a significant positive predictor of retention for all the students in the population (Murray, Ireland, & Hackathorn, 2016).

In 2013, the Association of College and Research Libraries (ACRL) launched a three-year Assessment in Action program (AiA) that created campus-wide partnerships at institutions to promote collaborative assessment and library leadership. More than 200 higher education institutions from across North America completed the team-based assessment projects that resulted in identifying effective approaches for demonstrating the library's value to student learning and success. The assessment findings provided compelling and promising indication about the multiple ways that academic libraries are contributing to student learning and achievement.

Compelling Findings of Library Impact:

1. Students benefit from library instruction in their initial coursework.
2. Library use increases student success (e.g., GPA, course grades, retention).
3. Collaborative academic programs and services involving the library enhance student learning (e.g., higher grades, academic confidence, retention).
4. Information literacy instruction strengthens general education outcomes including use of information, critical thinking, ethical reasoning, and civic engagement.
5. Library research consultations boost student learning as documented by such factors as student confidence, GPAs, and improved achievement on course assignments.

Promising Evidence of Library Impact:

1. The library contributes to improved student retention.

2. Library instruction adds value to a student's long-term academic experience.
3. The library promotes academic rapport and student engagement.
4. Use of library space relates positively to student learning and success.

Researcher's Background

The researcher's principal interest in researching more concrete methods for implementing a learning commons model stems from her educational and professional background as an academic librarian. The researcher's first experiments with library technology as a library student assistant at Gordon-Conwell Theological Seminary (GCTS), involved participation in converting print book records (retrospective conversion) to Machine Readable Cataloging (MARC) records and implementing an online catalog of more than 350,000 print books. After completing a Master of Arts degree at GCTS, the researcher proceeded to work on a Master of Science Degree at Simmons Graduate School of Library and Information Science in Boston, Massachusetts. As a library science student, the researcher was drawn to library technology and, more specifically, how it could be used to meet the learning and teaching needs of an academic library user more effectively.

After completing the master's degree in Library and Information Science (MLIS), the researcher worked for eight years as the information technology librarian and supervisor of media services and the computer lab at GCTS before she moved to Concordia University in Irvine, California as director of library services and Assistant Professor of Christ College. As evident in many other libraries, both GCTS and CUI libraries have gone through numerous changes in the past two decades. As an example, converting the 350,000 volume card catalog and manual circulation to an integrated library system (ILS) at GCTS was an exciting step in

welcoming the digital age and the new learning and teaching opportunities it offered for libraries, students, and faculty.

The researcher aims to explore practical strategies and approaches that will guide the transition of the Concordia University Irvine library to the learning commons model and to provide other librarians who are perusing similar change with precise planning and implementation guidelines. The academic library user's expectations and learning styles have changed dramatically over the years. Similarly, today's libraries must cultivate more innovative approaches to serve the new and future generation of students (Prensky, 2001).

Statement of the Problem

Technology has fundamentally changed the role, responsibilities, and functions of academic libraries. Today's academic library must continually evolve to meet the learning needs of a generation of students that prefer active learning, seamless access to information, and social interaction, all in a comfortable and flexible environment (Steiner & Holley, 2009). Developing a learning commons is a proven strategy for libraries to continue as the centers of student learning and engagement. However, libraries considering adopting a learning commons concept must be ready to deal with challenges and issues related to space design, technology, staff training, cost, and collaboration with other departments, and often a general institutional inertia. A search of available literature shows an abundance of data on history, concept, and theory of the learning commons. Nevertheless, there is an evident dearth of information on planning steps required for the successful transition to the new model of service. Unless there is a thorough understanding of the planning process and implementation strategies, the transition to a learning commons model may easily fail or collapse.

Adopting a learning commons model is a substantial undertaking and dependent on the support, cooperation, and collaboration of all stakeholders, including administrators, librarians, faculty, and students. Additional consideration includes a long-term provision strategy for maintaining the physical structures and various support services, such as technology, media services, and writing center services (Baily & Tierny, 2002). Determining the elements that contribute or undermine the change process will assist the libraries to develop into lasting centers of learning, collaboration, and creativity within the university community. An inductive approach was utilized to examine the experiences of three academic libraries that have implemented the learning commons model. The resulting data will help to establish the most fundamental themes for academic librarians, and other administrators to consider when planning a similar transition.

Purpose of the Study

The aim of this study was to examine strategies, challenges, and obstacles in transitioning a traditional academic library to a robust and thriving learning commons model. The study also identified factors in sustaining a successful learning commons. The literature review supports the view that implementing the learning commons concept is a key step in accommodating the dynamic learning needs of millennial students and for remaining relevant in the twenty-first century educational environment. The results of the study provide recommendations for the planning of the learning commons model at academic libraries. The researcher is also planning to transition the Concordia University Irvine Library, known as the CUI Library, to the new design utilizing the results of the study. When fully implemented, this library will serve as a successful learning commons model for other college and university libraries.

Significance of the Study

The students of an intensely digital age (also known as millennials) come with unique skills and learning expectations that are forcing libraries to consider new services, resources, and expertise in a new domain termed as the learning commons (Holmgren, 2010). Over the past two decades, many academic libraries have already reinvented their spaces and services or plan on converting their libraries to the new model (Hisle, 2005). However, relatively few studies have researched and documented the contributing factors to success or failure of the new concept. The goal of this study was to investigate strategies and challenges of transitioning a traditional academic library into a robust and thriving learning commons model and provide librarians and university administrators with practical insight for a successful and durable transition to the new design. The literature review supports the view that implementing the learning commons concept is a key step in accommodating the dynamic learning needs of millennial students and for remaining relevant in the twenty-first century educational environment.

Definition of the Terms

For clarification purposes, this study provides definitions of specific terms commonly used in the field of library and information science.

Learning Commons: A learning commons is defined as “a dynamic place that encourages learning through inquiry, collaboration, discussion, and consultation” (McMullen, 2008, p.1). A learning common is based on creating an environment that supports cooperation, teamwork, and student use of technology (Miller, 2006).

Information Commons: Information commons is a physical space usually in an academic library with the goal of providing a digital environment and technological support (Beagle, Bailey, & Tierney, 2006).

Cultural Commons: Cultural commons refers to either physical or virtual cultures shared and expressed by a socially cohesive community. “A cultural commons is a system of intellectual resources available on a given geographical or virtual area and could be thought as the evolution of the more traditional concept of cultural district or cultural cluster” (Santagata, Bertacchini, Bravo, & Marrelli, 2011, p. 1). A cultural commons is comprised of the workshops, tutoring programs, research collaborations, etc. that takes place because of the environment created through the commons.

Physical Commons: The physical commons consists of the computer hardware, furnishings, designated spaces, and the traditional collections of the library material, such books, journals, and newspapers.

Virtual Commons: The virtual commons contains the digital library collections, online tools, electronic learning tools, and Web presence of the library, library catalog, and online databases (Beagle, 2011).

Village Commons: The village green or commons was traditionally a place to graze livestock, stage a festival, or meet neighbors. This concept of social utility underlies the philosophy of the modern learning commons, which is a flexible environment built to accommodate multiple learning activities (Lippincott & Greenwell, 2011).

Digital Natives: This term refers to the “younger generation, the native speakers of the digital language of computers, video games, and the internet” (Prensky, 2001, p. 1).

Makerspaces: Makerspaces are informal places for creative work in different disciplines where people of all ages could collaborate to use digital and physical technologies to create new products, learn technical skills, and explore innovative ideas (Sheridan, Halverson, Litts, Brahms, Jacobs-Priebe, & Owens, 2014).

Roving Reference: Roving reference is reference and research support conducted by the librarians or student assistants outside of the reference desk.

Retrospective Conversion: In the field of library and information science, this term means changing an existing catalog of mostly printed materials from an existing traditional form to a machine-readable form.

Theoretical Framework

The traditional approach to improving formal education has encouraged the use of effective pedagogies for centuries. However, educating students raised in an age of technology require twenty-first century pedagogy in a twenty-first century physical environment. Most of facilities with the traditional classroom of rows of desks and little space for creativity and flexibility are not conducive to meeting the needs of the new generation of students and the training of multiple intelligences. Many educational institutions built in the 19th and even the 20th century offer very rigid and limited amount of learning spaces, and they are not equipped with technology, multimedia, and creative production equipment. Also, the design of the spaces is usually not suitable for group work, experiential learning, and flexible movement (Kezar, 2001).

The quality and quantity of campus facilities play a critical role in students' selection of a college or university and their overall educational experience. Cain and Reynolds (2006) investigated factors that influence students' recruitment, and retention reported that 66.9% of

respondents considered the overall quality of campus physical facilities as “very important” in their decisions. The various physical elements considered essential by respondents included facilities related to a student’s major (73%), the library (53%), academic technology (5%), classroom buildings (50%), and residence halls (42%) (Cain & Reynolds, 2006). The study was conducted with the support of Center for Facilities Research (CFaR), and the survey questions were sent to students of 1,013 higher education institutions in North America with 16,153 responses from 46 institutions received and analyzed (Cain & Reynolds, 2006). Results such as these demonstrate that the millennial generation’s demand for an active learning environment is forcing institutions to take into consideration flexibility, collaboration, and team-based activities when redesigning and creating their spaces.

Research studies confirm that even though the use of print collections has decreased, students prefer to use the library for academic work (Bryant, Matthews, & Walton, 2009; Demas, 2005; Foster & Gibbons, 2007; Suarez, 2007). Fred Kent, the architect and founder of Project for Public Spaces has stated that even though the library is no longer the only place of information, millennials will go to the library if a library is a "desirable place" (Kent & Myrick, 2003, p. 72). Kent describes four characteristics that create desirability of a learning space: access and linkages; uses and activities; sociability; and comfort and image (Kent & Myrick, 2003).

Access and linkages. Traditionally, the central location of the library signifies its importance to an academic institution’s mission of educating students (Cunningham & Tabur, 2012). This geographic placement allows students to move to other facilities, such as those providing extracurricular and social activities. The easy access to various institutional locations and learning spaces of the new library or learning commons motivates students to utilize the

library as the focal point of their daily activities. Acker and Miller (2005) described the value of learning spaces for millennial students as “how effectively and efficiently the space provides access to learning resources. These resources include other students, access to information technologies and Web content, and flexible student and faculty space configurations that support efficient learning” (p. 3).

Uses and activities. The millennial generation is known for their capability to multitask, as they are adept at combining academic work with social activities (Foster & Gibbons, 2007). Thus, libraries are transforming to provide spaces that can accommodate students’ academic and social activity requirements. Applegate (2009) stated, "An effective library is one that addresses the entire spectrum of student needs, [and] does so as part of the entire student space-use ecology on a campus" (p. 345). A growing trend in library renovations and design is providing space for group study and activities (Bennett, 2003; Shill & Tonner, 2003). However, quiet study spaces are still in demand and students have often complained about the noise level in the libraries (Suarez, 2007).

Sociability. The millennial generation requires both the quiet study environment and spaces for group work and discussion. Gayton (2008) described the two characteristics of a library for millennials as the "communal library" of quiet, contemplative independent study and research, and the "social library" of collaborative work and activities. Both aspects require different spaces and design, and both are equally essential learning spaces in a library (Gayton, 2008).

Comfort and image. Comfort and image are considered the most crucial attributes in motivating the new generation of students to use the library space and maintain usage into the future. Demas and Scherer (2002) referred to this as an *esprit de place* where space, architecture,

furnishings, decor, and integration into the community's needs and ethos combine to create a transcendent space (p. 65). Students and teachers require a place that allows teamwork, inventiveness, and access to multiple sources of learning. In other words, instead of physical repositories, libraries are becoming a learning commons to support the various learning styles of the millennial students by incorporating desirable characteristics (Figure 1.1).

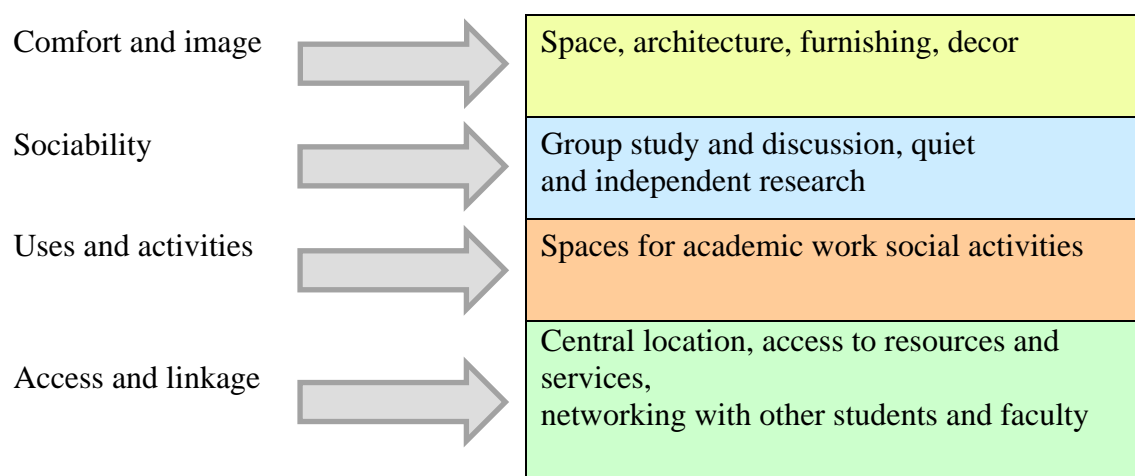


Figure 1.1. Characteristics that determine desirability of a learning space (adapted from Cunningham & Tabur, 2012)

Research Questions

1. What factors contribute to the successful implementation of a learning commons concept?
2. What factors undermine the successful implementation of a learning commons concept?

Limitations of the Study

There is no one formula or guide for creating a learning commons, as every facility is based on the unique needs of the institution. For instance, financial status and administrative support have a significant influence on the design and structure of a learning commons. Further, a learning commons is not a static structure; it evolves with new technology and the change in

students' learning needs. Also, determining the actual success of the learning commons may require many years. The learning commons concept is relatively new and not yet widespread. These factors limit the volume of research available for study.

Delimitations of the Study

The study was limited to three academic libraries. The collection of data relied on surveys, interviews with librarians, site observations, and exploration of online and print resources.

Assumptions

The librarians and library staff communicated their honest responses to the questions regarding the transition process. The participants understood the concept and vocabulary related to the field of library and information science. The researcher recognized and limited biases concerning the results of the study.

Organization of the Study

This study is organized in five chapters. Chapter 1 represents the background of the study, statement of the problem, the purpose of the study, the significance of the study, definition of terms, theoretical framework, research questions, limitations, delimitations, and the assumption of the study. Chapter 2 encompasses a review of the literature, with focus on the learning commons as a place, staff and interdepartmental collaboration, the learning commons resources and services, and the evolving role of an academic librarian. Chapter 3 explains the methodology of the research in four parts including selection of the participants, instrumentation, data collection, and data analysis. Chapter 4 describes the findings of the results. Chapter 5 includes a summary of the study, discussion of the findings, recommendations, and conclusion.

Summary

Researchers have described the most defining characteristics of the millennial generation as the use of technology, group work, multitasking, and diversity. To meet the learning expectations of the latest generation of students and to enhance their engagement in the educational process, the institutions must take into consideration their various learning styles and educational needs. Different learning theories and neuroscience have proven that the aesthetics of learning spaces affect brain function and the process of active learning and effective teaching. Practical and creative learning spaces aid students to connect to their learning environment, connect new information to prior knowledge, and engage multiple senses resulting in increased cognition and recall. Identifying and designing learning spaces that will encourage both formal and informal learning and meet the social activities needs of the students is an essential step in engaging the millennial students. Investigation of the library spaces in the learning process represents a significant opportunity for higher education to contribute positively to the learning process and progress of students.

CHAPTER 2: REVIEW OF THE LITERATURE

The village commons was traditionally an open green space that belonged to the entire community. It benefited both the individual and society by providing a central place for grazing livestock, staging a festival, or meeting neighbors (Association of Commons Registrations Authorities (ACRA), n.d.). This system of responsible resource management, mutual support, and collaboration underlies the philosophy of the modern learning commons. A learning commons is a multiservice and flexible environment built to encourage scholarship and learning by focusing on community partnership, collaboration, and creative activities (Lippincott & Greenwell, 2011).

A learning commons approach integrates the services of the traditional library and the new world of information technology in a seamless physical and virtual space in support of student education, teamwork, and development (Heitsch & Holley, 2011). A "learning commons brings together the functions of libraries, labs, lounges, and seminar areas in single community gathering place" (Lippincott & Greenwell, 2011, p. 2). According to Beagle (2006), an authority on academic learning commons, the concept of information commons appeared in 1990 with the advent of the internet and under various labels such as "information arcade, media union, and virtual village" (p. 3).

The terms learning commons and information commons have been used interchangeably, but they mean different things among different institutions. Beagle (2006) has described an information commons primarily as the availability of information technology (IT) and related tools "in the context of physical, digital, human, and social resources organized in support of learning" (p. xviii). According to this definition, the goal of an information commons service is to support learning, whereas a learning commons organizes the services of support/service units,

such as the library and IT services, with other departments that establish the learning mission and goals of the institution (Bennett, 2008).

Technological advancements and the shift of traditional libraries to learning commons have also transformed the role of a librarian from the person who gathers and provides access to information to an active participant in the educational and learning process. The concept of blended librarianship arose out of this profound development in the availability of online information and the gradual irrelevance of traditional librarianship skills, such as collection and organization of printed information sources (Shank, Bell, & Zabel, 2011). The term “blended librarian” was proposed by Bell and Shank to describe the librarians of the digital age. A blended librarian combines the skills of the traditional librarianship with proficiency in information technology and teaching capability using appropriate technology (Bell & Shank, 2004). The modern librarians must also be able to coordinate various services not only in face-to-face situations, but have proficiency in providing assistance via text messaging, email, instant messaging (IM), Facebook, Twitter, blogs, and other communication media (Wolfe, Naylor, & Drueke, 2010). Reinventing academic libraries into centers of latest technologies and collaborative learning and teaching is a natural step forward for most academic intuitions. However, if the new libraries or learning commons are to remain viable, the librarians must also be willing to blend their traditional skills with innovative expertise in IT for meeting the needs of twenty-first century students (Sinclair, 2009)

History of the Libraries

The accumulation of written human experience as an archive of recorded knowledge is interconnected with human civilization. From the clay tablets and papyrus scrolls to bound books, libraries have collected, preserved, and transmitted sources of information. The library is

one of the pillars of civilization and an indicator of human society and culture. “History begins with the written record; however, there has to be more than a scattered number of written records for there to be a library and a civilization” (Tolzmann, Hessel, & Peiss, 2001, p. 1).

The earliest library materials, including clay tablets or papyrus scrolls, were merely records of legal and trade transactions, but they used some fundamental principles of librarianship that are standards in today’s libraries (Casson, 2002). The Sumerians, who lived in the valleys of the Tigris and Euphrates rivers, current day Iraq, are believed to have created the world’s first libraries. The first libraries were collections of clays tablets with cuneiform script, which now date back approximately 5,000 (Lerner, 2009). It was many centuries before papyrus replaced clay tablets. Papyrus scrolls were lighter, durable, and much easier to carry (Adams et al., 2007). In fact, this concept has survived in the form of modern day paper. In Greece, the quest for knowledge and the resulting small and private libraries flourished around the 5th century B.C. (Kesting, 1978). The Romans soon expanded the idea by building 26 public libraries, including two founded by Emperor Augustus. Romans also developed the codex format in the 1st century B.C. from wooden writing tablets (Boyd, 1915).

Early Islamic and Christian religions significantly contributed to the spread of libraries through the Middle East. However, the Mongolian Invasion of 1258 destroyed most Islamic libraries (Learner, 1998). During the 11th and 12th centuries, the Christian monasteries and their libraries spread rapidly (Casson, 2002). In Europe, the university libraries emerged in the 12th century, but they were mainly tied to monasteries.

University library collections included inexpensive, mass-produced books made of cheap

paper for student use. Printing was revolutionized with Gutenberg's movable type innovation in the 1400's that replaced handwritten manuscripts with printed books (Learner, 1998).

In North America, before the American Revolution, most books were imported from England, and local presses produced less than 60 books per year (Hanson, 1989). After 1776, there was an increase in publication. An 1804 catalog listed 1,138 American publications in print (Weiner, 2005). Both public and academic libraries grew in number and size over the years. The oldest academic library in the American colonies began with a 400-book donation in 1638 by a Massachusetts clergyman, John Harvard. This bequest was to a new college established in 1636 and later named Harvard College in Harvard's honor (Harvard University, 2018). Such colonial college libraries were typically small collections of mainly theological works with some standard treatises in philosophy, logic, and history. The books were randomly organized by size, title, subject, or donor until the adoption of the Dewey decimal classification system in 1876 (Weiner, 2005). Additionally, there were fewer than 100 regularly published periodicals in the U.S. in 1825, but by 1885, this number increased to more than 9,000 titles (Weiner, 2005).

Just as with the growth in the economy and the population, universities and their libraries increased vastly by the end of the 19th century (Thelin, 2011). There was also a gradual shift in emphasis from conservation and protection of the books to making them more accessible to students and faculty. Collection development policies increasingly focused on supporting the curriculum rather than research. Classifying and shelving books according to subject became the standard and cooperation with other libraries eventually developed into the well-established system of interlibrary loan (Hamlin, 1981). Hours of operation were extended, facilities were

improved, and eventually financing the library became an accepted responsibility of the parent institution.

According to the American Library Association (ALA), there are an estimated 119,487 academic, public, school, and special libraries in the United States today. The American Library Directory 2015-2016 has listed the number of academic libraries as 3,793 (ALA, 2015). An academic library is usually linked with a degree-granting institution of higher education, and its fundamental mission is to support the research and teaching mission of the institution by providing educational services and resources to students and faculty regardless of their location. The progress of academic libraries has a close relationship to the developments in high education. The role and functions of academic libraries evolved as the institutions expanded and adjusted their priorities. Shiflett (1981) stated in his classic work “The Origins of American Academic Librarianship” that libraries have improved or suffered in proportion to its value to the institution.

Libraries have advanced from clay tablets and papyrus to paper and most recently to digital format, but the demand for acquiring knowledge has remained unchanged. Printed information resources are still essential for supporting learning and education. However, the traditional physical libraries are no longer the only places of research and accessing information. The twenty-first century students and teachers expect a learning environment that facilitates collaboration, creativity, social interaction, and access to multiple sources of information. In other words, instead of being repositories of printed materials, libraries are transforming into a learning commons model of service.

Traditional academic libraries have become a different kind of learning destination in the

age of technology and a student-centered academic culture. Since approximately the year 2000, many libraries have transitioned to a model that embraces partnership with other student support departments, such tutorial programs, and writing and computer technology centers. These facilities of expanded student services are often termed learning commons (Beagle, 2009). Learning commons refers to “a dynamic place that encourages learning through inquiry, collaboration, discussion, and consultation” (McMullen, 2008, p.1). A learning commons approach is grounded on creating a flexible environment that promotes cooperation, teamwork, and student use of technology (Miller, 2006). This concept is increasingly gaining value as the new generation of students is characterized by its reliance on technology for learning and communication (Gardner & Eng, 2005) and a preference for teamwork and experiential activities in informal spaces (Kvavik, 2005). The literature review is organized in five sections: planning process of a learning commons model; space design for the learning commons model; staffing and interdepartmental collaboration; elements of learning support resources; elements of learning support services.

Despite various definitions of the learning commons, academic learning commons are fundamentally grounded on a concept that supports participatory learning, creativity, a productive and flexible physical and virtual environment, and shared student support services, such as writing centers, IT, tutoring services, and the more traditional library support.

Planning Process of a Learning Commons Model

Traditionally, libraries were built and expanded using carefully defined standards, such as estimating the number of volumes and journals to be housed, the number of seats and study carrels, the square feet needed for a particular library function, and the number of librarians per students. Adding more space was usually the standard solution for any perceived library needs

and future growth. However, advances in IT have forced libraries to change their primary focus from collection development and expansion of physical space to meet the learning needs of twenty-first century students. Indeed, the academic library of today must function as an integral part of the student's total educational experience. The conversion of a traditional academic library into a learning commons model encompasses a holistic planning process for conceptualizing a new environment aligned with the university's core values. The critical components of the planning process include creating a shared vision, leadership, research, funding, training, assessment, and safety considerations.

Pearce and Ensley (2004) defined shared vision as "a common mental model of the future state of the team" (p. 260); it signifies the capacity for envisioning a shared picture of the future, developing a shared commitment to this future image, and establishing some means for achieving it. A shared vision facilitates organizational learning and encourages long-term commitment (Senge, Cambron-McCabe, Lucas, Smith, & Dutton, 2010). Importantly, a clearly articulated vision is grounded in research and data analysis and supported by a structure that is comprehensive but clear to everyone (Hooper & Bernhardt, 2016). An effective shared vision for the learning commons must consider the areas that need to be changed, the essential elements of a learning commons, and methods for measuring progress and success.

The Association of College and Research Libraries (ACRL) recommends the review of the following documents for an initial planning consideration:

- Institution and library vision and mission statements.
- Institution and library strategic plans.
- Campus master plans.
- Campus history, culture, and demographics.

- Library needs assessment and environmental scan.
- Documents from other library projects, including building and architectural plans, national, regional, and state standards and guidelines for library facilities, American with Disabilities Act (ADA) requirements, and Leadership in Energy and Environmental Design (LEED) certification.

Survey and assessment play a significant role in engaging students in the planning process and identifying needs related to learning commons from the students' perspectives and incorporating their viewpoints into the planning of the new facility. Surveys are also valuable in planning for appropriate services, resources, and additional staffing needs. Tours of other learning commons and conversation with other librarians and library consultants may provide practical information (De Rosa, 2006). The University of Massachusetts Dartmouth learning commons planning process included a review of library literature, site visits to existing learning commons, consultations with experts in the field, the involvement of the major campus stakeholders, and survey data (Weiner & Weiner, 2010).

Funding for implementation and maintenance of a learning commons model presents a challenge for many smaller colleges and universities due to reduced budgets. Libraries have been forced to reexamine their values and policies due to substantial changes in the economic structure of the libraries and the expansion of information services over the last few decades. Creating a shared vision and gaining the support of the university community for the transformation is the first step in securing funding and other essential resources for the project. A fact-based and data-driven proposal is critical in demonstrating the benefits of adopting the new concept to the senior administrators (Blake, 2015).

The efficient operation of a learning commons demands a plan for cross-training of staff and student workers. Depending on the level of integration of the services, this process could involve providing technology-related training for the library staff and basic research and information literacy skills for IT staff (Church, 2005). At Loyola University ACE Center, cross training that focuses on the main points of each service is prerequisite for all tutors (Orgeron, 2001). McKinstry and McCracken (2002) noted that reviewing and updating training programs should be taken into consideration due to rapid technological changes.

Assessment and evaluation play a crucial role in the development and improvement of a learning commons by determining if users' needs are met (Alvayay, Brawley, Kowalski, & Portier, 2011). The rapidly changing requirements of students necessitate continuous enhancement of the services, spaces, and resources. "Learning commons are borne from user need and created from user input." (Fuller, 2010, p. 2). Beagle (2011) recommend that evaluation must include the design aspect of the learning spaces, qualitative assessment of service effectiveness, and quantitative measures of service delivery.

Physical and online safety has become an issue of critical importance in libraries in recent years. Most libraries have an open-door policy that allows any member of the public to enter the building and without a security guard or surveillance cameras, leaving users and the facility vulnerable to those with criminal intent. ALA (2010) security guidelines have suggested adopting the following measures:

- Ensure efficient and regular training of librarians and student employees by the campus safety police to prepare staff to take the appropriate steps when a crime occurs.

- Take precautions to protect patrons and staff against acts of violence, such as theft, sexual harassment, and assault, and devise policies and procedures for preventing and managing crimes.
- Safeguard collection materials from theft/vandalism through the development of a library asset protection policy. This policy should address issues such as fire and emergency regulations, security alarms and gates, guest access, parcel control, and regular inventory of library collections and other assets.
- Adopt strategies to focus on disaster preparedness and appropriate measures to prevent and reduce losses during emergencies and natural disasters, such as earthquakes, fires, floods, and other weather-related catastrophes. The experiences and responses of other institutions should be consulted for creating appropriate strategies and programs. Law enforcement, fire service, risk management, insurance professionals, and others with expertise in loss prevention should be involved in planning as required.

Academic libraries are guided by the intellectual freedom principles of ALA (n.d.) and by the academic freedom standards adopted by the American Association of University Professors (AAUP). Academic libraries are unique in providing the campus community with information that supports the research and teaching missions of the institutions. As a result, ALA advocates that internet access in academic libraries should be free and unrestricted. This practice makes it possible for students, faculty, and staff to engage in research and scholarly activities with free and easy access to online information on any topic, including controversial issues. ALA also recommends that the privacy of library users is and must be inviolable. Policies should be in place that reinforces the confidentiality of library borrowers and the use of online and

information resources and services. Access to the internet is considered the right of all academic community members. However, illegal internet activity, such as viewing child pornography, should not be allowed. Many libraries already have established resource guides with in-depth information related to safety and safeguarding patrons, employees, and property. Examples of safety policies and procedures can be found on the websites of Wayne State University Library, Boston University Library, and the University of Illinois at Urbana-Champaign.

Space Design for the Learning Commons Model

The central element of a robust learning commons is the physical space. Similar to traditional libraries, the commons is visible and centrally-located on the university campus. Monahan (2002) stated that present technology-based learning environments must be designed with flexible criteria to be able to accommodate various learning styles and practices. Physical flexibility is described as the capacity of a space to meet the unique sensory and mobility needs of individuals, accommodate movable furniture and walls, and designed with reconfigurable buildings, rooms, and passageways (Monahan, 2002). On a different level, flexibility also involves the ability to accommodate future modification of space due to changes that include demographic shifts or policy mandates (Moore & Lackney, 1994). The learning commons is not a library with more technology but “a concept that emphasizes the way in which architectural features reflect educational philosophy and structure influences the learning processes that take place therein” (Reiner & Thomas, n.d., p. 3).

A thriving learning commons is purposefully designed to reinforce learning and deliver a variety of services that promote scholarship and the academic pursuits of students. The physical space consists of elements, such as seating, lighting, bathrooms, and wall decor (Stark & Samson, 2010). The learning spaces inspire students’ use of the learning commons and provide

access to both traditional and nontraditional technology (Sullivan, 2010), and a collection that is built on users need (Harland, 2011). Keating and Gabb (2005) recommended that space should be designed with the primary goal of promoting student learning beyond simply accommodating library operations. The learning commons space concept promotes students' educational and social activities, group work, and technological skills. Some of the challenges currently faced by traditional libraries are finding space for nontraditional student activities, such as digital publishing, makerspaces, group projects, and music production. The educational makerspaces (EM) movement is based on the philosophy of hands-on learning through creative building and production (Kurti, Kurti, & Fleming, 2014).

An innovative idea in the design of a learning commons is the availability of cafe or lounge spaces without the traditional food and beverages restriction policies and rules. In most traditional libraries, food and drink policies were created to protect the materials, equipment, and facilities. However, a well-planned learning commons design may want to visualize a model for an environment where students feel relaxed and receptive, enjoying beverages and snacks, discussing, learning, and socializing. It is this type of environment that is needed to foster both formal and informal learning.

The learning commons model is different from a traditional library by recognizing both individual and social dimensions of education. The social aspect necessitates combining quiet spaces with areas that permit noise and interaction. In order to accomplish these multiple purposes, spaces must be designed to accommodate a variety of environments, including quiet, noisy, individual, group, and long-term and short-term student activities (Keating & Gabb, 2005). This type of space fosters learning by recognizing distinctions between social and educational dimensions of the learning process and accommodates both academic and social

activities of the students. Additionally, providing choices of place that range from individual to group study reinforce the discipline needed for acquiring knowledge and new skills (Bennett, 2005).

The three significant trends in library space design are identified as strategies that reinforce social and academic progress, human-centered design, and devices that supplement the learning process (Brown & Long, 2006). Sinclair (2007) has described this most recent revolution in the library world as Commons 2.0. The aim of a Commons 2.0 is to promote creativity, interaction, and collaborative learning through technology, flexible and attractive spaces, and comfortable furnishing (Sinclair, 2007). Whitchurch, Belliston, & Baer (2006), have emphasized the significance of integrating traditional library reference service and the physical location of the computer workstations. However, the quality of services also plays a crucial role in creating and sustain a productive and functional learning commons.

Staffing and Interdepartmental Collaboration

Migrating a traditional library to a learning commons model has a substantial impact on staff, training, and interdepartmental relationships. A successful learning commons meets the user's needs and expectations for the creation of knowledge, social interaction, technology, and group work (Seal, 2014). This new trend involves reconsidering interdepartmental partnership and a new staffing model for providing integrated and services to students. Gaining the support and participation of faculty and students is a necessary step for implementation. A learning commons model only becomes a success when faculty and students take ownership of the space and make it their own (Koechlin, 2015). A learning commons design is founded on the mission and needs of an institution, but the most common model includes the convergence of library and IT services (Spencer, 2006). However, differences in departmental culture could create

considerable challenges for establishing a central point of service. The librarian's concept of service centers on providing information, resources, and an environment that supports study and research. The focus of IT staff is on the use of technology and solving particular problems (Heid, 2007). Open and respectful communication is considered the most effective solution for creating an environment of support and cooperation among departments (Cunningham, 2007). Both librarians and IT staff must also be prepared for additional training, changes in their job descriptions, and reassignment of duties.

Undoubtedly, student assistants play a valuable role in assisting other students in creating a welcoming and non-threatening environment (Kent & McLennan, 2007). Many learning commons offer innovative services and work-based learning programs that are entirely staffed by "student rovers." Student rovers are experienced students who are trained and paid to assist their peers by providing directions and basic information regarding research resources and technology or referral to other relevant services and expert staff members (McCormack, Pancini, & Tout, 2010).

Elements of Learning Support Resources

The resources of a learning commons vary with the requirements and policies of the institutions. According to Cunningham (2007), a learning commons may or may not hold a print collection, including reference volumes and other academic books. However, many institutions from across the country have reported a shift of focus from print to digital resources. A 2016 Ithaka S+R Library Survey of library deans and directors of non-for-profit four-year academic institutions across the U.S. clearly demonstrated this transition from print to electronic (Wolff-Eisenberg, 2017). The survey questions were sent to 1,488 individuals representing 1,501 institutions. Digital content, including eBooks, full-text databases, electronic reserves, and

courses materials through the library website, was shown to offer a broad range of options to users, and wireless access throughout the building and even the campus was an expected feature. Although every learning commons facility is unique, all learning commons are based on the theory of supporting the learning needs of a generation of students that value technology and social and collaborative learning (McMullen, 2008).

The learning commons is a technology-rich environment. IT resources and services should meet the needs of learning, teaching, communication, and research in one location. Most of information accessed by users for research are repositories and databases that are available online to users 24/7 in different places. Some typical components include computer workstations with appropriate and updated software for writing and research, wireless network, multimedia production software and hardware, and storage space for student work (Elsayed et al., 2013). Many learning commons facilities also provide laptop computers, projectors, and other multimedia equipment, such as video cameras, tripods, and microphones for student loan (Keating & Gabb, 2005). Additional equipment may include wireless printers, copiers, and scanners and the availability of software ranges from word processing to more sophisticated full suite and licensed packages, such as statistical or web authoring software. The computer workstations are usually arranged in pods, clusters, cloverleaf, or circular patterns with ample space for student study materials (McMullen, 2007). The message of a learning commons to students is, “Here you have tools, room to collaborate, equipment, advice, research options, and access to expert information. Now it is up to you to build something worthwhile: a paper, a presentation, an education” (Lippincott & Greenwell, 2011, p. 2).

Planning for acquiring appropriate technologies is an integral part of a learning commons model. However, the rapid changes in information technology and communication media also

demand a robust budgetary plan. Keeping the learning commons and its resources and services current with emerging technologies and users' needs is essential to its long-term sustainability and progress (Kumar & Cheddie, 2014). Strategies for ensuring up-to-date software, hardware replacement cycles, and professional development of support staff must be explored and eventually implemented. Gibbons (2007) recommended embracing a research and development (R&D) mindset to keep pace with the continual technological changes. The R&D mindset mandate requires developing staff technology skills as the core responsibility of job performance.

Elements of Learning Support Services

An emerging trend in response to students' dissatisfaction with constant referral among the library, student services, and IT department is the formation of a collaborative service module (Beagle, 2011). Adjusting to an innovative service model means cooperation and communication among all staff members from participating departments, such as IT, writing centers, and media services (Wolfe, Naylor, & Drueke, 2010). The learning and teaching support services of a learning commons are considerably broader than the services of a traditional library. However, reference and research assistance and information literacy are still essential elements of both models. The goal of the traditional library reference desk is to provide research and information support, but the service desk of a learning commons offers both research and IT assistance (Wolfe et al., 2010). Some learning commons models have service desks with integrated functions, and others have adopted multiple desks with separate functions (Dawes, 2015). Selected learning commons libraries also have chosen a model of reference service that is no longer limited to a particular physical location in the library. Roving or

roaming reference is a service type in which a librarian or student assistant walks throughout the library and assist students with locating or using resources and services (Bremer, 2017).

The expansion of online courses and heightened user expectations also indicate the importance of supporting virtual communities with access to an exploding body of online information tools and collections. Virtual reference help via chat, text, and email connects users in real time to a professional college or university librarian (Heitsch & Holley, 2011).

Additional services offered often include computer and learning labs and testing centers. These facilities are equipped with networked computers, professional software suites, scanners, printers, and related equipment. Depending on the need of students, these services may offer English-as-a-second-language tutoring and computer-assisted instruction for students with disabilities. The support staff and trained tutors of these facilities typically deliver instructions in the use of educational and communication technologies. University faculty and staff also reserve available spaces for class and university-sponsored events. These spaces are often equipped with video and conferencing capabilities and managing online media assets.

The University of Minnesota learning commons offers free-of-charge tutoring to enrolled students via their Peer Research Consultation program. The peer research consultants are available for one-on-one assistance to develop research strategies for writing research papers and other assignments. The consultants are students, who are specially trained to help fellow students find scholarly or academic articles, navigate the library website, locate appropriate databases for a research topic, and evaluate articles and websites.

Other examples of learning support programs include the Peer-Assisted Learning (PAL) program, which is an academic support program for historically difficult introductory college courses, with weekly study sessions throughout the academic semester (Arendale, 2014). The IT

staff supports the educational community through technology-rich course production, integrating technology into teaching, and investigation of developing technologies. Multimedia projects design and creation are facilitated by media services assistants (Stuart & Iandoli, 2009). Another common facility is the language center, which strives to advance second languages, literature, and cultural education through technology inspired instruction and training. Increasingly, libraries are adopting models that extend learning services and student support beyond the library and IT. Including writing centers in academic libraries is an effective way to maximize the relationship between departments, foster collaboration, and expedite referrals. For instance, the learning commons at the University of Southern California in partnership with the university's writing center provides writing assistance during scheduled hours. The writing center offers student writing support, consultation, and tutoring. Scholarly writing and citation workshops are designed and conducted in collaboration with the library reference staff.

The abundance and the relatively easy availability of online information also present extra challenges for creators and users of copyrighted material. The copyright support services responsibility is educating faculty and students regarding copyright laws and protecting the institution from potential copyright infringement and liability. The primary functions of copyright support services are training, consultation, course-integrated instruction, and workshops on copyright and scholarly communications issues and requirements (McMullen, 2008).

Importantly, librarians continue to offer general and subject-specific on-site and online instruction sessions at both the undergraduate and graduate levels that include information retrieval techniques and evaluating sources of information. Students also can receive hands-on

instruction concerning the use of academic research databases on a variety of information sources, including scholarly journal articles in the sciences, humanities, and social sciences.

Summary

The learning commons model for libraries presents an innovative design for twenty-first century learning in an age of technological advances. Traditional academic libraries, in their present structure, symbolize an early 20th century model of information storage and retrieval that no longer meets the learning needs of a generation of students raised in a technology-rich learning culture with immediate access to information and social interaction. A learning commons model is not just about more computers, but the model also confirms student lifestyles by bringing student support services, resources, and technologies into a library as the heart of the campus. As stated in the University of Massachusetts, Amherst learning commons mission statement, it is a place for “transformative learning experiences that inspire students to embrace challenge, engage in critical inquiry and creative thought, and grow in their chosen academic pursuits” (University of Massachusetts Amherst, 2015, p.1). An additional feature of a successful learning commons model is to combine social and educational activities by providing students with varied and collaborative spaces that accommodate their changing patterns of learning and interaction.

The most significant challenge facing libraries in the twenty-first century is staying relevant to users. Academic libraries must take risks and reevaluate library services and systems in response to the needs of today’s learners by adopting a service model that supports academic pursuits and high-level thinking skills and processes, such as critical thinking, problem-solving, collaborating, and innovating.

CHAPTER 3: METHODOLOGY

The learning commons philosophy was developed in response to distinctive personal and academic characteristics of millennial students. To meet the learning requirements of this diverse and largest living generation in the nation (Fry, 2016), academic libraries gradually have evolved by integrating their services with academic support services to deliver everything a student may require in a single physical facility. “The learning commons model functionally and spatially integrates library, IT, and other academic support services to provide a continuum of services to the user, a blending of staff knowledge and skills, and referral to appropriate areas of expertise” (McMullen, 2008, p.1).

Research was conducted with the purpose of investigating the experiences and challenges encountered by librarians who have engaged in transitioning their traditional university or college libraries to the learning commons service model. Research has indicated that the successful implementation of a learning commons is contingent on a thorough assessment of distinctive qualities, resources, and requirements of an institution. Furthermore, building collaboration between the library and various stakeholders such as senior administration, faculty, students, and librarians is a key element of the strategy for long-term survival of the new concept. Additional consideration includes establishing an optimal learning environment through shared workspaces, technological solutions, and centralized services for participatory learning (Koechlin, Rosenfeld, & Loertscher, 2010). The emergence of the learning commons concept as a significant force in meeting the learning needs of the new generation of students brings into focus the significance of a shared vision of all stakeholders and careful organizational planning and design.

Inadequate initial planning of the multiple stages of the transition or poor provision can easily lead to collapse, underperformance, or overuse of a learning commons. The methodology for investigating the research topics is organized into five sections: (a) selection of the participants, (b) sampling procedures, (c) data collection and instrumentation, (d) validation strategies, and (e) data analysis.

Selection of the Participants

To establish a purposive sample, the participants were recruited from Statewide California Electronic Library Consortium (SCELC) and Southern California Theological Library Consortium (SCATLA). An initial email to 160 SCELC and 28 SCATLA members was sent to identify independent university or college libraries that already have implemented a learning commons concept. After receiving and evaluating the responses, those libraries that met the research criteria were invited for participation in the study. Recruitment was done mainly via email and in-person during SCELC and SCATLA meetings. Recruitment outreach highlighted the goals of the research and the requirement for the prior experience of transitioning an academic library to a learning commons.

A mixed method approach is based on collecting, analyzing, and interpreting data from both qualitative and quantitative perspectives (Zohrabi, 2013). The quantitative step of the study utilized survey questions for gathering data. The qualitative phase of the research was conducted from an interpretivist/constructivist perspective using interviews and observations. The interpretive constructivist paradigm is a theoretical framework that sees the world as understood and experienced by people in relation to one another (Eriksen, 1980). The design allowed the research to be adapted based on distinctive

characteristics of each institution and personal experiences and observations of the respondents.

The findings were shared with SCEL and SCATLA member libraries via SCEL and SCATLA members Email List Serves. As a courtesy, a final report of the research was provided to SCEL and SCATLA Board of Directors. This research was limited to exploring the transition experiences of three academic libraries, and as a result, it did not reflect a truly broad cross-section of the transition experiences. Each university was unique in terms of budget, mission, and enrollment and these factors influenced the conversion process of the libraries. This study was not designed for in-depth analysis of the individual themes and categories.

Sampling Procedure

The purposive sample included three academic libraries. Purposive sampling, also described as judgment, selective, or subjective sampling is a sampling procedure in which researchers choose members of a population due to their specific knowledge or experience (Molina, 2015). This method is nonrandom and does not rely on underlying theories or set number of participants (Tongco, 2007). Five libraries were identified among SCEL and SCATLA member libraries based on the following criteria: (a) the institution is an independent small to midsize university or college library located in California. (b) the library has transitioned to a learning commons service model. (c) the selected librarians have actively participated in the transition process. The final selection of the participants was limited to three academic libraries.

Data Collection and Instrumentation

A mixed methodology for data collection and analysis was determined as the most appropriate approach for this study. The data collection procedures involved four categories: surveys, individual semi-structured interviews, nonparticipant observations, and online and print

documents. The first instrument in this study consisted of a survey instrument. The interviews included semi-structured, open-ended questions. Although an interview guide with preplanned questions (Appendix A) was used, the interviewer did not adhere to that specific order of questions (Magnusson & Marecek, 2015). The main advantage of this type of interview was the flexibility in asking questions and allowing the participant to communicate their views in their own words (Opdenakker, 2006). The interview questions were directly correlated to research questions and developed in advance. Interviews and discussion regarding transition strategies and processes were conducted in-person using open-ended questions. Interview questionnaires were developed with a goal of answering the research objectives and goals. The questions were designed specifically to document the experiences of the librarians who planned and participated in the change process.

Additional data regarding space, services, and resource utilization was gathered from site visits with the researcher as a nonparticipant observer. The site visit included a tour of the facility and taking notes regarding spaces, services, and resources. An observation form (Appendix B) was developed for identifying what will be observed and documenting reflections during these visits. Information from websites, social media outlets and print materials supplemented the study.

Recording and storage of data was accomplished through digital equipment such as iPad or iPod as well as written observations and informal discussion notes. The data was transferred to the researcher's desktop computer with appropriate password protection and backup files in Dropbox.

Validation Strategies

A key factor influencing validity, reliability, and accuracy of the results is the level of error. Four major sources of error include (1) the researcher (2) the participants (3) the setting or social context and (4) the data collection and analysis methods (Brink, 1993). Triangulation, thick description, and peer review measures ensured the validity and reliability of the data. Triangulation is the process of examining multiple perspectives, identifying common themes, and excluding overlapping categories by comparing and cross-validating data from various sources (Creswell, & Miller, 2000). Multiple methods of data collection including survey questions, interview, observation, and document analysis contributed to the credibility of the findings. Various qualitative inquiry theories stress the issue of enhancing quality and credibility of qualitative analysis. Guba (1981) has proposed four criteria for trustworthiness of a qualitative study. These four constructs correspond to the standards traditionally employed by researchers. These criteria include: (a) credibility or internal validity; (b) transferability or external validity; (c) dependability or reliability; (d) conformability or objectivity. Creswell and Miller (2000) have suggested using the “lens” perspective and the researcher's’ paradigm assumptions. The lens perspective is based on the researchers, participants, and reviewers’ assessments. Researcher paradigm assumptions include postpositivist, constructivist, and critical influence validation procedures (Guba & Lincoln, 1994).

Rich and thick description complemented the validity of the research through a detailed description of the site, the contributors, and the themes of the research (Creswell & Miller, 2000). As suggested by Lincoln and Guba (1985), the goal of peer review is to assess the accuracy and validity of the findings by inviting feedback, suggestions, and questions from reviewers specialized in the same scholarly area as the researcher. Transparency is a

fundamental factor enhancing the integrity and interpretability of the research. Academic discourse protocol requires scholars to disclose the evidence, theory, processes, and methodology that led to the conclusion of the study (Moravcsik, 2014). High quality and secure recording devices diminished possible threats to internal validity. The study was restricted to specific libraries and periods, so maturation did not pose a threat

Data Analysis

This research utilized an inductive approach for analyzing the collected data from surveys, interviews, observations, and archived information. The primary aim of an inductive approach is to convert the raw data into a summary format, create a link between the research objectives and findings, and to develop conclusions from the experiences of participants from the raw data (Thomas, 2006). Furthermore, an inductive approach offered the benefits of a less complicated option for analyzing data by not depending on restricted protocols as other structured methodologies. Thomas (2006) asserts that an inductive analysis leads to developing categories into a framework or a model. The resulting categories have five main features:

1. Category label: a word or a short phrase that defines the category.
2. Category description: a description of the key characteristics, scope, and limitations.
3. Text and data associated with the category.
4. Links: relationship or links between categories.
5. The type of models in which categories are embedded. These models signify the conclusion of the analysis.

The Process of Inductive Coding

Precoding of the data was done by reading the raw data to identify and mark important comments or themes. The following procedure as suggested by Thomas (2003) was applied for coding the data:

1. Preparing and cleaning of raw data files to ensure consistency in the format including font size, margins, and highlighting interviewer's comments.
2. A careful reading of the text to gain an understanding of the themes in the text.
Identifying and creating categories or themes.
3. Identifying overlapping codes and un-coded text or the text that is not relevant to the evaluation of objectives.
4. Revising and refining the category system by searching for subtopics such as contradictory point of view and new insights.
5. Creating a model that incorporates 3-8 most important categories.

Table 1.1

The Coding Process in Inductive Analysis







Preparing and cleaning the data	Initial careful read through text	Identifying and creating Themes	Reducing overlap and redundancy among the categories	Refining text by identifying subtopics	Creating a model of most important categories
Entire data 	Many pages of text 	30-40 categories 	15-20 categories 	15-20 categories 	3-8 categories 

Table 1.1 is adapted from Thomas (2003, p.6).

Anticipated Ethical Issues

Participants shared information about the challenges of the transition process including some details about their perspective institutions and libraries. To protect participants from

potential supervisory consequences, confidentiality and anonymity of the institutions and the respondents was ensured through pseudonyms and general indicators such as the exact location of the college or university was kept confidential. Participants were informed that they were free to withdraw from the research at any time. Additional information including the purpose and the procedure of the study, the expectation from the participants, the amount of time required, contact information of the researcher or IRB were made available to all participants.

Summary

This chapter sets forth the research questions to be analyzed for the study. The participants were three academic libraries in Southern California that have successfully transitioned to a learning commons model. The components of a qualitative general inductive methodology utilized in this study were explained. The data collection and data analysis procedures were described. Finally, validity, trustworthiness, and reliability strategies used by the researcher were set forth and discussed.

CHAPTER 4: RESULTS

The intent of this mixed method study was to examine the experiences of the librarians who led or participated in transitioning a traditional academic library to a learning commons model. The qualitative aspect of the research that formed the core of the study was based on the general inductive theory as described by Thomas (2003). The quantitative segment of the research utilized a survey instrument to obtain a thorough preliminary understanding of the institution and its library. The data was analyzed with a focus on answering the two research questions as described in Chapter 1:

1. What factors contribute to the successful implementation of a learning commons concept?
2. What factors undermine the successful implementation of a learning commons concept?

The participants in this study were deans or directors of three academic libraries in California. Pseudonyms LC1, LC2, and LC3 were used to protect the identities of the librarians and the institutions. The research tools for investigating the two research questions comprised of a survey, in-person interview, observation, and online research.

Participants

Participant LC1 is a professional librarian with a BA in social work, California teaching credential, an MA in instructional technology, a MLIS, and more than 23 years of academic library experience. Participant LC2 holds a BA in music, an MA in library science, and a PhD. Participant LC2 also has worked more than 30 years as an academic librarian. Participant LC3 has a MLIS and more than 34 years of work experience as a librarian. Participant LC3 also has completed the coursework towards a PhD program.

Institution and Library Descriptions

The three contributing academic libraries are located in Southern California. Institution LC1 is a small private university with full-time enrollment (FTE) of approximately 1,100 students. The library houses an estimated 65,000 books, audiovisuals, and print periodicals. Access to nearly 90,000 eBooks and thousands of journal articles is available online. The library operates on an annual budget of less than \$500,000 and has six librarians and support staff members. The library is open 73 hours per week during regular semesters. As indicated in Table 4.1, the facility consists of two floors with spacious and bright areas and a variety of comfortable and flexible furniture. The first floor is dedicated to print stacks, a service desk, and study tables. In addition to staff offices, the second floor includes an information commons and the collaborative student innovation (CSI) lab. The information commons covers nearly 50% of the library's total floor space. The services and resources offered in the information commons includes computers, printing, scanners, wireless access, and assistance with research and computer-related issues. The CSI lab was designed to accommodate students' group projects, discussions, and presentations. LC1 Library facilities are summarized in Table 4.1.

Table 4.1

LC1 Library Facilities on Levels One and Two

Level 1	Level 2
<ul style="list-style-type: none"> • Print books • Service desk • Study tables 	<ul style="list-style-type: none"> • Information commons • CSI lab • Helpdesk • Offices

Institution LC2 is an independent university with FTE of approximately 5,000 students. The library's annual budget is more than \$1,000,000. The library is open approximately 100 hours per week when classes are in session and supported by 20 librarians and staff members,

but many basic functions are performed by student employees. The library consists of three floors and an architecture that is centered on providing bright, spacious, and welcoming spaces with movable and comfortable furniture. In addition to a collection of more than 800,000 print and eBooks, the library also offers an extensive array of services to students, faculty, and staff as summarized in Table 4.2.

Table 4.2

LC2 Library Facilities on Levels One, Two, and Three

Level 1	Level 2	Level 3
<ul style="list-style-type: none"> • Distance education production center • Group study rooms • Mac and PC labs • Microform reader • Public computers • Technical services 	<ul style="list-style-type: none"> • Copy room • Cafe • Instruction lab • Learning resource room • Public computers • Service desks • Writing center • Tech commons helpdesk 	<ul style="list-style-type: none"> • Administration offices • Center for faculty development • Food court • Group study rooms • Conference rooms • Learning center • Mezzanine • Outdoor terrace • Public computers • Test proctoring center

Institution LC3 is also a private comprehensive university with an estimated FTE of 8,300 students. The library has a book collection of more than 600,000. The library is open 140 hours per week and the library operations and services are supported by 46 librarians and library staff as well as 150 student employees. The library building consists of three levels with many large windows and an open space design offering an extensive category of student and faculty resources and services. LC3 Library facilities are summarized in Table 4.3.

Table 4.3

LC3 Library Facilities on Levels One, Two, and Three

Level 1	Level 2	Level 3
<ul style="list-style-type: none"> • Cafe • Circulation desk • Library instruction room • Group study rooms • Information commons • New books 	<ul style="list-style-type: none"> • Book stacks • Technology support and equipment checkout station • Current periodicals • Group study rooms • Popular reading collection • Reading room • Video viewing workstations 	<ul style="list-style-type: none"> • Archives & special collections • Lecture room • Book stacks • Faculty commons and innovation center (FIC) • Group study rooms • University events venue

Quantitative Results

An initial assessment survey (Appendix A) was sent to the participants as an introduction to the research environment and the participants' academic and professional backgrounds. The survey was comprised of seven questions. Question one regarding the change in the gate count offered the participants with five response options: Decrease, No Increase (Same), Moderate Increase (Less than 20%), Medium Increase (21% - 30%), Significant Increase (more than 30%). Questions two to four explored the three key areas of research interest (library resources, services, and spaces) with seven items, each organized on a 5-point scale: Very Important (5), Important (4), Somewhat Important (3), Not very Important (2), and Not Applicable (1). Question five, with 10 items, was aimed at exploring the two top students' activities in the library. Question six was an open-ended question to offer participants an opportunity to provide any additional comments or suggestions not included in the survey. The final question consisted of general informational queries, such as the institution's FTE, the library's annual budget, staff size, and hours of operation.

For question one, “How would you describe the change in the gate count after implementation of the learning commons model in your library?”, the participants were given an opportunity to reflect on and examine the library gate count data before and after the renovations. As shown in Figure 4.1, library LC1 reported a significant increase (more than 30%) in the door count after creating an information commons and redesigning the spaces. LC2 indicated that there has only been a moderate increase in library usage according to the door count, as the library was already a popular destination for students. Library LC3 experienced a substantial increase in the door count after moving to the new building with extensive renovations of spaces and services. The results are shown in Figure 4.1.

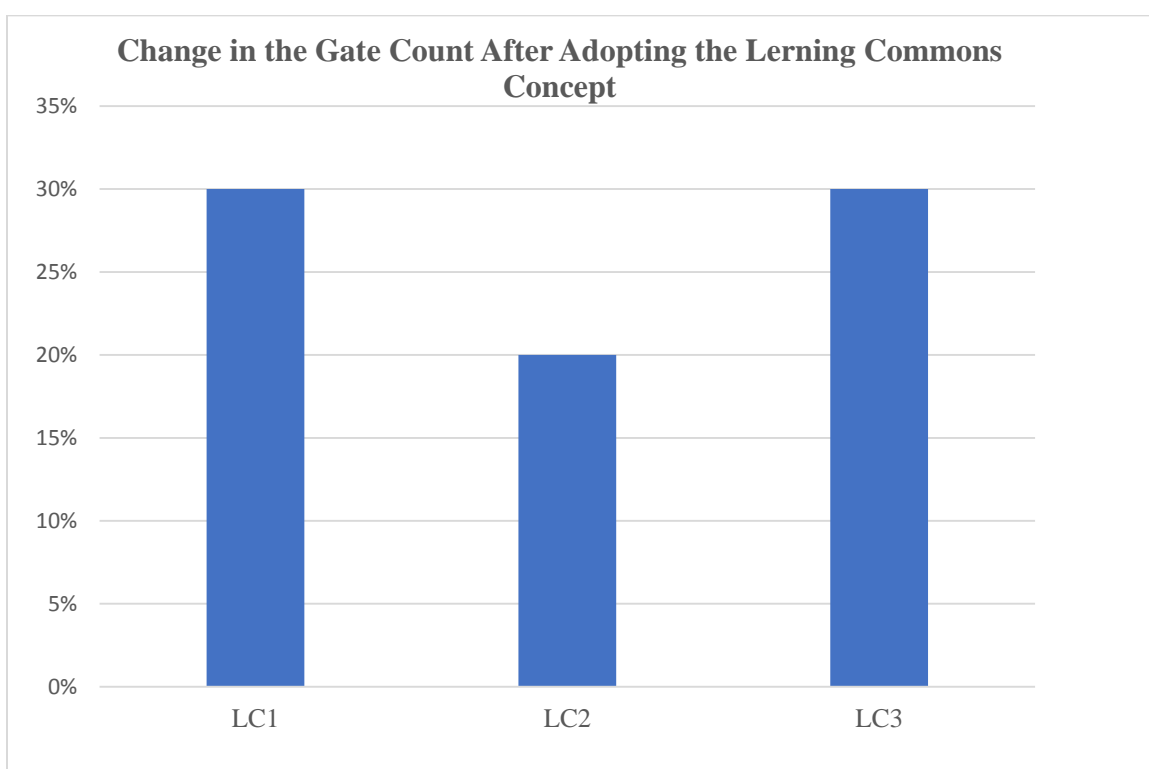


Figure 4.1. Survey response showing increase in the library gate count after transition.

The second survey question asked the participants to rate the importance of library research assistance, IT support, writing center services, tutoring, multimedia production support, 24/7 access to the library, and the significance of additional services, such as the computer lab,

printing, and copying. All three libraries reported reference and research assistance as a “very important” function of the library. LC1 also rated the use of the computer lab and printing as “very important” and IT support and tutoring services as “somewhat important.” LC1 did not have a writing center, multimedia production support center, or 24/7 access to the library. LC2 categorized IT support as “very important,” writing center and tutoring “important,” and multimedia production support as “somewhat important.” Although offering extended hours of operation, LC2 is not open 24/7. In addition to research and reference assistance, LC3 considered 24/7 hours of operation as a “very important” service of the library. IT support was rated as “important,” and multimedia support and group study rooms were evaluated as “somewhat important.”

The most important theme from the responses of the librarians was the availability of research and reference assistance and IT support was ranked the second most important service as indicated in Figure 4.2.

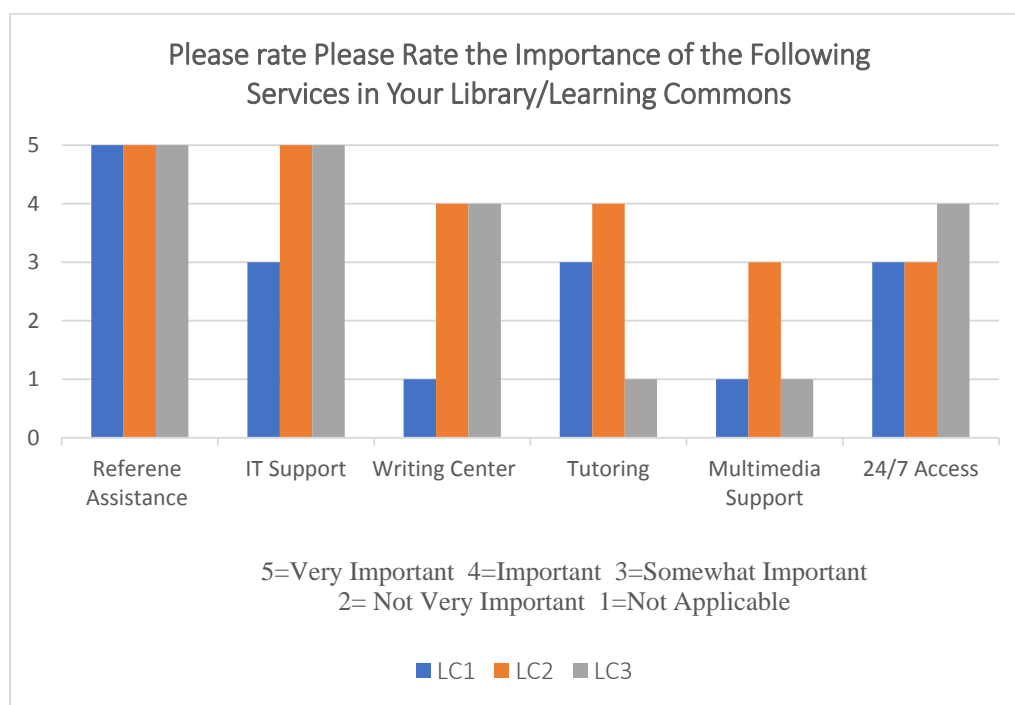


Figure 4.2. Survey response showing research assistance and IT support as important library services.

For question, “Please rate the importance of the following resources your library/learning commons”, the results suggested that the resources provided by a library or learning commons play a crucial role in effectiveness and usage of the facility. All three libraries considered online databases and computer workstations as “very important.” LC1 and LC3 also categorized copy and printing services as “very important.” Additionally, LC1 rated print books as “very important” and phone chargers and headphones as “somewhat important.” LC1 did not offer laptops and other equipment for checkout. LC2 categorized the availability of print books, copy and printing services, and electrical outlets as “important” and borrowing of laptops, tablets, and other equipment as “somewhat important.” Library LC3 emphasized the availability of electrical outlets as “very important” and the print book collections as “important.” The responses are summarized in Figure 4.3.

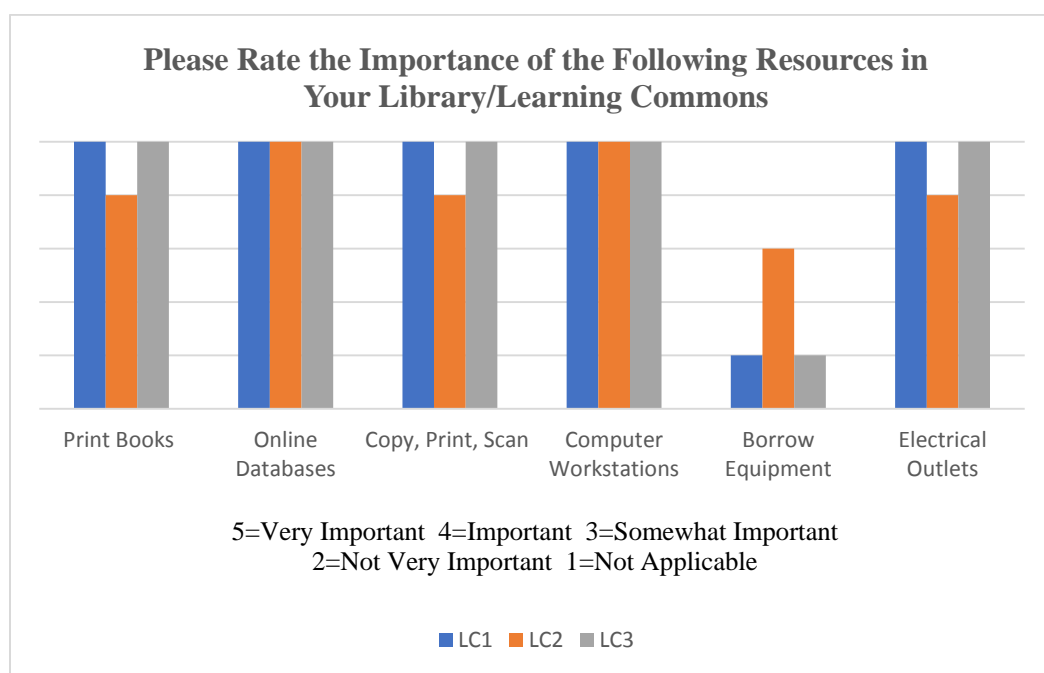


Figure 4.3. Survey response showing online databases and computer workstations as the most important resources in libraries.

As understood by librarians and educators, the primary aim of an academic library is to advance the students' educational goals and the mission of the university. A recent and fascinating phenomenon in the evolvement of libraries is the impact of redesigned library spaces on psychosocial aspects of an institution (Freeman et al., 2005). A library was traditionally valued as a quiet space for research and study. However, to accommodate the learning styles of the digital generation, the libraries are redesigning their spaces to accommodate a broad spectrum of learning styles in a flexible and comfortable environment.

For the third question, "Please rate the importance of the following spaces in your library/learning commons," group study rooms, comfortable furnishing, computer and learning labs were labeled as "most important" by all three participants. The two libraries that had a cafe considered it a "very important" student gathering and social interaction venue. LC2 and LC3 also ranked the quiet study spaces as "very important." LC1 assessed quiet study spaces as "important" (Figure 4.4).

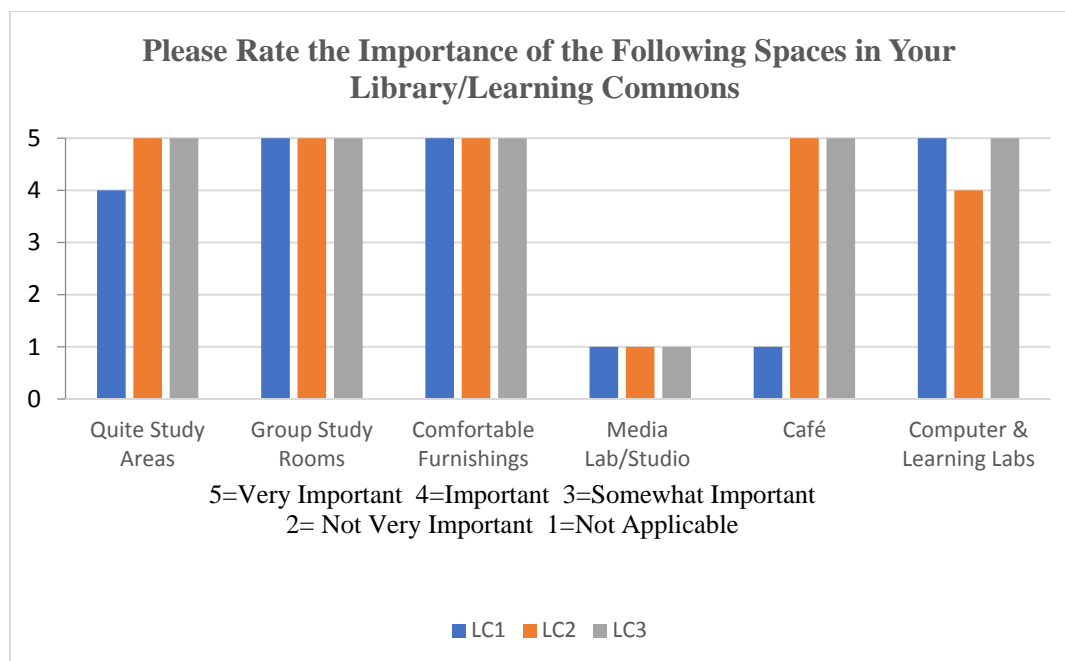


Figure 4.4. Survey responses showing important library/learning commons spaces such as group study rooms, cafe, and comfortable furniture.

For the question “What are the top two activities of the students when they visit the Library?”, all three librarians reported that although the libraries have evolved significantly, they are still the main centers for individual and group study, research, and writing. Notably, even though most students have access to a personal computer, the library research computers show heavy usage. The purpose of this question was to get an understanding of most popular usage of the library. Possible choices included the following: individual study and research; writing a paper; group study; the use group study rooms, computers, printers and copiers, library Wi-Fi, and research assistance at the help desk; checking out or returning library materials; and relaxing and socializing (Table 4.4).

Table 4.4

“What are the top two activities of the students when they visit the library?”

Librarian Code	Information Shared
LC1	Individual study Group study
LC2	Studying Use of computer workstations
LC3	Group study Use of technology (computers, printers, and Wi fi)

The final open-ended question was aimed at collecting additional information that the participant wished to share with the researcher. Only two responses out of three were received. LC1 elaborated on the increase in library usage after adopting many aspects of a learning commons model of service:

We have not implemented a “Learning Commons” model per se. However, we saw a significant increase in traffic after our 1999 renovations. We have two floors with one service point on each. The Circulation Desk provides access services (circulation, reserves, ILL, photocopying) and the Information Commons Desk serves the only computer lab on campus (supported by campus IT) and provides scanning & printing. In 2014, we built a group study room with a smart TV, Apple TV, TV cam, adapters, and cables.

LC3 commented that since the library did not keep data for the previous years, it was difficult to quantify the usage of the library services, resources, and spaces before and after renovations.

Qualitative Results

Interviews

This study was intended to explore the diverse elements in shaping a traditional academic library to a learning commons model. In addition to a preliminary survey, this mixed method study included a series of interviews designed to gain an understanding of the process through experiences of the participant librarians. The interview consisted of 20 questions divided into six precise categories. These six categories consisted of (1) educational and professional background of the participant, (2) institution description, (3) learning commons, (4) transition challenges, (5) changes made for the transition, and (6) reflection.

The responses of the participant librarians to question, “What made you decide to change from a traditional library model to a learning commons model?”, indicated that educational institutions are responding to the learning needs of the digital students and the advances in information and communication technologies. Responses included themes such as bright, open, and welcoming environment, technology, cafe, changing role of academic libraries, student-centered approach, and collaboration spaces. Sample responses by all three librarians are shown in Table 4.5.

Table 4.5.

“What made you decide to change from a traditional library model to a learning commons model?”

Librarian Code	Response Shared
LC1	“Electronic resources; Students needs for success.”
LC2	“Some of that has to do with architecture than with services and so forth, but they [administration] wanted a bright, open, and welcoming environment. So, you noticed our theme of the building was embraced around the building at this ‘Christ is the light of the world’ light. Apparently, the previous library facility had very few windows and was rather dark. We have almost too many windows. It’s very bright and airy. However, we do try to have a lot of welcoming services like our cafe and things like that. They all kind of incorporate into hopefully a positive and welcoming environment.”
LC3	“Well, when I came here in 2006, we were planning a new library. I knew that this building was going to be built in the next couple of years. And so, when we were planning the building, a lot of the groundwork that was laid was looking at the changing role of academic libraries on campus. And, the building that we were in—which you can actually see from here—was in transition. And, they wanted to use the planning and development of this building as an opportunity to bring the library more firmly into the twenty-first century. We wanted to be influenced and wanted to be kind of on the cutting-edge of what academic libraries were doing...But, also investigating in the library literature about new formats for delivering library services and we realized that we wanted engaged learning throughout the building. We wanted to have a more student-centered approach that offered collaboration space and lots of programming and other kinds of things. In other words, we wanted the library to move beyond a traditional academic library to really become the intellectual and cultural hub of the campus. And for that we felt that many of the Learning Commons models were more appropriate.”

Librarians play a crucial role in informing, educating, and motivating the university community regarding library services, resources, and spaces. However, in response to the question “Describe how you introduced the concept of the change to your university leadership?”, two main themes emerged. These themes implied the necessity of building partnerships and a good working relationship with the university administration and leadership

team and the issue of funding. LC1 indicated that although the administration supported the renovations, the main reason for achieving the renovation projects of the library was receiving a technology and renovation grant. LC2 and LC3 highlighted the importance of administrative support and cooperation with other departments. Summary responses by all three librarians are in shown in Table 4.6.

Table 4.6

<i>“Describe how you introduced the concept of the change to your university leadership?”</i>	
Librarian Code	Response Shared
LC1	“Opportunity to remodel through a grant; technology and online services, ‘Bigger bang for our buck.’ ”
LC2	“Introducing concept of change into leadership – you’re asking actually about change management. I can discuss that. Some of it will hinge upon services we provide. Some of it will maybe relate to just the way we deal with one another in personnel management. So, what I do is I try to raise the idea of a concept, introduce an idea.” “These are all parts of change management, to be out front, clear about what you want to do to make sure the change is not a done deal, so that people involved in the change feel they have true and authentic and genuine input, that they are creating their own future. It is not a dictate handed from the administration to them without their input. They get to see how we may actually flex and change the design of the policies as we move forward in light of what they’ve brought up. In the case of the tech commons, we said they will manage all of the printing operations.”
LC3	“I will say that it was not difficult at all because there was new leadership at the university when I arrived in 2006. There was a new chief academic officer who was heavily involved in championing the new library. And, I think when you build a new library people are expecting new things.” “They wanted this kind of 21st-century modern library building and they wanted it to be a modern library in terms of its services and collections and its approach to student support.”

The references to “information commons,” “tech commons,” and a “user-centered library” were the phrases that librarians used to describe the most significant changes in their libraries since transitioning to a learning commons service model (Table 4.7). Technology

included digital resources, such as online databases, computers, software applications, wireless access, and copy and printing services. A user-centered library was described as considering students' preferences in upgrading the library. In addition to technology, students' recommendations for renovation included a cafe, individual and group study rooms, and comfortable seating.

Table 4.7

“Describe the most significant changes, if any, you have experienced since transitioning to a learning commons service model?”

Librarian Code	Response Shared
LC1	“Two service points; 50% of floor space dedicated to technology; focus of librarian skills on digital resources.”
LC2	“The creation of library tech commons, staffed by IT student employees. The tech commons assists students with personal computers and software applications and supports the entire university community with printing, copying, and use of public computers in the library and processing media equipment loans for faculty, staff, and students. The library is also in the process on phasing in a test proctoring service.”
LC3	“I think the idea is that we saw changes coming before we moved into this building and people said to me when the building was being constructed between 2007 and 2009, ‘What are you going to do to get students in the building?’ And I said, ‘Basically, we’re going to open the door.’ So, we knew that the building would be very heavily used by students because it was designed to be a user-centered library. It has gorgeous views, it has technology, it has wireless, it has data, it has a cafe, it has group study rooms. It has all of the things that students—it has a fireplace. It has all of the things that students told us that they wanted. They wanted individual study space, comfortable seating, group study space, we had 33 group study rooms with whiteboard walls. We were very responsive to what they wanted. And so, we knew that we were going to be heavily used.”

Changes in libraries and student learning styles influence the role and work responsibilities of the librarians. The responses suggested that library innovations led to an

adjustment or increase in the work responsibilities of the library director or dean. This transformation in the role of a modern library leader was described due to progress in educational technology, the significance of supportive leadership, and building a relationship of cooperation, coordination, and support with administration and various university departments (Table 4.8).

Table 4.8

<i>“Describe the changes, if any, you have experienced in your position and work responsibilities.”</i>	
Librarian Code	Response Shared
LC1	“I started out as cataloger, then evolved into systems, and now director. As director (11 years), I have been Chair of the technology strategy committee on campus and become more involved with IT and DLT.”
LC2	“More time is being dedicated to building relationship with other departments, leveraging opportunities such as funding, working with administration, and building strategic goals.”
LC3	“I think that what I’ve been trying to do is provide more leadership within the library. So, I’ve been very much encouraging the librarians to become more assessment-focused, more evidence-based in their decision-making, more research oriented in the way they approach their jobs. I did create, for example, a research incentive grant where I support librarians in conducting research and then presenting the results of their research. And, the effects of that have been very dramatic.”

Twenty-first century libraries must take into consideration the learning needs of the online students. In reference to working with students in a renovated library or learning commons, LC1 specified the growth in the number of online programs as the main reason for developing online resources, such as LibGuids, tutorials, LibAnswers reference with a FAQs system, and embedded librarians in both online and on-ground classes. LC2 described mainly communicating with student senators regarding student concerns and did not observed any substantial changes in working with students. Developing a mandatory library information

literacy program for freshman-year classes was a valuable accomplishment for LC3. Sample responses by all three librarians are shown in Table 4.9.

Table 4.9

“Describe the changes, if any, you have experienced in working with students.”

Librarian Code	Response Shared
LC1	“Online students have changed the most—from strictly adult degree completion to a wider demographic, including traditional undergrads and graduate programs. We have developed LibGuides and online tutorials, instituted an online LibAnswers reference with FAQs system, embedded a librarian in introductory classes both online and on-ground, train our SLAs to handle first level reference questions & record reference transactions, we have instituted a reference librarian sign instead of having a reference desk. All librarians take LibAnswers and walk-in reference duty hours, handling both online and on-ground students.”
LC2	“No significant changes were observed in working with students.”
LC3	“So, first of all five years ago we implemented a new core curriculum. And for the first time, information literacy instruction is integrated into the core curriculum. So, we have mandatory information literacy in two classes in freshman year – a first-year seminar and a rhetorical arts class. And the library is responsible for that instruction.” “And for the past couple of years we’ve had 100 percent success in reaching every single student enrolled in rhetorical arts and close to 100 percent for every student who’s enrolled in a first-year seminar has completed and passed those tutorials. And then we also have advanced information literacy in a course that’s called a flagged course where it’s an upper level course where students have to write a documented paper that requires information literacy skills.”

Responses from all three librarians regarding the most common library activities suggested that study and research and the use of technology and study spaces were the prominent student activities in the library. Technology consisted of printing, Wi-Fi access, and the use of library computer workstations. All three libraries indicated that group study rooms were particularly popular with students. Sample responses by all three librarians are shown in Table 4.10.

Table 4.10

“Describe the most common student activities within the learning commons.”

Librarian Code	Response Shared
LC1	“Printing; using the network; using the computers; writing papers, using Canvas Learning System; Small group study (CSI Lab); study.”
LC2	“So, the most common is group study, we’re very fortunate to have very nice group study rooms. We’re actually looking at building two more.” “The computers are used heavily. We do statistics and we check every hour on the half-hour. We do a head count. E check to see if they’re using a computer. We log if it’s our computer or their computer.”
LC3	“Group or individual study including reading, working on assignments, writing papers, the use of group study rooms and library computers.”

The next question focused on evaluating faculty activities in library. The reference to faculty activity denotes the various ways faculty members use the resources and services of the library either for personal research or for classroom activities. The responses included reference to the use of faculty-only spaces, such as a conference rooms or commons and the use of research databases or a specific program for teaching. Faculty commons are dedicated areas for faculty to engage in individual or collaborative work and connect with colleagues. Sample responses by all three librarians are in found in Table 4.11.

Table 4.11

“Describe the most common faculty activities within the learning commons.”

Librarian Code	Response Shared
LC1	“Bringing or sending classes to use a resource together—SPSS and/or a specialized database or other program.”
LC2	“I’ll tell you, the most common activity within the faculty use are our conference rooms. They want our space for meetings. There’s a high premium on meeting space. So, we had our library conference room, which we call LCR. That’s always been available to anyone on campus.”
LC3	“So, we have something called the faculty commons and it’s also up here on the third floor and it has two parts. One is kind of like a reading room and it has lockers and it’s just a space where – quiet space where faculty can go when they have a break. Or a lot of times people use it when they are on sabbatical because they don’t want to be in their offices. And our adjuncts use it.” “But then the other part of it is what we call the faculty innovation center, the FIC. And that’s run by information technology services. And that’s kind of like a technology sandbox where information technology services will have things for faculty.”

In reference to the factors that contributed to the success of the transition, LC1 described the automation of the library system, more public computers, and a general renovation of the library as key components in making the transition successful. However, LC1 also stated that without procuring a grant, the transition would have been impossible or difficult because of funding. LC2 emphasized the importance of users’ satisfaction through surveys, the building of a cafe, and permitting food in the library. LC3 stated the desire and support of the university leaders to provide a “more active learning place” for students was the key contributing element of success. Based on responses, funding, administrative support, understanding users’ needs, and some changes in traditional policies are crucial for successful transformation of the libraries. Sample responses by all three librarians are shown in Table 4.12.

Table 4.12

“Describe the factors that contributed to the success of the transition.”

Librarian Code	Response Shared
LC1	“Renovation, automation, additional public computers.”
LC2	“So, I think that’s the biggest thing. Word of mouth is – you can put out all the advertising you want, but nothing gets the students in as other students saying, ‘I’ll meet you in the library. There’s the café. We’ll get a cup of coffee. Then we’ll study together.’ “They [students] love having the café. It’s very popular.”
LC3	“I would say a desire on the part of the university administration to sort of change the whole perception of the library as a more active learning place. And also, they wanted—honestly, they’ve known for years they were going to build a new library. And so again, that colors the situation. But I do think there was a strong desire that the library be a more innovative, creative, and cutting-edge kind of service provider.”

There were three main themes based on responses of the participants regarding challenges and obstacles of the transition process. These impediments were expressed as resistance to change, the intricate issue of collaboration and partnership with team members and stakeholders, and funding. Responses consisted of phrases, such as “you are always going to have somebody who’s not happy with transition,” “funding is always a major challenge,” and “I just don’t like the direction you are taking the library.” Sample responses by all three librarians are shared in Table 4.13.

Table 4.13

“Describe the challenges and obstacles of the transition.”

Librarian Code	Response Shared
LC1	“Some long-time faculty resisted automation and use of electronic databases and learning new technologies to encourage student use of the resources. Some administration saw the wide-open space as a waste of space where books could be shelved.”
LC2	“Not too many. You’re always going to have somebody who’s not happy with a decision.” “The funding is going to be a challenge. Funding is always a major challenge.”
LC3	“So, all of these kinds of things have contributed to the university embracing change for the library. I think the challenges come when, first of all, we have had somewhat of a financial – you know during the recession. We did pretty well because we were on our way up. And frankly, this building was in the middle of being built when the recession hit. So, it didn’t stop the construction. In a lot of places, it did stop construction.” “There are some faculty here – again, the faculty – it’s very difficult to reach every faculty member with your message.”

The importance of redesigned spaces was also explored. LC1 explained the opening of the library spaces through relocation of non-library offices and extensive weeding of the print collections for creating areas for the building of an information commons and accommodating comfortable and movable furniture. LC2 created a tech commons equipped with updated technology in the library building. LC2 also installed compact shelving for maximizing the space. LC3 commented on adding 33 group study rooms, the expansion of archives and special collections, and creating event and exhibition areas. The responses suggested that technology and student demand for more collaborative study spaces, such as group study rooms were the leading considerations in redesigning the library to a learning commons model. Sample responses by all three librarians are shown in Table 4.14.

Table 4.14

“As part of the transition, what changes did you make to the physical space?”

Librarian Code	Response Shared
LC1	“We expanded the library by almost 100%—taking over spaces within our walls that had been used for classrooms, bookstore, and other non-library functions. We moved the entrance to the first floor and all of the circulating materials are on the first floor. We did extensive weeding of old obsolete books. We had computer pods custom designed and built with student collaboration and sharing in mind (they are wide enough for two or three people to gather around one computer). We responded to natural tendencies of patrons to move furniture.”
LC2	“We’ve done quite a bit of compact shelving at the lower level.” “The creation of tech commons, faculty conference room, cafe, and relocation of writing center to library building were additional changes we implemented.”
LC3	“The group study rooms, the addition of the group study rooms was big. The addition of classrooms was big. The expansion of archives and special collections with an exhibition area. And then the big event space.”

All participants referred to a technology-based approach for renovation in response to being asked about the changes made to library services (Table 4.15). LC1 created online communities utilizing social media sites and tools. LC2 expanded the information literacy and peer mentoring programs and relocated the writing center and IT help desk into the library building. In addition to the expansion of information literacy instructions, LC3 converted the basement of the library to a book storage area with retrieval services. All three librarians mentioned forming partnerships with IT for assisting students with the technical- and media-related questions in the library.

Table 4.15

“As part of the transition, what changes did you make to the library services?”

Librarian Code	Response Shared
LC1	“We included more technical assistance by partnering with IT. We inserted ourselves into the online courseware, opened social media accounts to engage online and traditional students who reside in those communities. We worked at building community online as well as with on-ground.”
LC2	“We’re doing a lot more with regard to library instruction. I don’t know if that’s what you’re looking for unless you consider that a traditional service. We’re doing more peer mentoring. Our librarians are sitting in on critiques.”
LC3	“We changed our service points. We consolidated eventually – when we first opened. We had a separate media and reserve desk on two, but we changed that to Tech on Two because we wanted to collaborate with information technology. So, we moved media and reserve services down to the first floor and we actually circulate video and audio and all of those things off of the first floor in the circulation department.” “As I said, we’ve changed – we had instruction, but we changed our instruction services a lot and we’ve added things like one-on-one consultations with students. We’re doing a lot more. We added actually information literacy related to archives and special collections.”

When asked about the changes to the library collections (Table 4.16), LC1 and LC3 indicated that their print collections were weeded out extensively. Although, still maintaining specific print collections, all three libraries indicated a considerable growth in their eBook collections. The responses highlighted the shift in academic library practices from collecting print books to providing access to eBooks and online sources of information and academic work.

Table 4.16

“As part of the transition, what changes did you make to the library collections?”

Librarian Code	Response Shared
LC1	“We weeded heavily in the print area and have focused on purchasing eBooks and eJournals.”
LC2	“None, really. We were already heavily digital anyway. If you were a faculty member and you wanted a book and you asked, “I’d like this book,” we would order a digital copy.” “We were doing ongoing [weeding] – we’re still doing weeding. Weeding is a little more involved.”
LC3	“Well, so we did two things. We weeded the collection to some extent, but we also brought materials that were off-site into the building.” “The collection is really changing, not so much from the Learning Commons perspective, but we have vastly increased the number of electronic books that we have in the last few years. I mean, we’ve gone from about 200,000 to about .5 million in two years and that’s partially due to the influence of (name).”

Concerning changes to purchasing and budgeting, the responses highlighted the reallocation of funds based on the unique needs of the renovated libraries. LC1’s budgeting and purchasing priorities consisted of obtaining peripherals, such scanners and cameras, and replacement of old technologies. LC2 reallocated some funds from the print book budget to purchasing furniture. Although LC3 did not experience any major changes in purchasing budget, some funds from print books were transferred to purchasing eBooks. The responses suggested that purchasing and collecting print books was no longer a priority of the academic libraries. Indeed, the libraries are increasingly focusing on providing online resources, productivity equipment, and comfortable and flexible furniture. Sample responses by all three librarians are shown in Table 4.17.

Table 4.17

<i>“As part of the transition, what changes did you make to purchasing and budgeting?”</i>	
Librarian Code	Response Shared
LC1	“We prioritized printing supplies, peripherals, such as scanners and cameras, and replacement of obsolete technologies.”
LC2	“I don't know that many libraries would because technically, we have a purchasing department which is external to the library and we don't get to make choices on how things are purchased. Budgeting, we have some. So, we have made some adjustments to collections. We move some money out of collections and put it into furnishings. Furnishings is usually what you're dealing with when you're dealing with a learning center.”
LC3	“Well, I would say that we didn't make major different changes to purchasing and budgeting. I mean, the university gave us some new positions when we moved into the new building and that was because we needed to operate that space in the basement.” “Our traditional book budget is still there. We are doing more reallocation from our book budget to electronic resources. To all kinds of electronic resources. So, the problem we've seen is the shift from purchasing to subscription.”

The responses to the question regarding the changes in librarians' positions during the transition process indicated that implementing a learning commons concept does not always entail hiring additional librarians (Table 4.18). As shared by LC1, the library staff were trained with additional skills through a professional development program. LC2 redesigned the staff positions based on the new needs of the library. LC3 added extra student employees in addition to some staff positions.

Table 4.18

“As part of the transition, what changes did you make to staff?”

Librarian Code	Response Shared
LC1	“We prioritized online services and equipped existing staff to provide needed help by encouraging professional development. We were able to focus on more user-centered services by getting rid of the Unix-based server maintenance.”
LC2	“Several. The staffing for the media services is now completely in another operation in IT. We got rid of that. We kept the position in technical services because that was an early retirement, but we completely re-described it.”
LC3	“Because of the changes in configuring the space, we had to add some staff. And we primarily added some support staff. And then over time, we’ve added some librarians.” “we’ve added a lot of student staff. We went from about 80 students to about 150 moving at – now again, obviously, it’s five, 10, 15 hours a week, but we really double the number of students who worked in the building because we need them to do things like basement retrieval.”

The final interview question was aimed at providing the participant librarians with an opportunity to reflect on the transformation process and share any additional information not previously discussed during the interview. LC2 stated that the ability to manage change was considered an indispensable skill for administrators in creating partnership and good working relationship with university administrators and departments for achieving renovation and change goals. Forming a shared vision, an effective strategic plan, and consistently endeavoring to improve were described as “keys for success” by LC3. LC1 did not have any additional comments regarding the interview questions or the transition process. Sample responses by all three librarians are provided in Table 4.19.

Table 4.19

“Please reflect on the process of the transition. What aspects worked well, and what aspects did not work well?”

Librarian Code	Response Shared
LC1	No additional information was provided.
LC2	“Well, I mentioned the way we manage change. I think that works pretty well. It’s an iterative process. I’ve done it enough. I’m trying to think of something that didn’t work well... The only thing that hasn’t really taken off was I started a committee that didn’t go anywhere and that was a technology committee. It was just because I had no bandwidth to really support it and the people on it weren’t keyed into moving it forward. I think it’s okay because we now have a tech commons.”
LC3	“I would say that we laid the groundwork for the transition by being very intentional about what our goals and objectives were for the new building. We revised our strategic plan. We wrote a new vision statement.” “I would say that there really were not problems because we had a critical mass of people who wanted it to be a better library and wanted to do things differently. I mean, apparently there were librarians who left this library at one point because they didn’t feel empowered. So, when you empower the librarians you get good response because everybody wants to be respected and wants to be supported. So that’s my job. My job is to help all these people do their jobs better and really, I guess because we were building a new building and there was a vision behind it. It really wasn’t difficult.”

Observations

The observation step of the research was based on unobtrusive collection of primary data about the library’s environment and student activities without interacting directly with the participants and users of the library. The main purpose for supplementing the research with the observation was to study the social behaviors of the students in the library as well as how they use the library services, resources, and spaces. Depending on the size of the library, observation lasted between one and two hours.

LC1. The library building is relatively small, but it was designed on a concept of open spaces and a comfortable and welcoming environment for study and reflection. The main

service desk located on the first floor was facing the main entry doors to the library. The service desk attendants provided assistance with students' questions and checking out library materials. The use of print book stacks was minimum. However, mostly individual students busy with activities, such as texting or eating light food items occupied study tables on the first floor. The library has reversed the traditional "no food" policy to allow basic food items in the library. Extensive use of computer workstations in information commons was noted on the second floor of the library. The student employee at the information commons service desk helped students both with research and technology-related questions. Multiple groups of students were using collaborative study stations for quiet study or group projects. Although there were no formal rules regarding noise, no disruptive conversations or discussions were noticed. In addition to computer stations and study tables, the library also provided informal learning and social interaction areas with comfortable and movable furniture, such as "bean bag" seating.

LC2. All three floors were used by students involved in various activities. Most computers were occupied by students. The library did not have any specific restrictions regarding noise level, but unreasonably loud activities were discouraged. Basic food items and drinks were also allowed in the library. The library's group study rooms were 90% occupied and from the observer's perspective, they were well equipped with technology and comfortable furniture. The library cafe provided lively environment for both academic discussion, collaborative work, and informal conversations.

LC3. The library provided an inviting, spacious, and welcoming environment for group and individual study and social learning activities. The group study rooms were bright and spacious with modern technology tools for presentations and meetings. The study rooms were 80% occupied. The cafe had students in both indoor and outdoor seating, either involved in

social or study-related discussions and conversations. The cafe had Wi-Fi access both inside and outside of the facility. As observed in LC1 and LC3, the library computer workstations were the busiest sections of the library.

The above observations revealed three dominant parts of the library spaces: group study rooms, cafe, and the information or tech commons. All three libraries had open and bright spaces with a variety of furniture for diverse student needs. The most common student activities included the use of library computers, individual and group study, and social interaction mainly in the cafe. The changes in the traditional food and noise policies were also noted in all three libraries. All three libraries operated service desks supported by both the library and IT departments.

Summary

This chapter provided qualitative and quantitative results of the research, including library assessment surveys, semi-structured in-person interviews, and nonparticipant observations. The survey and interview questions were designed to identify the dominant factors in the transition process. Online research was conducted for obtaining general information regarding the participants' institutions and the libraries. The next chapter will consist of a summary of findings, suggested research implications for application, and conclusions of this research study.

CHAPTER 5: DISCUSSION

The purpose of this study was to investigate the transformation process of a traditional library to a learning commons model and the elements that influence the success or failure of the change process. The research was focused on examining the transition experiences of three renovated libraries of independent private institutions in Southern California. Although all three libraries have adapted the learning commons model of services, the extent of renovations and upgrades varied based on financial status, size, and needs of the library and the institution.

The collection of data consisted of surveys, interviews, observations, and online research. The participants completed an initial questionnaire, which focused on librarians' views regarding the importance of specific services, resources, and spaces in the renovated libraries. After the collection of surveys, the librarians were asked to participate in in-person interviews. The interview questions were semi-structured and provided the interviewees with opportunities to describe their experiences of the renovation projects. Direct observations provided the researcher with a detached perspective of the research environment. The researcher as a direct observer strived to be unobtrusive so as not to bias the observation. General information about the participants' libraries and their parent institutions was obtained through online research. A sequential transformative design strategy was followed for analyzing data and making recommendations (see Figure 5.1).

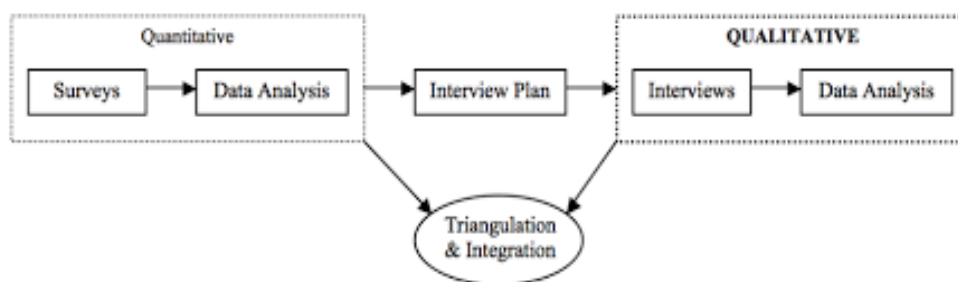


Figure 5.1. Sequential transformative design.

This chapter consists of discussion of findings, suggested research implications for application, and conclusions of this research study.

Discussion of Findings

The surveys, interviews, and observations results are presented in this section. The outcomes imply that the renovated libraries or learning commons are the preferred learning and social destinations on campus.

Surveys

Library door counts. The three participant librarians reported moderate (less than 20%) and significant increase (more than 30%) increase in door counts. The annual door count of the researcher's library has shown a substantial increase after creating additional study spaces, more computer stations, and extending library hours of operation. Other libraries, such as University of Massachusetts Amherst and University of Iowa, have indicated similar spikes in library use after renovations using the learning commons concept.

The most important library services. Based on the participants' observations, library reference and research assistance services were still in high demand (Figure 5.2). The use of the traditional library reference desk has declined sharply in the digital age (Boehme, 2016). However, the participants' perspectives and literature indicated that a mediated reference service model that supports the new paradigms of teaching and research in academic libraries is an indispensable component of the library function (Bandyopadhyay & Boyd-Byrnes, 2016; Delaney & Bates, 2015; Yeh & Walter, 2017). The integration of IT support into the traditional reference desk as a single service point was also categorized as "important" due to reliance of the millennials students on technology and media for academic and social interaction (Samson & Oelz, 2005).

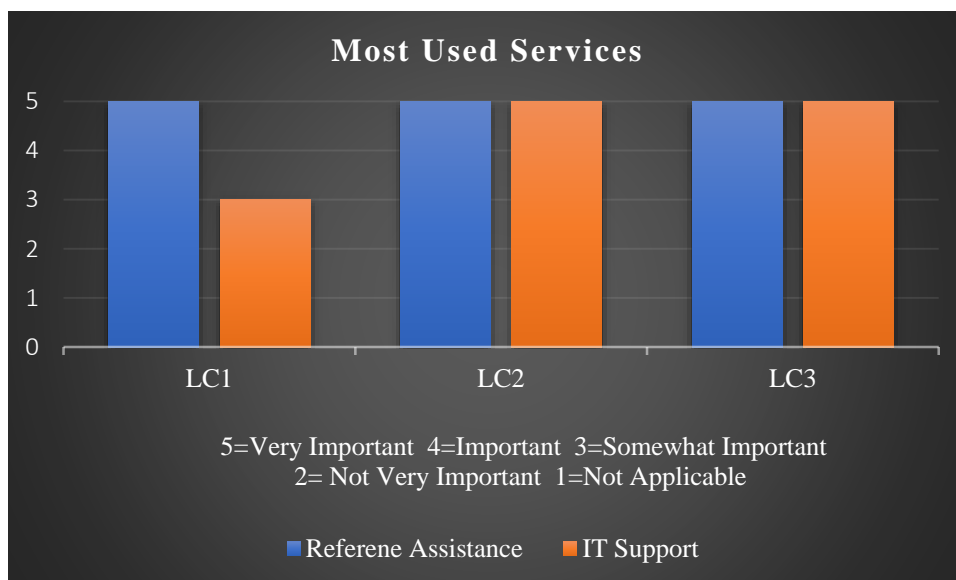


Figure 5.2. Most used library services

The library hours of operations play an important role in student satisfaction, but the implementation of 24/7 access is a complex process. Many academic library facilities are open extended hours, but relatively few offer full services to library users during the overnight hours (Bowman, 2013). Kimble Library at the Coastal Carolina University is an example of a library with 24/7 access and a high level of customer services and staff productivity. In particular, a student satisfaction survey conducted by the researcher's library, which elicited approximately 460 responses, supported the trend that the majority of students preferred studying after 8:00pm and that within late night hours, most students preferred performing study-related activities between 10:00pm and 12:00am (Figure 5.3).

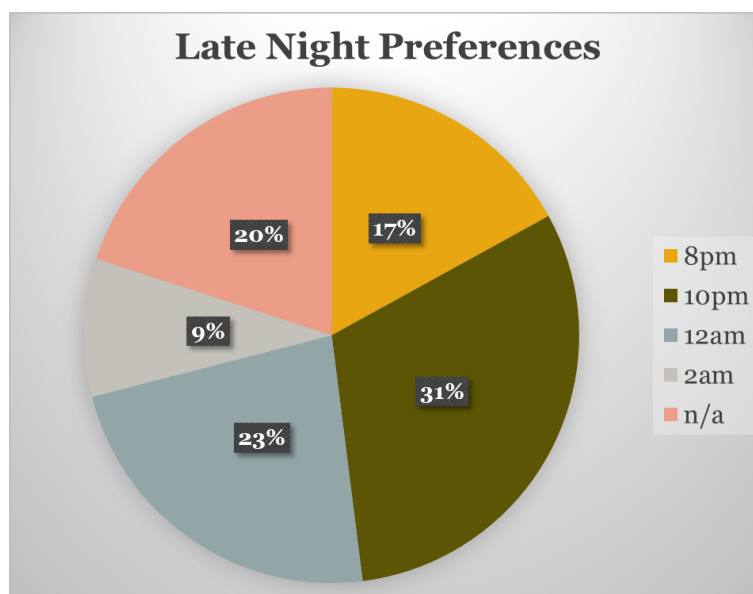


Figure 5.3. Students' preferred hours for study-related activities (Barton & Guzman, 2017).

The most important library resources. The traditional academic library functioned as a repository and guardian of knowledge through collecting and preserving print materials. However, in an era of technology-based production and consumption of information, libraries have made remarkable strides in providing users with organizational paradigms and strategies for accessing information through and beyond their physical libraries. The responses of all three librarians reflected the shift from the use of print to online resources for information retrieval (Figure 5.4). Additionally, the survey results and the researchers' observations indicated public computer workstation were in high demand, especially for individual quiet work.

The student satisfaction survey performed by the researcher's library in 2017 also supported students' preferences for online databases and the use of technology in the library). A small number of students reported the use of print books, especially fiction titles. Electronic media, such as CDs and DVDs were rated as obsolete sources of information.

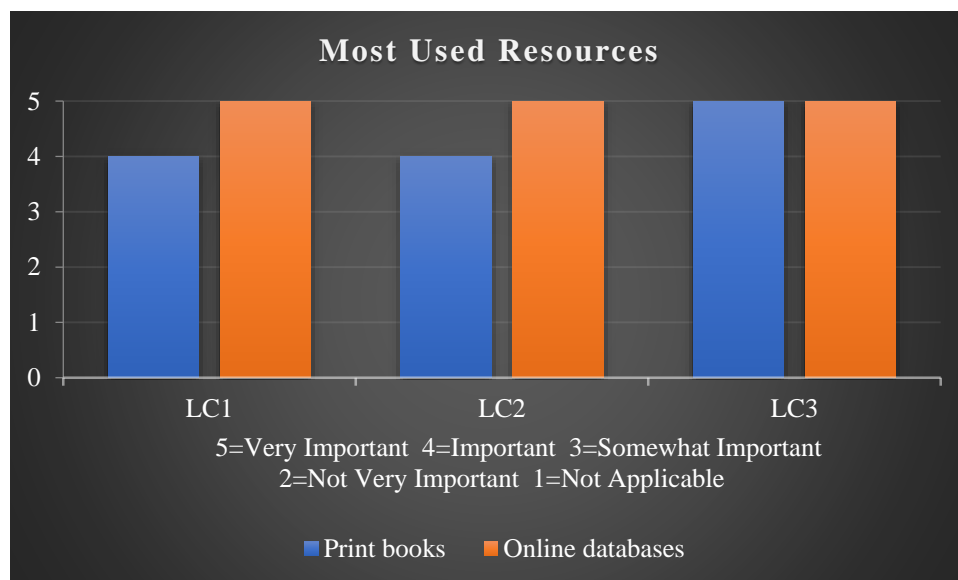


Figure 5.4. Most used library resources.

The most important library spaces. An important consideration in adapting the learning commons model of service is the design and functionality of the library spaces that accommodate the diverse formal and informal learning activities of the students. According to participants' observations, group study rooms, areas with comfortable furnishing, and computer and learning labs were considered the most utilized sections of the library (Figure 5.5). The availability of a cafe as a service of the library was also regarded as a popular area for student gathering.

The researcher's 2017 library survey indicated the more than half of responders recommended the addition of study spaces, including better furniture, and a general update of the library building for improving the library facility.

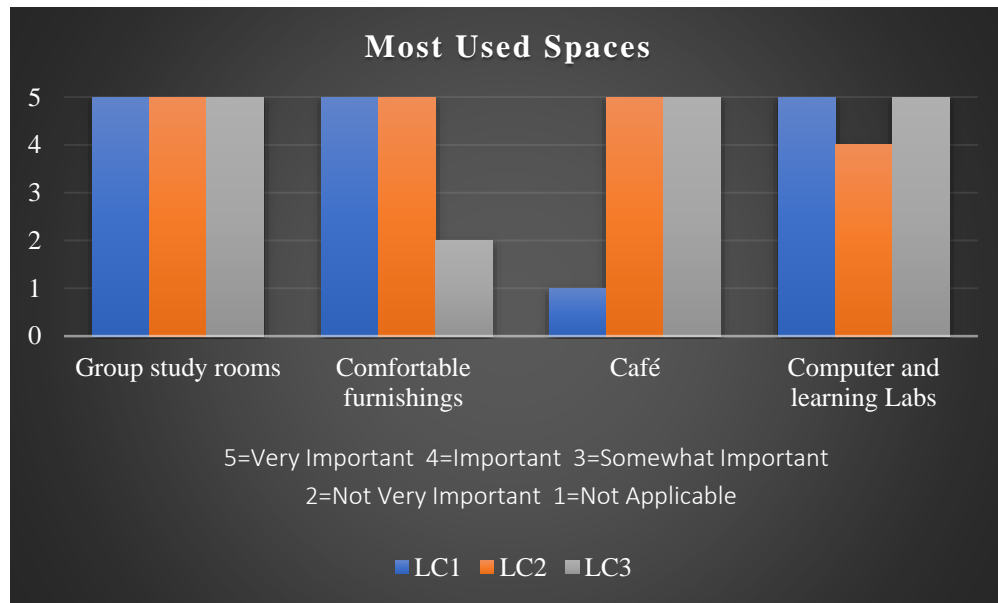


Figure 5.5. Most used library spaces.

The two top student activities. The participants' responses confirmed group and collaborative study as the primary activity of the students in the library. The researcher's library survey confirmed that most students value the library as an ideal place for school-related activities such as study and research and printing and copying. (Figure 5.6).

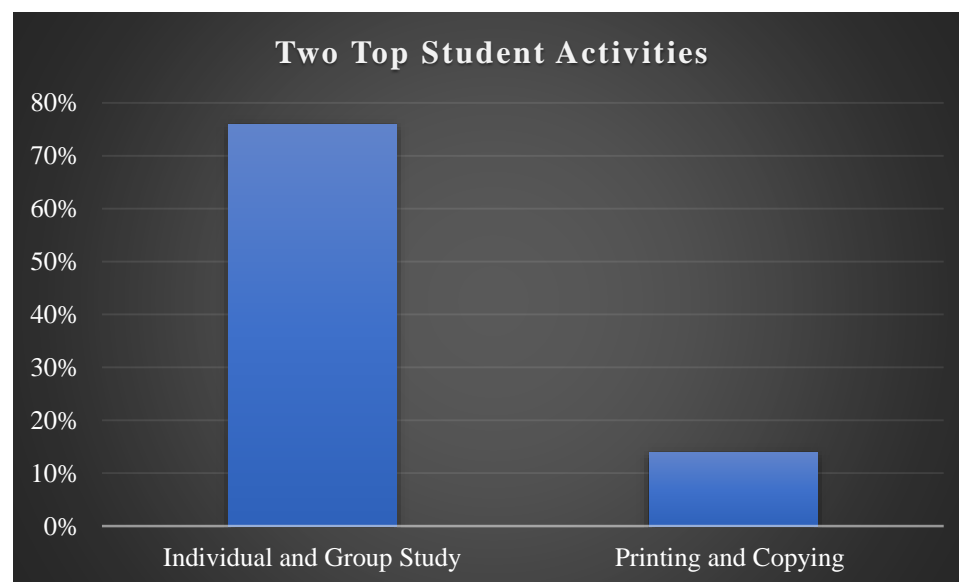


Figure 5.6. The two top student activities based on survey at the researcher's library (Barton & Guzman, 2017).

Interviews

The interview and discussions centered on sharing the transition experiences of participants. The main purpose of interview questions was to discover the factors that promoted or undermined the transformation of libraries to a learning commons model of service.

Reasons for Change

Technology has profoundly affected education, and libraries are no exceptions. The participants' responses also expressed the need for a new vision and a desire to take an active part in the education of millennial and future generation of students. Literature also strongly supports the impact of technology as the primary motivating factor for adopting the new design of service (Blackburn, 2011; Hunt, 2017; Lippincott, 2012). Libraries are changing because online source of information and communication tools are rapidly expanding. There is an increased awareness that the new generation requires a positive and welcoming learning environment with access to flexible, open, and bright spaces. However, funding and maintaining the new facility has prevented libraries and their intuitions from moving forward. During the research interviews, at least one participant librarian mentioned that renovations would have been impossible without the availability of an outside grant.

Introducing the Concept of Change to the Leadership

Introducing a new concept of service and obtaining the support of leadership, in addition to funds are often significant challenges for many library directors of smaller universities. Although LC1 had the opportunity to acquire a renovation and technology grant, qualifying for a grant is a time-consuming and a relatively complicated process for private universities. LC3 had the full support of management, as the decision to build a new library based on a learning commons concept was a prior decision of the senior leadership. However, LC3 shared that the

process of change would have more complicated if the old library building and service had to be renovated. LC2 attributed the understanding and application success of this unique approach in many library innovation projects to working with other departments and administrators.

Indeed, the definition of “change management” varies. According to Prosci (n.d), a change management firm, “change management is the discipline that guides how we prepare, equip, and support individuals to successfully adopt change to drive organizational success and outcomes”. LC2 described the concept as:

Some of it [change management] will hinge upon services we provide. Some of it will maybe relate to just the way we deal with one another in personnel management. So, what I do is I try to raise the idea of a concept, introduce an idea. My style is not to say here’s what we’re going to do. I’ve decided we’re going to do x. I do it in more of a hypothetical. So, I will discuss this, usually in smaller groups, with direct stakeholders to say just an idea. This is in the literature. What would the world look like if we phased out reserves totally? What would that look like? That would mean a change in workload, a change in services. So, we discuss that.

The Most Significant Changes Due to Renovations

The responses reflected a switch from a print-based library to a center of technology, information, scholarship, and both formal and informal student learning activities. LC1 library dedicated 50% of their floor space to creating an information commons with updated computers and an increased emphasis on online and digital resources. Librarians and other staff members are provided with regular professional development opportunities. LC2 designed a tech commons in collaboration with the IT department. The tech commons is in the library building but it is staffed by IT student employees to support the entire university community with

technology-related issues, such as hardware and software troubleshooting, printing, copying, scanning, and equipment checkout. LC3 added 33 group study rooms, a cafe, 24/7 access, and updated technology as some of the significant features of the library.

Service Changes

All three librarians stated that collaborating with the IT department in creating an IT helpdesk at the library was an advantageous strategy for assisting students. Academic institutions continue to remodel traditional libraries to include technology, renovated spaces, and collocated services. A frequent feature of the new library is a single point of service. A single service point usually includes information technology staff and librarians or appropriate student workers for referring patrons to librarians or IT staff (LaMagna, Hartman-Caverly & Marchetti, 2016). Outreach via online tools, such as social media, was also considered an effective strategy for informing and engaging students. Expansion of library information and instruction literacy services to both on-campus and online students were reported by all participant librarians.

Collection Changes

LC1 and LC3 described extensive weeding out of the print items. LC2 continues with the regular reduction of the library print collections. However, all three libraries have been transitioning to acquiring online sources of information, including eBooks and full-text online journals. The librarians' reports are supported by acquisition statistics provided by an ACRL report as shown in Figure 5.7.

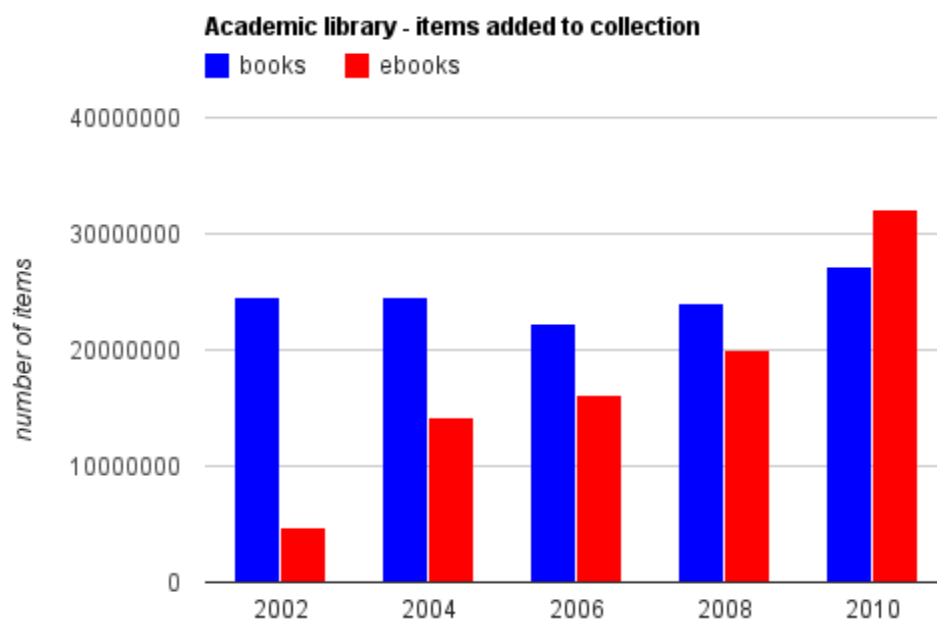


Figure 5.7. Items added to academic libraries' collections (ALA, 2014).

Budget Changes

To accommodate the more critical needs of the library, LC1 prioritized replacing obsolete technology and acquiring printing supplies and other peripherals, such as scanners and cameras. LC2 reallocated some funds from print collections to purchasing furniture. LC3 transferred some funds from print books budgets to purchasing eBooks. LC3 also added new staff and student employee positions to support the operations of the expanded spaces and services. None of librarians mentioned receiving additional funds for acquiring eBooks. However, reallocating funds from print book to eBooks or technology-related items appears to be the common theme.

Physical Space Changes

LC1's library was expanded by almost 100% through the relocation of non-library offices to other campus buildings. Extensive weeding of the print book collections provided additional space for the study stations. The library furniture was custom designed with student

collaboration and sharing in mind. LC2's space was increased through the installation of compact shelving. In addition, the library created a shared space with the writing center, and the IT helpdesk was moved to the library. The library cafe became a popular destination for students' group work and informal activities. LC3 added 33 group study rooms and a cafe, and the space for archives and special collections was enlarged to include an exhibition area. All participants noted that adding cafes or coffee shops in or adjacent to the library building has been a very successful strategy for drawing more students to the library.

Staff Changes

LC1 noted an increased focus on staff professional development for providing online services and involvement in campus-wide events. LC2's library redesigned some positions due to shifting needs of the library and the university. LC3 mainly hired additional student employees for assistance with the basic library functions and perform work as desk assistants, student mentors, and student rovers. Hiring student employees was also a practical cost saving strategy.

The responses of the participants demonstrated that the role and responsibilities of the library administrators change or increase after the transformation process. LC1 commented on more involvement with technology-related projects at the university level, including being the chair of the technology strategy committee. LC2 described the shift in work responsibilities as dedicating more time to building relationships with other departments and leveraging opportunities for funding and strategic goals. LC3 focused on ongoing progress in IT and the necessity of related professional and educational staff development. Participation in campus events and collaborating with students in sponsoring activities were considered further shifts in a library administrator's responsibilities.

Changes in Working with Students

LC1 highlighted a demographic shift in both undergraduate and graduate online students and noted its effect on instruction and information literacy. The development of LibGuides, online tutorials, online LibAnswers reference service, and embedded librarians in both online and on-ground classes are examples of tools and methods to accommodate the changing student population. LC2 has not experienced any noteworthy changes in working with students. LC3 described that librarians are required to provide information literacy instructions to freshman-year students; the information literacy classes are mandatory and account for 10% of the class grade. According to LC3, the information literacy classes have been a major factor in reducing routine reference questions.

Students and Faculty Activities Within the Library

From the participants' perspectives, a library or learning commons is still the preferred location for research, writing, and group work. Group study rooms have shown consistent rise in usage in all three libraries. The use of computer workstations, printers, and internet access were also categorized as being frequently used by students in the building.

LC1 described the most common faculty activity as bringing students into the library to work with a specific software or database. LC2 indicated the use of dedicated faculty conference rooms for activities, such as research, meetings with colleagues, consultation, or simply for a lunch break, were most common. The faculty commons in LC3's library offers a quiet space specifically designated for the use of faculty members. It had comfortable seating, workspaces, lockers, and is conveniently located next to the faculty innovation center. LC3 also commented on the participation of faculty in various presentations and workshops, and the use of archives and other special library collections.

Factors That Contributed to a Successful Transition

LC1 described the main contributing factors in the success of their transition as an apparent need for automation, updated technology, and a general demand for renovation of the library spaces. LC2 emphasized conducting regular user satisfaction surveys as the key for success of the initiative. The creation of a cafe and allowing the consumption of food in the library significantly contributed to making the new library the center of student activities. LC3 considered the support of administration as the primary factor in achieving the changes. The willingness of the librarians to contribute and cooperate was also rated as crucial in the transformation process.

Challenges and Obstacles of the Transition

Securing funding for the transition was challenging for all the libraries. All three participants also mentioned resistance to change or the new vision by some faculty and staff members as a frequent obstacle. One participant librarian shared the objections of some faculty members for creating open study spaces by removing bookshelves. Additional challenges included forming a good working team and building partnerships with all stakeholders.

Table 5.1

Important Factors in Transition Process

Factors that Contributed to a Successful Transition	Challenges and Obstacles of the Transition Process
Technology	Funding
User satisfaction surveys	Resistance to change
Café	Building partnerships with stakeholders
Change in food policy	Forming a good working team
Support of administration	
Staff cooperation and collaboration	
Change management skills	

Recommended Learning Commons Implementation Phases

Education has become a complex process as learning is supplemented by advancing information technologies both on- and off-campus and libraries are evolving because of this shift in teaching and learning methods globally. A learning commons implementation process consists of three cyclical stages: creating the essential conditions, the implementation phase of physical and virtual spaces, and strategies for the future to prevent the collapse of a learning commons, the “tragedy of commons” (Figure 5.8).

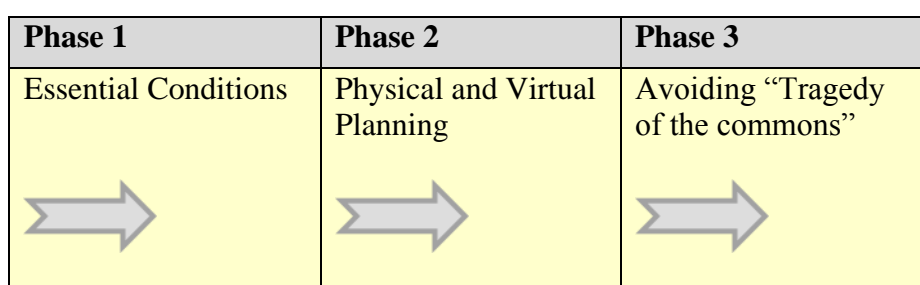


Figure 5.8. Recommended implementation phases of learning commons model.

Phase 1: Essential conditions

The key components of phase 1 are building a shared vision and strategic plan, obtaining the support of leadership, research and information gathering, securing resources, and staff professional development (Faber, 2012).

A shared vision is necessary first step for transforming the library into a learning commons. An administrator or a single member of a team does not impose a shared vision; rather, it is built through working with the team members including staff, faculty, and students to create the new vision for the library. As was confirmed by the research participants’ input, the support and engagement of the leadership is crucial for the shift to materialize. In addition to budgetary planning, the leaders also have the authority to facilitate access to individuals with pedagogical and technological skills. Research that utilizes tools such as webinars, site visits, and training will inform the next steps of the project. Surveys and interviews are valuable tools

for the collection of data on transition experiences of other librarians and educators for involving students. Planning should also include resource allocation regarding the selection of technological equipment and online sources of information. Staff professional development and student training must also be considered for efficient operation of the facility.

Table 5.2

Phase 1. Essential Conditions

Element	Action
Shared vision, strategic plan	Working with stakeholders
Leadership	Support and engagement
Research	Webinars, site visits, surveys, interviews
Resources	Technology, online, and print resources
Training	Professional development, student training

Phase 2: Physical and virtual commons

The learning commons seeks to integrate the physical and virtual learning worlds through offering welcoming, technology-rich, and flexible environments (Figure 5.9). Some additional considerations include the availability of movable furniture for a variety of learning configurations, sufficient access to power and data for supporting diverse devices, group study rooms for collaboration and presentations, and appropriate service desks. The virtual learning commons space is normally equipped with a technical infrastructure that supports 24/7 access to learning resources and tools. The libraries of the past functioned as a warehouse of print knowledge, whereas the libraries of the twenty-first century have progressed to dynamic centers of creation of knowledge.

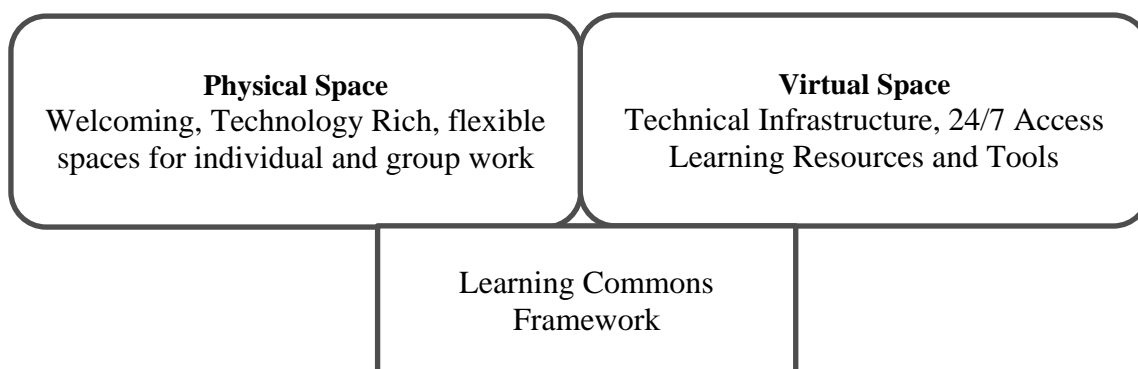


Figure 5.9. Learning commons framework.

Phase 3: Avoiding the “Tragedy of the Commons”

The learning commons is an ongoing and evolving concept and it demands comprehensive and long-term planning strategies. The learning commons and information commons have been growing in popularity, but they also have the potential to fail as a service model because of either certain unplanned conditions or poor planning. Hardin (1968) introduced the phrase “tragedy of the commons”, which occurs when there is an overuse of a common asset without replenishment. In a learning commons setting, the tragedy would become apparent in a facility that is not designed to provide the spaces, resources, and services to stay relevant to future changes.

The most common tragedy is the depletion or degradation of the resources (Beagle, et al., 2006). The problems are more apparent with technology, such as the upgrade of or replacement of outdated computers, printers, and additional equipment for checkout. A well-articulated technology plan that is consistent with the service mission of the learning commons is essential for keeping the resources updated and functional. A failed learning commons will also fail in its mission of providing its users with optimum and efficient resources and spaces.

Expecting resistance to change and planning for it will enable libraries to address the objections raised by team members or other departments. A learning commons normally functions through collaboration and partnership of multiple departments. A clear policy of integrated services and authority is needed to strengthen the commons concept. Restructuring formal job responsibilities, training, and open communication can also diffuse resistance and create an efficient and supportive work environment. Transforming a traditional academic library to a learning commons model is a substantial undertaking for many institutions. Careful planning of every stage of the process is crucial for the long-term survival of the initiative.

The systematic assessment and evaluation of the learning commons should be undertaken regularly for ongoing improvement of programs, resources, and spaces. However, the assessment will not provide an accurate measure of commons success if it only focuses on the design aspect or the spaces. The processes must be supplemented by a qualitative study of “service effectiveness and quantitative measures of service delivery” (Beagle, 2011, p.1).

Implications for Future Research

Based on this study’s results, it is recommended that future research focuses on three areas related to implementing a learning commons concept: strategies for reducing bifurcation and creating alignment among various university departments, training staff and team leaders for the change, and strategies for sustaining a learning commons. The result of this study indicated that collaboration and cooperation among departments and various constituents of the institution is crucial for creating the new model of services. The leaders of transformation must ensure that the mission of a learning commons is aligned with the mission of the university and it’s founded on the shared vision of all stakeholders. “The number one factor in converting a library into

learning commons is the strength and vision of the professional doing the transition” (Loertscher & Koechlin, 2014, p. E5).

The second research recommendation is regarding preparing leaders and staff for the changes. The transition to a learning commons model may be intimidating to some staff and faculty members because of its extensive focus on technology, student collaboration, and a flexible learning environment. The researcher recommends planning regular information sessions about the projects for the entire university community. In addition, providing appropriate training for all staff members that will support the learning commons functions. IT staff may need training about the library functions and the librarian may require additional technology skills. Developing the various leadership skills of the supervisors and managers is an often-overlooked if often overlooked in many institutions. Successful and long-term transformation requires leaders that are skilled in managing changes.

A learning commons is not static and must be regarded as a model of service that is continually evolving and adjusting to progress. Careful planning for the long-term maintenance is essential for its survival. Hardin (1968) proposed two ways to avoid the tragedy of commons. The first strategy involves assigning ownership of the resource system to single authority. The second strategy suggests that the resource system is divided into section and assigned to individuals. In a library learning commons context, this translate to maintenance of the learning commons by one department such as the library or different departments become responsible for different functions of the learning commons. Further research is recommended for long-term success and progress of the library learning commons model services.

Conclusions

This research investigated elements that promoted or undermined the renovation of a traditional library to a learning commons model. The transition experiences of three librarians were analyzed for suggestions and recommendations. The study identified access to funding, resistance to changes, poor organization, a lack of cohesion and centralized leadership, and building partnerships with all stakeholders as the main challenges and obstacles in the transition process.

In addition, based on the results of this research, a successful transition primarily depends on detailed planning of every phase of the process. These phases must consider the core components of a learning commons model, which include services, resources, and spaces. The results of this study also indicate that having a shared vision facilitates partnership among the team members and other departments. A strategic plan that supports the goals and mission of the parent institution is an effective strategy for building a supportive relationship with the administrators. The ability to manage change is a valuable contributing factor in initiating and completing new projects, creating partnerships with other departments, and gaining the trust of the senior administrators. Being intentional about the goals and objectives of both the library and institution are additional elements of successful implementation.

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APPENDIX A

Learning Commons Assessment Survey

I look forward to visiting your campus on _____. In preparation for my visit, would you take a few minutes to answer the following questions?

A. How would you describe the change in the gate count after implementation of the Learning Common model in your library?

☐ Decrease

☐ No increase (Same)

☐ Moderate Increase (Less than 20%)

☐ Medium Increase (21% - 30%)

☐ Significant Increase (more than 30%)

B. Please rate the importance of the following services in your Library/learning commons.

	Very Important	Important	Somewhat Important	Not very important	Not Applicable
1. Library Reference Research Assistance	5	4	3	2	1
2. IT support	5	4	3	2	1
3. Writing Center	5	4	3	2	1
4. Tutoring	5	4	3	2	1
5. Multimedia production support	5	4	3	2	1
6. 24/7 access	5	4	3	2	1
7. Other					

C. Please rate the importance of the following resources your Library/learning commons.

	Very Important	Important	Somewhat Important	Not very important	Not Applicable
1. Print books	5	4	3	2	1
2. Online databases	5	4	3	2	1
3. Copy, print, scan services	5	4	3	2	1
4. Computer workstations	5	4	3	2	1
5. Borrow tablet PC/laptops, projectors, and headphones	5	4	3	2	1
6. Electrical outlets	5	4	3	2	1
7. Other					

D. Please rate the importance of the following spaces in your Library/learning commons.

	Very Important	Important	Somewhat Important	Not very important	Not Applicable
1. Quiet study area	5	4	3	2	1
2. Group study rooms	5	4	3	2	1
3. Flexible spaces comfortable, and movable furnishings	5	4	3	2	1
4. Media Lab/Studio for work on multimedia projects	5	4	3	2	1
5. Cafe	5	4	3	2	1
6. Computer and learning Labs	5	4	3	2	1
7. Other					

E. What are the top two activities of the students when they visit the Library?

1. Individual study
2. Research
3. Write a paper
4. Group Study/Use group study rooms
5. Use computers, printers or copiers
6. Use library Wi-Fi
7. Get research assistance at the help desk
8. Check out or return library materials
9. Relax/socialize
10. Other: _____

F. Are there any other comments/suggestions that you would like to share?**G. Additional Information**

What is the size of your institution's FTE? <input type="checkbox"/> Less than 2,500 <input type="checkbox"/> More than 2,500 but less than 5,000 <input type="checkbox"/> More than 5,000	What is the size your library staff? <input type="checkbox"/> Less than 10 <input type="checkbox"/> More than 10 but less than 20 <input type="checkbox"/> More than 20
What is the size of your annual budget? <input type="checkbox"/> Less than \$500,000 <input type="checkbox"/> More than \$500,000 but less than \$1,000,000 <input type="checkbox"/> More than \$1,000,000	What are your Library's/learning commons average hours of operation per week? <input type="checkbox"/> Less than 100 <input type="checkbox"/> More than 100 but less than 150 <input type="checkbox"/> More than 150

APPENDIX B

Interview Protocol

Institution	Interviewee
Date	Time/Length
Description of Project	
<p>This study is designed to explore the various factors involved in transitioning a traditional academic library to the learning commons model. The approach to this qualitative study will be a series of questions designed to gain insight into various aspects of the transition, and finally to ask the participant to reflect upon the process and possibly identify factors not previously identified.</p> <p>The interview will cover factors identified by the researcher as influential in the transition process.</p>	

Questions

Topic	Q	Question
A. Educational/Professional Background	Q1	Please describe your educational background.
	Q2	How many years have you been an academic librarian?
	Q3	How many years have you been at your current institution?
B. Institution Description	Q4	What type of community does this university serve (i.e., white collar, blue collar, mixture)?
	Q5	What percentage of students graduate?
C. Learning Commons	Q6	What made you decide to change from a traditional library model to a learning commons model?
	Q7	Describe how you introduced the concept of the change to your university leadership.

	Q8	Describe the most significant changes, if any, you have experienced since transitioning to a learning commons service model.
	Q9	Describe the changes, if any, you have experienced in your position and work responsibilities.
	Q10	Describe the changes, if any, you have experienced in working with students.
	Q11	Describe the most common student activities within the learning commons.
	Q12	Describe the most common faculty activities within the learning commons.
D. Transition Challenges	Q13	Describe the factors that contributed to the success of the transition.
	Q14	Describe the challenges and obstacles of the transition.
E. Changes Made for the Transition	Q15	As part of the transition, what changes did you make to the physical space?
	Q16	As part of the transition, what changes did you make to the library services?
	Q17	As part of the transition, what changes did you make to the library collection?
	Q18	As part of the transition, what changes did you make to purchasing and budgeting?
	Q19	As part of the transition, what changes did you make to staff?
F. Reflection	Q20	Please reflect on the process of the transition. What aspects worked well, and what aspects did not work well.

APPENDIX C

Observation Form

The Observation Form is used to document activities, reflections, and analysis during library tour and informal observations after the interview.

Institution	Activity
Date	Time/Duration
Description of Activity	Reflections <input type="checkbox"/> Recorded During Library Tour <input type="checkbox"/> Recorded During Informal Observation
Questions/Analyses	

APPENDIX D

Interview Consent Form

Research Project Title: Transitioning a Traditional Academic Library to a Learning

Commons Model: Strategies for Success

Researcher: Carolina Barton

Research Participant Name:

**TRANSITIONING A TRADITIONAL ACADEMIC LIBRARY TO
LEARNING COMMONS MODEL: STRATEGIES FOR SUCCESS**

The study in which you are being asked to participate is designed to explore the experiences of academic librarians in transitioning a traditional academic library to the learning commons model of service. This study is being conducted by Carolina Barton under the supervision of Belinda Karge, Ph.D., Dissertation Advisor, Department of Educational Leadership. This study has been approved by the Institutional Review Board, Concordia University Irvine, in Irvine, CA.

PURPOSE: The purpose of this research study is to analyze the strategies, challenges, and obstacles in converting a traditional academic library to a robust and thriving learning commons model. Librarians and administrators of academic intuitions will find it valuable to learn about the factors and issues that influence the success or failure of the transition process.

DESCRIPTION: As a component of this research study detailed transcripts from three semi-structured interviews will be analyzed. Librarians participating in the interviews will be asked to respond to open-ended questions. The researcher will audio-record each session, after obtaining consent, and will take notes throughout each interview.

PARTICIPATION: Participation is voluntary, and the subject may refuse to participate or discontinue participation at any time. While you will not experience any direct benefit from participation, information collected in this study may benefit other libraries and educational institutions as a whole by better understanding of the transition process.

CONFIDENTIALITY: Confidentiality and anonymity of the institutions and the respondents would be ensured through the use of pseudonyms and general indicators such as the exact location of the college or university, work responsibility of the participants, and the size of student population. The researcher will save the data in a confidential manner. Recording and storage of data would be accomplished through digital equipment such as iPad or iPod and

written observation and informal discussion notes. The data would be transferred to the researcher's desktop computer with appropriate password protection and backup files in Dropbox or an alternative secure storage solution. However, no guarantees can be made regarding the interception of data sent via the internet by third parties. Audio recordings will be destroyed three years after completion of the research study. The datasets will not be manipulated or fabricated by the researcher. Finally, the author will not plagiarize the content of others in the study.

DURATION: The participant can expect to be audiotaped for up to one hour during the interview.

RISKS: This research involves no more than minimal risk to participants. Potential risks in this study may include retribution because answers to the interview questions are inadvertently divulged.

BENEFITS: The result of the study would not only contribute to the scholarly literature in the field of library and information science, but it will also present practical recommendations for planning and designing a learning commons model at academic libraries. The researcher is also intending to eventually transition Concordia University Library, known as the CU Library, to the new design utilizing the results of the study. When fully implemented, the researcher's library would open up as a successful learning commons model for other college and university libraries.

AUDIO: I understand this research will be audio-recorded. Initial _____

CONTACT: Should you have questions about the research and your rights please contact Dr. Belinda Karge, Dissertation Advisor, at 949-214-3333 or belinda.karge@cui.edu.

RESULTS: Results can be obtained at Concordia University Irvine- Library located at 1530 Concordia West, Irvine, CA 92612 at the conclusion of this research study.

CONFIRMATION STATEMENT: I have read and understand the consent document and agree to participate in your study.

Signature: _____ Date _____

Printed Name: _____

The extra copy of this consent form is for your record

AUDIO USE

As part of this research project, I will be making an audiotape recording of you during your participation in the personnel interview. Please indicate which uses of this audiotape you are willing to consent to by initialing below. You are free to initial any number of spaces from zero to all of the spaces. I will only use the audiotape in the way in which you agree to. Your name will not be identified in any use of the audiotape. If you do not initial any of the spaces below, the audiotape will be destroyed.

Please indicate the type of informed consent.

The audiotape can be studied by the research team for use in the research project.

Please Initial _____

The audiotape can be used for educational publications.

Please Initial _____

The audiotape can be played at a meeting of educators.

Please Initial _____

I have read the above description and give my consent for the use of the audiotape as indicated above.

Signature: _____ *Date* _____

Printed Name _____

The extra copy of this consent form is for your record