6-30-2016

Teaching Distance Education In Library Science: A Comparative Study Of Faculty Satisfaction, Teaching Effectiveness, And Support Services

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TEACHING DISTANCE EDUCATION IN LIBRARY SCIENCE: A COMPARATIVE STUDY OF FACULTY SATISFACTION, TEACHING EFFECTIVENESS, AND SUPPORT SERVICES

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Submitted in Partial Fulfillment of the Requirements

For the Degree of Doctor of Philosophy in

Educational Administration

College of Education

University of South Carolina

2016

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DEDICATION

This dissertation is dedicated to my mother, Linda Adams. In her I find a woman of faith, compassion, and perseverance. She is a wise protector, a source of inspiration for me, and the anchor of our family.

"For the protection of wisdom is like the protection of money, and the advantage of knowledge is that wisdom preserves the life of him who has it." - Ecclesiastes 7:12

ACKNOWLEDGEMENTS

This dissertation would not have been possible without the guidance of four scholars who served on my dissertation committee. My heartfelt gratitude goes to Dr. Katherine Chaddock, who not only served as chair of my dissertation committee but also as mentor, advisor and guide throughout my entire doctoral program of study. Dr. Chaddock, I will forever be grateful for the contribution you've made to my academic life.

I would like to express my special appreciation to Dr. Christian Anderson, Dr. Kent Cubbage, and Dr. Jim Hudgins for their interest in my work and their service on my committee. Each one of these professors provided meaningful insight and recommendations to add strength and credibility to this study.

Though this dissertation is an individual work, several people gave me assistance, encouragement, insight, and valuable perspectives. Thank you to Marguerite Adams, Susan Bridwell, Chris Byrd, Carolyn Champion, Jeff Farnham, Dr. Lacy Ford, Dr. Bill Hogue, Kimberly Keen, Becky Mayo,

Keith McGraw, Dr. Tommy Meador, Elna Moses, Dr. John Oslgaard, Dr. Don Rieck and Wilma Sims.

The staff of Distributed Learning Support Services at the University of South Carolina encouraged me and provided daily lenses, through which I could view exemplary models of service to distance education faculty and students. I am grateful for their dedication and service to our faculty and students.

My parents David and Linda Adams gave me unconditional love and support. I wish more than anything I could hand Dad a copy of this work. He would be a very proud father.

Words cannot express how grateful I am to my children, Bethany Calabrese and Caleb Adams. They loved and encouraged me every step of the way. They are truly two amazing gifts from God and the greatest honor in the world for me is being their Pops.

Finally, my deepest debt of gratitude is owed to my wife, Michelle. She stood beside me through this entire academic journey and blessed me with daily doses of encouragement and love. Over the last year, virtually no day went by without her demonstrating to me her constant and unyielding support.

ABSTRACT

The purpose of this study was to determine whether distance education technologies, institutional support services and/or faculty demographics have a relationship to the job satisfaction of faculty teaching in American Library Association (ALA) accredited master of library and information science programs (MLS) delivered through online distance education. A better understanding of faculty satisfaction in these areas will allow universities to more effectively select technologies and design/maintain support services that can contribute to faculty morale, teaching effectiveness, and program quality in distance education.

The researcher studied faculty in MLS programs because the discipline of library science interconnects academe, information collection and dissemination, and technology assisted teaching and learning. The study was framed by the notion of measuring levels of faculty satisfaction with technology and other support services provided to enhance teaching.

In this study, descriptive statistics (frequency, percentage) and inferential statistics (Pearson rho

correlation, chi-square test) were used to examine ordinal and nominal variables in the data. The research was conducted using an electronic survey, which was distributed electronically to faculty teaching in ALA accredited master of library and information science programs in the contiguous 48 states of the United States.

Findings of the study showed various significant faculty perspectives regarding support services for distance education teaching. The data indicated a statistically significant relationship between faculty support services and perceptions of satisfaction with online teaching. The findings further revealed a significant number of the faculty perceived insufficient technical training and support for faculty teaching online courses. Finally, the study found no statistical significance between several demographic characteristics (age, ethnicity, gender) and teaching employment status, perceptions of teaching effectiveness, and perception of support services. The study did reveal a strong significance between years of teaching distance education and quantity of distance education courses taught over the previous year.

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CHAPTER 1

INTRODUCTION TO THE STUDY

Overview

The purpose of this study was to determine if various technologies, institution-provided support services, and faculty demographic factors correlate with perceived teaching effectiveness and satisfaction among faculty teaching in American Library Association (ALA) accredited master of library and information science (MLS) programs delivered through online distance education. The better understanding universities have of faculty perceptions of satisfaction with technologies and support services related to distance education, the more effectively they can design and maintain support services to improve faculty morale, teaching effectiveness, and quality of distance education programs.

Research Questions

The study was guided by the following research questions:

1. In American Library Association-accredited master of library science programs, what are faculty perceptions

of their satisfaction with support services and programs and with the relation of those services and programs to their teaching effectiveness in online distance education courses?

2. In American Library Association-accredited master of library and information science programs, what is the relationship, if any, between learning management systems and delivery modalities and perceived faculty satisfaction and teaching effectiveness in online distance education courses?
3. In American Library Association-accredited master of library and information science programs, what is the relationship, if any, between distance education faculty demographics (i.e., age, gender, teaching status) and perceived satisfaction and teaching effectiveness in distance online education courses?

The Problem

While most universities provide some level of support services to faculty who teach distance education courses, a gap exists in knowledge and research regarding the significance of institution support relating to faculty satisfaction and sense of teaching effectiveness. Components of these support services vary but typically involve services and initiatives that promote technology

readiness, award stipends for participation in distance education teaching, and assistance with design and development of quality educational material and programming.

Creating and sustaining quality participative learning environments is placing increased demands on administrations and academic planners. The ongoing need to enhance quality in online distance education is resulting in demands to re-design financial and strategic planning models (Marcum, Mulhern & Samayoa, 2014). According to Shearer (2015), institutions must re-examine their educational models and provide sustained support services that ultimately provide expanded academic program access. Shermis (2011) suggested that institutions respond by demonstrating higher levels of commitment to quality distance education teaching. A key component of those responses is supporting faculty with services and initiatives that promote technology readiness, award stipends for participation in distance education teaching and assist faculty with design and development of quality educational material and programming.

Significance of the Problem

While many studies have examined faculty satisfaction with distance education teaching, use of technology, and

distance course delivery modalities, none has examined the perceptions of satisfaction and teaching effectiveness specifically among faculty who teach in online master of library and information studies programs at public research universities. A 2015 EDUCAUSE report on faculty development and technology in higher education identified faculty assistance with implementation and optimization of technology in their pedagogy as one of the top 10 IT issues in higher education (Dahlstrom, 2015). The report further suggests that institutions can realize optimization of technology in teaching by aligning, "institutional practices with student and faculty perceptions about their technology experiences and expectations."

This study provides information that will help administrators and policymakers at higher education institutions better understand the role that support services and technology plays in improving faculty morale and satisfaction. Moreover, it can be used as a resource to create models in not only library science but in other professional fields that are expanding distance delivery in teaching and learning.

Background of the Study

The field of distance education is currently experiencing a period of transformative growth and

acceptance in academe. New cultures that facilitate teaching and learning at a distance are evolving and expanding, giving enterprising higher education institutions the ability to reach new student populations. At the core of the learning, cultures are the premises of providing increased access to education by removing or reducing unnecessary barriers of geography and chronology (Bates, 2005). Moreover, they become cultures where universities embrace the concepts of providing student-centered, career-specific, "anytime, anyplace learning" (Picciano, 2013).

Technology-rich learning communities allow universities the ability offer academic programs that are flexible, customizable, and convenient, without sacrificing quality of instruction (Poyraz, 2013; Powers, Alhussain, Averbeck & Warner, 2012). Scanlon, McAndrew, and O'Shea (2015) suggested that formal learning through distance education is undergoing a period of rapid change. The influence of technology on pedagogy, while complex, is removing barriers that prevented access to education. While overall enrollment in higher education declined by three percent from 2010 to 2013, enrollments in online distance education grew 3.4%-3.7% annually during the same period. By fall 2014, there were 5.8 million distance education

students in the United States composed of 2.85 million taking distance courses exclusively and 2.97 million enrolled in some distance courses. Public institutions encompassed 72.7% of undergraduate and 38.7 of graduate students nationwide taking courses at a distance (Allen, Seaman, Poulin,& Straut, 2016).

One of the perennial challenges facing higher education is controlling costs while increasing the quality effectiveness of distance education programs. A 2015 report by *The Chronicle of Higher Education* (based on research conducted by Huron Consulting Group) suggests disruptive technologies—new or emerging technologies that unpredictably replace or substantially shift established ones (Christensen, 1997)—could usher in new paradigms of distance education delivery and institution financial models. The report suggests that these emerging technologies are becoming catalysts of disruption that could lead to eliminations of hundreds of institutions of higher learning. Furthermore, many institutions are experiencing disruption of established budget and funding models (Selingo, 2015). Concerns over increasing access while controlling costs will continue to challenge higher education in the digital age (Guri-Rosenblit, 2009).

Shearer (2015) argued that access and cost of distance education programs are at the forefront of a myriad of issues that will continue to challenge universities over the next decade. Many universities are leveraging distance education technologies as one way to reduce the cost of delivering educational content while expanding institution missions of service (Berg, 2002). Expanding programs to new student constituents, while maintaining measurable increases in cost is driving new distance education initiatives. These initiatives are helping institutions create learning cultures that facilitate asynchronous collaboration, allowing students to work on shared tasks and assignments without the need to be side-by-side (Hailes & Hazemi, 2002).

At the heart of these cultures are effective pedagogy and excellent teaching. Faculty responsible for teaching distance education courses must focus on engaging students (Tu, 2005), developing quality instructional content (Shearer, 2015), and creating adaptive learning environments (Shute & Towle, 2003). Taylor (2002) suggested that fostering student competency is one of the core responsibilities of faculty who teach distance education courses. Sharples, M., et al. (2014) argued that developing new methods of instructional processes requires the

adoption of new pedagogical frameworks that embrace adaptive, student-centered and participative learning activities.

Throughout most of the twentieth century, librarianship in higher education was understood as the field charged with the responsibility of the custody of records (Gorman, 2000). The field of library and information science today has obligations for not only managing graphical records but also developing and circulating digital collections, creating curricula of communications, supporting copyright and fair-use issues, and supporting research endeavors (Lankes, 2011).

As faster computing systems and ubiquitous access to high-speed Internet connectivity becomes more widely integrated, universities with investments in distance education delivery of academic programs will become more dependent on the services of their libraries. As predicted by Dede (1996), innovation will continue as one of the main catalysts of evolution in distance education delivery, helping institutions better serve student populations by minimizing or removing barriers of distance and time. The result will be new and learner-focused alternatives for online distance instruction. As new learning alternatives evolve, it will be a necessity for library and information

science programs to provide their students with technology-rich and engaging course content and innovative course delivery models (Scripps-Hoekstra, Carroll, & Fotis, 2014).

Accreditation and Pedagogy of Library Science Programs

Colleges and universities and their academic programs are accredited by regional, national, and specialized associations and organizations (Lindsay, 2006). The American Library Association (ALA) is the most-widely recognized accrediting organization for library and information programs delivered through traditional and distance education. As of 2016, ALA accredits 59 master of library and information studies programs at universities in the United States, Canada, and Puerto Rico. Of these accredited programs, 29 are offered via online distance education (American, 2015). According to the ALA website:

> "ALA-accredited master's programs can be found at universities in the United States, Canada, and Puerto Rico. These programs offer degrees with names such as Master of Library Studies (MLS), Master of Arts, Master of Librarianship, Master of Library and Information Studies (MLIS), and Master of Information Studies. ALA accreditation indicates that the program has undergone an

> external review and met the ALA Committee on Accreditation's Standards for Accreditation of Master's Programs in Library and Information Studies."

For universities to create and sustain accredited and academically sound distance education programs, understanding faculty perceptions of distance education and providing engaged and clear communication of the value of technology in education is vital (Marcum, Mulhern & Samayoa, 2014). Research has signified that an underlying concern of faculty is that distance education courses require more intensive time commitments (Gresh & Mrozowski, 2000). A 2000 study by the National Education Association examined opinions of faculty teaching distance education and faculty teaching traditional courses to help understand their issues and concerns about pedagogy and fair treatment (National, 2000). The study concluded these relevant findings:

- Among faculty who teach distance education courses, 72% had overall positive feelings toward distance education while 12% held negative feelings.
- Among faculty teaching traditional courses, only 51% had overall positive feelings toward distance education, compared to 22% with negative feelings.

- The majority (70%) of faculty who teach distance education courses participated in training, workshops, colloquia and other teaching-related resources provided by their institutions.
- At institutions where distance education policy and strategy is a part of collective bargaining agreements, 75% indicated that faculty training resources were readily available, compared to 61% at institutions where there is no collective bargaining or in instances where distance education policy and strategy is not part of collective bargaining.
- Three-fourths of faculty who teach distance education courses indicated overall satisfaction with technical support, library resources, and laboratory facilities on their campuses.
- The most important concerns expressed by faculty who teach distance education courses included increased workload with little or no increase in pay (66%), the potential for a decline in quality of instruction (70%), and lack of compensation for intellectual property (64%). Other concerns included the potential for greater student-teacher ratios (61%) and the

likelihood that distance education students will commit academic dishonesty (58%).

Technology Strategies for Higher Education

In a study of technology-enhanced education at public, flagship universities, Marcum, Mulhern, and Samayoa (2014) argued that most instructors take great pride and ownership in their distance education courses. Therefore, universities should take steps to support faculty and develop initiatives to promote "transformational change." Marcum, Mulhern, and Samayoa (2014) suggested that institutions develop strategies for:

- Communicating with distance education faculty the value of technology-enhanced teaching.
- Creating financial incentives for faculty who blend innovative technology into their pedagogy.
- Developing clear strategic plans for distance education, which should include clear reasons and goals for distance education, identification of pilot projects, and well-defined descriptions of any incentive or reward constructs.
- Providing financial and instructional services support focused on easing transitions to distance education.

- Recognizing that teaching and learning production and support processes must be re-engineered to foster collaboration and efficiency.

Olsgaard and Summers (1986) studied factors that create tension among administrators and faculty of American Library Association-accredited programs of library and information studies. Their findings suggested that tenure and promotion, university administration, and staff support were the top three sources of job-related tension.

Overview of the Methodology

A descriptive, comparative, and correlational study was conducted to determine if technology and other institutional support services improve satisfaction among faculty teaching in American Library Association-accredited master of library and information science programs delivered through online distance education. The research was conducted using an online, electronic survey, which was administered using SurveyMonkey.com software and distributed via electronic mail to faculty teaching at the institutions.

The researcher piloted the survey by distributing an electronic version to five faculty members who teach distance education courses in online modalities. The web-based survey was administered electronically using

SurveyMonkey.com software and all responses were anonymous. After completion of the survey, data from SurveyMonkey.com was imported into Microsoft Excel, and a data set was created. Once in Excel, basic descriptive statistics including percentages, mean, and standard deviation for the demographic items was conducted. The data set was exported from Excel and imported into SPSS, allowed the researcher to examine multiple perspectives of those data, including descriptive statistics (frequency and percentage), Pearson correlation, and chi-square tests.

Conceptual Framework

The researcher developed a survey instrument using Wang's (2003) *Assessment of Learner Satisfaction with Asynchronous Electronic Learning Systems* as a conceptual framework and overall guide. Wang's model proposed assessing perspectives of satisfaction with distance education and includes several distinct dimensions that made it appropriate as a framework for the design of the instrument for this study. Wang (2003) suggested three conventional categories of measuring satisfaction in online instruction:

1. Considering multiple aspects of individual satisfaction.

2. Identifying relationships that exist among factors of expectation and perceptions of performance.
3. Assessing activities and systems used to conduct online instruction.

Limitations

The following are limitations of the study:

1. The study was limited to faculty teaching in master's programs in the field of library and information science. While it is not strictly generalizable to other fields, it may be used as a model to be adopted for other areas.
2. The study included the relatively small sample (n=77), which decreased the ability to generalize about the entire population of library science faculty who teach distance education courses. The researcher used the findings as an observation and part of the whole.
3. All of the items in the survey instrument were self-reported by individual faculty members and might not have taken into account variances among support services such as centralized versus decentralized technologies and support staffing.
4. Terms used to describe teaching and learning at a distance vary from institution to institution and are

often defined by technologies developed at the state level by offices of information resources.

5. Some faculty survey respondents reported using multiple learning management systems at the same institution, so it may be that they were considering a mix of several LMS when completing the survey.

Definitions of Key Terms

American Library Association. The American Library Association (ALA) is a professional organization whose role is to "provide leadership for the development, promotion and improvement of library and information services and the profession of librarianship to enhance learning and ensure access to information for all."

Asynchronous instruction. In asynchronous instruction, instructional material may be accessed at any time in any location (Wegerif, 1998).

Best practices. A term used to describe the use of established practice standards that encompass current knowledge, technology, and procedures (Zemelman, Daniels & Hyde, 2005).

Digital age. The historical time frame when the use of digital and Internet-based work, learning experiences and assessment became more prevalent and integrated into

society, thereby reducing access barriers such as geographical limitations (Beck & Hughes, 2013).

Disruptive technology. A technology development or innovation that requires an organization to change or replace a fundamental process.

Distance education. The delivery of instruction in paradigms in which time, geographic location, or both, separate the instructor and student (Moore, 1993).

Distance learning or online learning. Any formal approach to instruction in which the majority of the instruction occurs while the educator and learner were not in each other's physical presence (Mehrotra, Hollister & McGahey, 2001).

Distributed learning. Synonymous with *distance education,* a descriptor used by some institutions with both online and analog (satellite, DVD, CD-ROM) course delivery modalities. At many institutions, *distributed learning* and *distance education* are used interchangeably to describe the same instructional concept.

EDUCAUSE. A non-profit organization whose membership comprises information technology professionals from higher education, corporate, and government entities. The organization promotes knowledge dissemination, research and analysis, and professional development.

Job satisfaction. The level of perception, attitude, or outlook an employee has on outcomes of intrinsic and extrinsic values central to their current job or career (Ivancevich & Matteson, 2002).

Learning management system (LMS). A software application used to administer, construct, document, track, and deliver electronic educational courses and material.

Library and information science. The academic discipline related to the practice of collecting, organizing, storing, and disseminating recorded information (Reitz, 2004). According to the American Library Association (2008), the phrase *library and information studies* concerns "recordable information and knowledge and the services and technologies to facilitate their management and use."

Online learning. This refers to courses delivered exclusively via the Internet, as well as hybrid or blended learning combining Internet-delivered and traditional, face-to-face instruction (Nguyen, 2015).

Synchronous instruction. In synchronous instruction, communication between the instructor and student occurs simultaneously (Kramer, 2002).

Transactional distance theory. The notion that in distance education teaching environments, psychological and

cognitive barriers interrupt effective learning (Falloon, 2011).

Organization of the Remainder of the Study

The remainder of this study comprises a literature review that focuses on historical contexts of distance education, theories of distance education, the significance of faculty satisfaction, and institution roles in supporting distance education faculty. Chapter 3 will focus on methodology relevant to the descriptive study design, including the selection of the population, the administration of the quantitative survey instrument, and processes that will be articulated in subsequent chapters, which will focus on the results section (Chapter 4) and discussion of the results (Chapter 5).

CHAPTER 2

REVIEW OF THE LITERATURE

Overview

This chapter provides a review of the literature related to the study. The chapter is divided into six main sections: (1) defining distance education, (2) foundations of distance education, (3) online distance education, (4) theories of distance education, (5) Moore's Theory of Transactional Distance, (6) educational support services and distance teaching, (7) factors of faculty satisfaction and, (8) institution roles in faculty satisfaction and engagement.

Defining Distance Education

Distance education is the term commonly used to describe a teaching and learning process where the instructor or instructional resources and the learner are separated by time or geographical location (Rovai, Ponton & Baker, 2008; Keegan, 1986; Benson & Samarawickrema, 2009). The U.S. Department of Education defines distance education as "the application of telecommunication and electronic

devices which enable students and learners to receive instruction from some distant location" (Casey, 2008). According to Casey (2008), distance education thrived in the United States for several reasons: (1) geographical and socio-economic barriers, (2) increased demand for access to education, and (3) the rapid development of technology. Berg (2002) noted that while the concept of distance education foundationally is to provide curricula to students who cannot attend traditional classes, many institutions see distributed learning as an opportunity to reduce costs, broaden scope, and take advantage of new and emerging technologies Ehrmann (1992) suggested that motivating factors behind expanded distance education initiatives include technology that allows the broadening of intellectual resources, instructional delivery to new learners, and cost-effective delivery of programs to more students.

Foundations of Distance Education

Demiray and İşman (2001) proposed five distinct periods of historical significance in the evolution of distance education: the applied correspondence era, the instructional radio and television period, the two-way audio and video and interactive period, and the satellite and emerging technologies era.

Many researchers (Moore, 1993; Nasseh, 1997; Wooten, 2013; Vogel, 2015) agree that distance education in the United States originated in correspondence study programs to educate adults in liberal arts and vocational studies (Moore, 1993). Casey (2008) suggested that distance education flourished in the United States in response to geographical and socio-economical distances, desire for education, and growth and development of technology. Professor and social reformer Frank Parsons challenged higher education, citing the "duty of improving our general system of education" through the development of better methods of education people for life and work (Davis, 1969).

Distance education researchers (Glatter & Subramanian, 1969; Demiray & İşman, 2001; G. Caruth & D. Caruth, 2013; Bergmann, 2001; Wooten, 2013) have argued that the origins of distance education in America can be traced to correspondence study programs of the late nineteenth and early twentieth centuries. Moore (2003) suggested that early methods of correspondence study epitomize important ideas and methodology amalgamated in distance education today. Some scholars (Schulte, as cited in Wooten, 2013; Li & Irby, as cited in Wooten, 2013; Thompson, 1990) recognized early correspondence study as important but did

not consider its history foundational to distance education paradigms developed in the late twentieth and early twenty-first centuries.

Moore (2003) argued that the methodology and processes incorporated in early correspondence study programs were catalysts for the concept and rapid proliferation for university-based correspondence and extension programs at many of the prestigious institutions of the day. Wooten (2013) suggested that literacy learning through correspondence study during the late nineteenth century was instrumental in shaping individuals and the societies in which they lived.

Evans, Forney, and Guildo-DiBrito (1988) suggested the vocational movement of the 1920s stimulated higher-education institutions to provide more substantive vocational preparation for career-minded students. Some institutions made use of instructional media, including films, audio recordings, and radio (Berg, 2002). In the 1950s, Western Reserve University and New York University offered college credit courses via broadcast television (Buckland and Dye, cited in Schlosser & Anderson, 1994). However, Wright (1991) contends that television broadcast didn’t become a viable option for universities until cable

and satellite technologies developed in the 1970s and 1980s (Nasseh, 1997).

Boulet, Boudreault, and Guerette (1998) studied the effects of teaching computer science by television and found that compared to traditional didactic lectures in face-to-face environments, technology facilitated active learning where students are more participative and responsible for their learning. In a study of public health and nursing courses, Bischoff, Bisconer, Kooker, and Woods (1996) found that student dialogue was greater in classes delivered by television than in traditional lecture-oriented courses. Annetta and Minogue (2004) studied perceptions of the effectiveness of interactive televised courses and found that experienced instructors perceived instructional television for professional development to be more effective than their younger counterparts, suggesting a digital divide based on years of teaching experience.

Rovai and Lucking (2003) measured perceptions of community among students enrolled in televised and traditional undergraduate teaching courses and concluded that senses of community were significantly lower in televised courses. By the mid-1990s, Internet-based delivery of courses through new learning management systems such as Blackboard and WebCT would transform distance

education and open new frontiers of interactive and engaging educational course content in active and engaging online learning modalities (Casey, 2008).

Online Distance Education

Enrollments in online education are growing at a staggering rate. Online learning cultures are being developed by colleges and universities to foster collaboration and support the concept of allowing multiple students to work on shared tasks and assignments without the need to be side by side (Hailes & Hazemi, 2002). At many universities, students can matriculate through masters, certificate, and doctoral programs through online distance education (Casey, 2008). In 2014, the National Center for Education Statistics reported that in 2012, 2.6 million college students in the United States were enrolled in degree programs delivered exclusively through online education (National, 2014). The report also indicated that another 2.8 million students were taking a substantial portion of their courses online (National, 2014).

Much of the literature on online learning focuses on learning effectiveness and outcomes. Researchers often cite the No Significant Difference Phenomenon, a comparative research bibliography developed by Thomas Russell (Russell, 1999). Russell conducted comprehensive research of studies

from 1928 to 1998 that compared learning outcomes for traditional and distance education course. Russell's phenomenon suggested there is "no significant difference" in learning outcomes between distance and traditional course modalities.

According to Russell (1999), student learning is not affected by the method of delivery. Carney and Strange (2001) suggest that understanding dynamics of learning environments is vital to understanding the role environment plays in student development and learning. Replicating traditional courses in virtual learning environments is one of the greatest challenges facing faculty who teach distance education courses (Teare, Davies & Sandelands, 1998). Moore (1991) contends that courses delivered through online delivery modalities are significantly different than their traditional equivalents; thus, the design of the instructional material is a critical factor for effective online learning. Aragon, Johnson, and Shaik (2000) found that for students in online courses, success is dependent on instructors creating active learning, collaborative, and participative learning environments.

While some researchers argue that, course content delivered in online modalities is inferior to traditional methods of instruction (Lammintakanen & Rissanen, 2005),

Harasim, Hiltz, Teles, and Turoff (1995) found interaction among students in online courses was greatly increased compared to traditional settings. Ko and Rossen (2008) argued that teaching online heightens faculty awareness of how they teach in traditional classrooms and that processes of instructional design become "less implicit and more of a deliberate enterprise." In face-to-face courses, instructors, in most cases, are able to control the classroom environment while instructors who teach in online delivery modalities are dependent on numerous constraints to effective pedagogy.

Library Science and Distance Education

Most of the literature on library science and distance education is related to learning outcomes and student satisfaction. Library science educators have been at the forefront of using technology to meet the needs of students at a distance since the early 1990s (Barron, 1996). Like other disciplines, the expansive growth of the Internet and web-based course management and delivery options has allowed scalable growth of quality programs. Gorman (2000) described distance education as "library-less learning" and cautioned library science practitioners to use caution when embracing "intellectually lazy courses of actions."

In contrast to Gorman (2000), numerous studies supported the value of distance education, particularly in the field of library science. Montague (2006) examined online learning in MLS programs in the context of multimodal delivery approaches and suggested learner-centered instruction in the Deweyan understanding of instruction. She suggested that multimodal approaches permitted "individual and collective needs" to be "integrally accommodated and nurtured."

Silk, Perrault, Ladenson, and Nazione (2015) studied students in library research instruction courses and found higher attitudinal levels among students enrolled in fully online conditions. They cited, however, that student learning of library science in online modalities is more dependent on the quality of the instructional material and teaching styles rather than the delivery modality. Yi (2005) proposed that library instruction in online modalities were best understood through extrinsic and intrinsic values. The extrinsic values included creating learning environments that were effective for technology-associated learning while the intrinsic factors were the perceived value of "encouraging independent learning and student-centered education."

Retention of Online Students

With the widespread growth in online distance education, there is increasing concern about low retention rates at some institutions (Bawa, 2016). Boston, Ice and Gibson (2011) studied retention at American Public University System (APUS), an online university accredited by the Higher Learning Commission of the North Central Association. Enrollment at APUS grew 72% between 2006 and 2007. However, students dropped out at a 23.8% rate after taking their second course. The researchers found that the institution's transfer credit policy was one of the most significant predictors of attrition. Additionally, students who enrolled in more courses during their second term were more likely to re-enroll in courses during subsequent terms.

Various researchers have studied factors that contribute to positive retention effects on distance education students. Sutton (2014) examined numerous studies on retaining online student and suggested that meaningful interaction between instructors is a critical factor in online student retention. He argued that students appreciate opportunities to be active, valued members of their learning communities. Gannon-Cook and Sutton (2012) suggested that analytical writing assessments served as

significant predictors of retention for online doctoral students. Some studies have found that retention of online students is directly related to the reasons they enroll in courses. For example, courses that are lower-level elective courses might need more focused learner support that courses that are upper-level requirements in programs of study (C. Wladis, K. Wladis, & Hachey, 2014).

Theories of Distance Education

Researchers since the 1950s have attempted to define theories that explain pedagogical and operational aspects of distance education (Gokool-Ramdoo, 2008). Verduin and Clark (1991) argued that understanding theoretical foundations and rationale behind distance education is an essential design component of any distance education program.

Interpersonal dialogic exchange has been considered the most crucial of effective pedagogy and instructional processes for centuries (Howe & Abedin, 2014). Although difficult to measure and define (Farquhar, 2013), dialogue refers to two-way communication between the instructor and students (Verduin & Clark, 1991), between students themselves, and among the students and course content (Ekwunife-Orakwue & Tian-Lih, 2014). These interactions or exchanges between instructors, students, and instructional

material contribute to the process of gaining meaningful knowledge and improving student comprehension and understanding (Garrison, 2000; Gorsky & Caspi, 2004).

Ekwunife-Orakwue and Tian-Lih (2014) studied dialogic interaction as a catalyst for improved learning outcomes by measuring the quality of dialogue and perceived levels of student satisfaction. Analysis of dialogic behavior in students enrolled in difficult distance education science courses suggests that a majority of students dealt with course difficulty autonomously until their efforts failed before engaging in interpersonal dialogue with their instructors (Gorsky, Caspi & Tuvi-Arad, 2004; and Gorsky, Caspi & Smidt, 2007). Chen and Willits (1998) studied dialogue and structure in four different course designs and found that dialogue was inversely related to transactional distance, and that student scores were considerably higher in courses that offered more support and interaction.

Hauser, Paul, and Bradley (2012) examined computer self-efficacy in distance and face-to-face modalities and concluded that transactional distance can be a cultural outcome with variables in structure, dialogue, and learner autonomy, with course structure being the most significant transactional component for students at a distance. Recent studies (Slagter van Tryon & Bishop, 2009; Mitchem, et al.,

2008; Tu, et al., 2012; Mykota & Duncan, 2007; Bunker, Gayol, Nti, & Reidell, 1996; Cyrs & Smith, 1990; and Irwin & Berge, 2006) offer context for structure in learning environments, social information processing, personal learning environments, and instructional design paradigms for distance learning environments.

Newkirk, Schwager, and Eakins (2013) investigated student perception of learning effectiveness and achievement in distance education and traditional classes taught by the same professor using four tenets of transactional distance. The study found no difference in student perceptions between online and face-to-face classes and no difference in learning outcomes between online and face-to-face courses, implying that instructors aware of the dimensions of the transactional framework applied key components of dialogue, structure, and learner autonomy and interfaced in both pedagogical modalities.

Other researchers found that learner autonomy is inexorably linked to structure and self-control of learning procedures. Andrade, M. S., and Bunker (2009) studied factors that contribute to autonomy in distance education students enrolled in second language learning and suggested key concepts for instructional design and instruction. Harlow (2007) researched graduate seminary students

studying Greek via distance education and found success implementing Houle's (1961) four components of education in his distance teaching. These include understanding concepts of the target audience (learners), instructional design, distance education pedagogy, and learner-centered instruction. Harlow placed a high value on taking a "Learning Paradigm" approach to teaching, which focuses on facilitating student needs.

Gokool-Ramdoo (2008, adapted from Amundsen, 1993) suggested other significant theoretical perspectives that describe and explain central concepts associated with distance education. German theorist Otto Peters (1993) suggested that distance education is an industrialized form of teaching and learning and, therefore, focused on societal principles and values (Gokool-Ramdoo, 2008). As quasi-theory, Holmberg (1995) suggested that distance learners are very heterogeneous; thus, delivery of education to remote learners should factor the importance of recurrent learning, acquisition of cognitive knowledge and skills, emotional student engagement, accessibility of course material, sequencing principles of course presentation, and facilities of effective communication. These collectively echoed Keegan's (1986) contention that "interpersonal communication is central to the

reintegration of the teaching acts in distance education." Holmberg further suggests that removal of dependency on prescribed societal procedures for systematic planning appropriate for the constituency of students being taught supports student autonomy.

Peters (1997) contended that distance education is an "industrialized form of teaching and learning," conceived outside established higher education institutions and initially focused fundamentally on business and labor training. In its process, industrialized teaching and learning includes macro-pedagogically designed learning material, distinct student connection to the learning process, and conformity with learning systems. Notably, Peters argues that distance education as industrialized teaching changes teaching behavior in that it reduces instructors to subject matter specialists, who use technology to teach students who become isolated in self-supported instruction (Peters, 1997).

Keegan (1986) argued that distance education should be designed and delivered in modalities that replicate traditional face-to-face instruction. He suggested "a theoretical structure" focusing on the reintegration of the teaching acts by which learning is linked to learning materials," which would offset the absence of in-person

interaction inherent to teaching and learning at a distance (Gokool-Ramdoo, 2008). In a multi-disciplinary study on student interaction, Ke and Kwak (2013) found that prioritization of structure and activities to promote student-to-student, student-to-content, and student-to-instructor collaboration and communication promoted student reflection and engagement. This is consistent with Garrison's (2000) theory that communication and learner control can be integrated to foster effective student engagement (Ke & Kwak, 2013).

Knowles (1984) researched andragogy through the concepts of planning, managing, and evaluating adult, non-traditional learners. Bonham (1987) examined perceptual fields and their influence on adult and distance learners as a continuum between field dependence and independence, with the latter as the goal of adult and distance education. Beder (1985) suggested that successful distance learners possess both dependent and independent personal traits, and Pratt (1988) found that adult distance learners who are matriculating through educational programs to fulfill professional goals enroll more frequently in highly-structured programs.

Gorham (1985) recognized that most instructors teaching distance courses engage in teaching styles that

are both pedagogical and andragogy-minded in practice vis-à-vis decidedly structured with frequent instructor-student engagement as well as instruction highly based on independent field models. This is consistent with Moore's (1993) theories of course rigidity and flexibility to the extent that it is axiomatic if higher degrees of learner self-direction and self-determination are essential factors (Pratt, 1988). Beder (1985) advanced the notion of structure in distance education as a functional formality, and Moore and Kearsley (1996) suggested that these structures be studied and evaluated as systems and include subsystems of "knowledge sources, design, delivery, interaction, learning, and management." These subsystems, properly designed and managed, can foster significant changes in the way distance education is conceptualized and delivered.

Kummerow, Miller, and Reed (2012) compared learning outcomes for nursing students enrolled in a mental health course in distance education and campus-based formats and found no statistically significant difference between the two groups of students.

To better understand learning experiences, attitudes toward coursework and student beliefs about the nature of their experiences, Reisetter, LaPointe, and Korkuska (2007)

examined expectations of distance and traditional students. Their study compared graduate learners in an introductory research methods course. While pre- and post-quantitative measures of learning experiences indicated that both traditional and online groups of students made significant gains in mastering course material, there were no significant differences on measures of anxiety, confidence, and attitude toward the course. The study did identify important perceptive differences between the two groups. Students in the traditional class indicated that focus and organization provided by the instructor and the classroom environment were key elements of their success. The traditional environment provided participatory activities and multi-sensory learning and perceived immediate access to the instructor and their peers. More than synchronous or asynchronous instructor-student and student-student conversation, dialogue as defined in Moore's transactional distance framework involves any level of communicative activities including live two-way video conferencing, interactive discussion through discussion boards, and virtual chat rooms for student interaction (Giossos, Koutsouba, Lionarakis & Skavantzos, 2009).

Moore's Theory of Transactional Distance

The most widely accepted and cited theoretic concept is Moore's Theory of Transactional Distance (Moore, 1993 Two obvious barriers that impede distance education geographical distance (place) and chronological distance (time). Moore (1993) contended that psychological and cognitive interruptions in the learning process are more substantive barriers in distance education instruction (Falloon, 2011). Transactional distance theory provides a framework for identifying three conceptual tenets common to all distance education courses and curricula: dialogue, structure, and learner autonomy (Jung, 2001).

First considered in the early 1970s during his research on paradigms of independent study at the University of Michigan, Moore compared contiguous and non-contiguous characteristics of self-directed learners and suggested that students need to "develop independent stances in learning transactions." This supported the notion that educators should seek to motivate students through problem-based topics, engaging learning exercises, and participative activities targeted at minimizing real or perceived transactional distance (Verduin & Clark). Moore's research places importance on the role of structure and understanding learners' experiences by focusing on

perceived distances between instructors and students, students and instructional content, and between students themselves (Giossos, et al., 2009). Moore (1993) suggested instructional design, instructor and student personalities, the subject matter of the course, and environmental factors all contribute to the dialogic quality and instructional effectiveness.

Moore (1993) defined structure as responsiveness in design to learning objectives, study processes, and evaluation. In courses where an only basic understanding of principles and concepts is required, minimal structure in the courses is sufficient. Conversely, in courses where specialized competency and deeper knowledge are required, the structure becomes a key component of the learning process (Pratt, 1988). Biscoff, Bisconer, Kooker, and Woods (1996) sampled graduate students in public health and nursing and found that levels of material and concepts being taught can affect the balance of structure and that "dialogue and structure scales predicted transactional distance."

The third component of conceptual tenets of transactional distance theorized by Moore (1972, 1977, & 1993) is the concept of learner autonomy. One can make a close comparison to Moore's concept of autonomy and earlier

research by Dewey and Bentley (1949). Studying epistemology and logic Dewey and Bentley (1949) first suggested an approach for transaction and learner autonomy. Regarding interaction, self-action, and transaction they wrote,

> "We believe the tenor of our development will be grasped most readily when the distinction of the transactional from the interactional and self-actional points of view is systematically borne in mind" (97).

Levine (2006) suggested that Dewey's approach to learning was not a factor in whether or not a student "was like or unlike others, civilized or not, a specialist or a generalist" but placed emphasis on "cultivating the ability of persons to raise questions, pursue inquiries, and think for themselves." Autonomy as reflective self-formation has its foundations in the philosophies of Emerson and Nietzche and embraces Dewey's notion of "cultivating the ability of persons to raise questions, pursue inquiries, and think for themselves" (Levine, 2006).

Empirical studies support that transactional distance is valuable in contextualizing and understanding phenomena in distance education (Jung, 2001). Studies to understand the dimensions of interaction between instructors and students (Giossos, et al., 2009; Verduin & Clark, 1991; Jung, 2001; Hillman, 1999. Gokool-Ramdoo (2008) suggested

that transactional distance theory has global relevance and importance in any distance education program. Higher education institutions worldwide have adopted Moore's classifications of distance education. His concepts of dialogue, structure, and autonomy are used as frameworks for instructional design, distance teaching, and faculty and student support services. Much research on distance education conducted from the late 1980s through the 2010s referenced Moore's research and its implication on teaching and learning through distance delivery modalities.

Support Services and Distance Teaching

Moore's classification of distance education (on dimensions of dialogue, structure, and autonomy) can be adopted at enterprise levels for distance education-associated activities including instructional design, teaching, delivery models and faculty and student support services to improve quality and effectiveness.

Delbanco (2012) described the exponential growth in distance education as a "digital revolution." Institutions must embrace this revolution by responding to faculty pedagogical needs. This is best demonstrated by supporting new paradigms and methodologies that allow faculty to teach effectively emerging and evolving constituencies of students receiving educations through online modalities.

Instructional design services, technology training, and technical support vary widely with universities. Ko and Rossen (2008) suggested some common services that most universities offer to help faculty plan and teach distance education. These included (1) computer hardware, (2) operating systems, (3) learning management systems, (4) computer labs, and (5) maintenance and support. Technical difficulties and inadequate or unresponsive support services can negatively affect faculty perspectives of quality of distance education courses.

Factors of Faculty Satisfaction

The body of research on factors that affect post-secondary faculty job satisfaction varies and includes research on perceived control, the level of associated stress, ability to produce scholarship, faculty rank and classification, and demographic factors. Linville, Antony, and Hayden (2011) studied unionized and non-unionized faculty at community colleges and suggested a positive correlation between perceived control and overall job satisfaction.

Satisfaction can be defined as the level of perception, attitude, or outlook an individual has on outcomes of individualized intrinsic and extrinsic values (Ivancevich & Matteson, 2002). George and Jones (2005)

suggested four tenets that contribute to satisfaction: personality, values, environment, and social influence. In an effort to indicate fulfillment of goals and factors that influence satisfaction or dissatisfaction, Goodwin (1969) emphasized that one of the most prominent distinctions of America's work system is the importance placed on self-achievement and self-fulfillment. To Goodwin, financial reward is less important than finding personal satisfaction in one's profession and maintaining good personal and social relations with co-workers.

Frederick Herzberg (1966) proposed two broad classes of factors (motivators and hygienes) that led to job satisfaction or dissatisfaction. Herzberg's theory, commonly referred to as the two-factor theory, suggested that there were intrinsic characteristics of job responsibilities that motivated employees. These included the nature of the job, responsibilities associated with the job, and opportunities for growth and recognition. He suggested extrinsic determinants of dissatisfaction as factors related to policy, supervision, work environment, and interpersonal relations. Herzberg described satisfaction on a horizontal continuum and suggested that a low level of job satisfaction does not necessarily mean

that an employee is satisfied or dissatisfied (Udechukwu, 2009).

Miner (2005) suggested that factors leading to job satisfaction are verbal recognition, challenging natures of the work itself, and opportunities for promotion. In contrast, factors that contribute to job dissatisfaction include policy, quality of supervision, interpersonal relations with supervision, benefits and salary. He further suggested that hygiene factors, while important, will only yield benefits to a certain point. Beyond that, employers should focus on the intrinsic aspects of the work, and not on its context. To Miner, Herzberg's "philosophical embellishments" of comparing pay and benefits to the welfare state and his extensive biblical analogies caused some to question what had previously been considered a scientifically sound and testable theory.

In a study of Herzberg's assumptions of factors that led to satisfaction and dissatisfaction, Burke (1966) concluded that motivators and hygiene were unidimensional, thus an oversimplification of mere job motivation. He contended that factors that contributed to satisfaction and dissatisfaction were different, but not opposite each other. He further suggested that the same factors can cause satisfaction for some individuals and dissatisfaction for

others. Lyons (2007) studied work satisfaction by comparing Herzberg's psychological model and the ethical model of Karl Marx. He concluded that for Marx, work is driven by "moral intuitions that concern nature, the development of talents, the objects of work and human interactions." Lyons contended that Herzberg's psychological approach was "reality rather than morality bound." To Lyons, Herzberg placed emphasis on the experiences of workers rather than perceptions of what they should experience.

Miner (2005) suggested that Herzberg's (1976) later research placed emphasis on job-enrichment applications of the two-factor theory, including developing worker typologies. To Herzberg, the normal typologies are (1)

1. "The person who has both hygiene and motivator fulfillment, who is not unhappy (hygiene) and is also very happy.
2. The person who is on both need system but has little fulfillment in the hygiene area even though motivator satisfaction is good. Such a "starving artist" is both unhappy and happy.
3. "The person who is also on both needs systems but whose satisfactions are reversed- hygienes are good, but motivators are poor; such people are not happy, but neither are they happy.

4. The down and out person who is lacking in fulfillment generally and is both unhappy and lacking in happiness (Miner, 2005)."

Using Herzberg's theory as a framework, Derby-Davis (2014) studied retention in academe as a predictor of job satisfaction and found a strong relationship between motivation-hygiene indicators and retention among faculty. Gabbidon and Higgins (2012) studied stress and satisfaction correlations among criminology professors and found that a majority of the faculty surveyed indicated low-stress/high satisfaction careers with demands to produce scholarship as their greatest stress factor. Moreover, the faculty members indicated they spent as much time producing scholarship as they spent doing quality engagement with their families. In a study to produce empirical evidence on the satisfaction of academic faculty, Rashid and Rashid (2011) found that achievement and responsibility, while career development purposeful, were insignificant factors contributing to job satisfaction. Chung, et al. (2010) compared satisfaction between clinical and teaching faculty and discovered that clinical faculty were significantly less satisfied with their careers, which Chung, et al. attributed largely to perceptions of not knowing how to advance their careers and earn promotions.

Institution Roles in Faculty Satisfaction

Satisfaction among faculty who teach distance education classes is often linked to perceived notions that the institution supports, adequately funds, and offers support services for teaching in distance programs. The body of literature includes many studies on student satisfaction with distance education courses or programs (Picciano, 2002; Cole, Shelley & Swartz, 2014; Anderson, Tredway & Calice, 2015), while less research has been conducted on faculty degrees of satisfaction and the factors or perceptions of faculty regarding institutional support and its relationship to job satisfaction.

Oomen-Early and Murphy (2009) conducted a qualitative study on barriers faculty perceive as impediments to their job satisfaction and suggest themes of these barriers include institution-provided administrative and technical support, student preparedness and readiness, instructor readiness, and academic integrity. Bolliger and Wasilik (2009) suggest that many college decision-makers make the mistake of developing new distance education initiatives as a means to reach more students and lower costs but don't consider the impact on faculty, such as advising students, providing institution service, and conducting research. They suggest that colleges consider an unbundled faculty

model where curriculum writing, grading, advising, and instructional design are relegated to academic support units, allowing faculty more time to teach and conduct scholarship (Bolliger & Wasilik, 2000).

Betts (2014) studied factors that motivate faculty to teach distance education and found that faculty with experience in distance teaching intrinsically are motivated by opportunities to reach more students, opportunities to develop new ideas, and incorporate technology. Faculty with no distance teaching experience were motivated by salary increases, and release time and less on opportunities to develop new ideas and reach more students.

In 1993, the Sloan Consortium (Sloan-C) inaugurated the term "asynchronous learning networks" to "convey the idea that people learn at various times and places in everyday life" (Moore, 2005) and included faculty satisfaction as one of the key contributing factors to success in distance education programs. Glanz (2007) used Sloan-C's "five pillars" of quality principles, which include student satisfaction, learning effectiveness, access, faculty satisfaction, cost-effectiveness, and institutional commitment (Jorgenson, 2003) to analyze distance education student evaluations. Bloemer (2009) incorporated the Sloan-C model to review success factors of

online programs and noted that faculty seminars and communities of practice, where faculty can discuss various aspects of distance education with their peers, fostered effectiveness in teaching. Terosky and Heasley (2015) examined the notion of online faculty support through community and suggested that faculty desire both community and collegiality with their peers. Community and collegiality created environments that fostered discussion of teaching philosophies and professional identity rather than discussions on technology skills and pedagogical tools.

Carrico and Neff (2012) suggested that library faculty can develop collegial and collaborative relationships with teaching faculty and become instructional partners in their teaching and research endeavors. While Houston, Meyer, and Paewai (2006) found that faculty at many institutions consistently considered instructional support services as critical to the success of their teaching, Hoekstra (2014) studied effectiveness of technology and training of faculty teaching online courses at community colleges and was unable to find a statistically significant relationship between technology training and overall job satisfaction.

Bonk (2009) wrote that success of online learning depends significantly on community, collaboration, and

conversation. Lack of communication and under-utilization of communities of engagement are two important, but often deficient, attributes of many public and educational organizations (Janka, Luke & Morrison, 1977; Sobrero & Jayaratne, 2014). As cited in Eib and Miller (2006), Smith and Smith (1993) suggested a lack of community and belonging as well as the perception of isolation as two of the most significant concerns of postsecondary teaching faculty. Ramaley (2000) argued, "Unless the institution as a whole embraces the value as well as the validity of engagement as legitimate scholarly work and provides both moral support and concrete financial resources to sustain this work, engagement will remain individually defined by the interests of committed faculty and sporadic in nature" (Sobrero & Jayaratne, 2014).

Summary

Literature relating to defining distance education and its foundations leading to the emergence and establishment of online distance education provides valuable context for this study. Theories of distance education and associated literature, including Moore's Transactional Distance Theory, add depth by exploring the ways distance education relates to teaching and learning. Finally, additional research regarding educational support services, factors of

faculty satisfaction and institution roles in faculty satisfaction and engagement are particularly relevant to this study. Together these elements of the literature review indicate an opportunity for the research undertaken in the current study to make a new contribution in an area not yet fully understood.

CHAPTER 3

METHODOLOGY

Overview

This chapter provides an overview of the design of the study and procedures used to collect and analyze the data. It discusses research questions, sample, collection of data, instrumentation and statistical procedures, and data analysis.

The purpose of this descriptive, comparative, and correlational study was to determine (1) faculty satisfaction levels with distance education technology and support services in American Library Association-accredited master of library and information science programs, and (2) faculty perceptions of the relationship of those services to distance education teaching effectiveness in American Library Association-accredited master of library and information science programs. It also sought to discover any relationships of faculty demographics (e.g., age, teaching position, numbers of distance education courses taught, gender) to perceptions of satisfaction and teaching effectiveness as related to distance education technology

and support services. In the descriptive, comparative, and correlational method, the basic objective is to determine relationships among the variables.

The most important distinctions of descriptive, comparative design are no control or manipulation of the independent variable and "no random assignment of the study subjects to an intervention or control group" (Cantrell, 2011). In this study, descriptive statistics (frequency, percentage) and inferential statistics (Pearson rho correlation, chi-square test) were used to examine ordinal and nominal variables in the data. The research was conducted using an electronic survey, which was distributed by electronic mail and conducted using SurveyMonkey.com software.

This study was framed by the notion of measuring levels of faculty satisfaction with technology and other support services provided to enhance teaching. While studies (Canyon, 1991; Abou-Harash, 2010) have examined satisfaction with compensation, tenure and promotion, and perceptions of academic and administrative leadership, none has examined how institutional support services might affect satisfaction among faculty teaching in MLS programs delivered through online distance education modalities.

The researcher studied faculty in MLS programs because of the unique and wide-reaching discipline of library science. It functions to interconnect academe, information collection and dissemination, and technology assisted teaching and learning (Varlejss & Dalrymple, 1986; Gorman, 2000). Varlejs and Dalrymple (1986) provided a comprehensive list of fields of study within the discipline of library science. They included (1) database organization and access, (2) hardware and technology, (3) human-machine interface, (4) distribution and communications, (5) information services and products, and (6) management policy and politics. Thus, factors that contribute to satisfaction among library science faculty could be relevant to faculty who teach in other academic disciplines.

Research Questions

The following research questions guided the study:

Research Question One

In American Library Association-accredited master of library science programs, what are faculty perceptions of their satisfaction with support services and programs and with the relation of those services and programs to their teaching effectiveness in online distance education courses?

Research Question Two

In American Library Association-accredited master of library and information science programs, what is the relationship, if any, between learning management systems and delivery modes and perceived faculty satisfaction and teaching effectiveness in online distance education courses?

Research Question Three

In American Library Association-accredited master of library and information science programs, what is the relationship, if any, between distance education faculty demographics (i.e., age, gender, teaching status) and perceived satisfaction and teaching effectiveness in distance online education courses?

Conceptual Framework

The researcher developed a survey instrument using Wang's (2003) *Assessment of Learner Satisfaction with Asynchronous Electronic Learning Systems* as a conceptual guide for considering satisfaction and performance in distance education. Wang's model proposed assessing distance learner perspectives of satisfaction with distance education and included several distinct dimensions that made it appropriate as a framework for the design of the instrument for this study. Wang (2003) suggested three

conventional categories of measuring satisfaction in online instruction:

1. Considering multiple aspects of individual satisfaction.
2. Identifying relationships that exist among factors of expectation and perceptions of performance.
3. Assessing online learning activities and systems.

Wang (2003) examined studies by Abrami, Cohen, and d'Appolina (1990) and Bolton and Drew (1991), which suggested that quality and satisfaction are related but distinct constructs in distance education. In the framework of these constructs, perceptions of service quality are shaped by long-term or aggregate experiences, while perceptions of satisfaction are associated with individual, transaction-specific experiences (Wang, 2003). Wang contended that directionality of the association between perception of quality and satisfaction should be studied through multi-item satisfaction instruments.

Development of the Survey Instrument

The researcher developed the MLS Faculty Satisfaction Survey (see Appendix A), a 28-item instrument to collect demographic and attitudinal data from the sample. The goal of the researcher was to develop survey items that generated a nominal and ordinal dataset to answer the

research questions (Andres, 2012). The fundamental premise the researcher assumed was that the respondents who responded to the survey could be generalized to describe the target population all faculty who teach in online, ALA-accredited MLS programs (Fowler, 2013).

Descriptive studies describe conditions that exist, opinions that are held, and judgments that are in place at the time of the study (Best and Kahn, 1986). The researcher developed survey items to address the research questions.

The first three items in the instrument collected the gender, ethnicity, and age of the subjects. Four items followed which collected each respondent's current teaching/employment status, the number of years each has taught in higher education, the total number of years each has taught distance education courses, and the number of distance education courses taught over the previous 12 months. The demographic section of the instrument concludes with three items that asked the respondents to indicate primary and secondary learning management systems (LMS) they use to teach distance education courses and the type of institution (public-supported or private) where they primarily teach distance education courses.

The remainder of the instrument consisted of 16 items comprising three categories. A five-point Likert-type

scale, with anchors ranging from "strongly agree" to "strongly disagree," was used to measure these items. The categories were (1) Perceptions of and satisfaction with distance education teaching effectiveness, (2) Perceptions of and satisfaction with distance education training and support services, and (3) Perceptions of and satisfaction with interactive faculty forums related to distance education.

Using Fink's (2006) model, a letter of informed consent was created (see Appendix D) and included the title of the survey, the purpose of the study and the survey, procedures for participants to follow to complete the survey, information regarding confidentiality of the data collection process, and a statement of participation withdrawal.

Setting and Sample

The study targeted the entire population of core full-time and part-time faculty members at 27 ALA-accredited MLS programs at universities in the continental United States. ALA accredits two programs outside the continental United States (University of Alberta and University of Puerto Rico); however, these institutions were not included, since the researcher's target sample was faculty members teaching in ALA-accredited MLS programs in the continental U.S.

Each ALA-accredited institution included in the study offers an MLS program through online distance education modality, and each has initial or continued ALA accreditation status (American, 2008). ALA's Committee on Accreditation is charged with the authority to determine which MLS programs are worthy of accreditation. Committee membership includes "carefully vetted, unbiased practitioners and faculty professionals at the expert level" (American, 2015) who judge curricula, faculty resources, admission standards, and student matriculation requirements. Table 3.1 provides a list of ALA-accredited institutions selected for the study.

Institutional Review Board Approval

Before the research was conducted, approval of the study was secured from the Institutional Review Board (IRB) at the University of South Carolina. The researcher completed all required Collaborative Institutional Training Initiative (CITI) Program training modules for the Human Research-Social & Behavioral Researcher and the Social and the Behavioral Responsible Conduct of Research. The research proposal was submitted to the IRB and the faculty mentor on December 10, 2015, and the study received an exemption from Human Research Subject Regulations on December 17, 2015 (Appendix B).

Pilot and Survey Instrument Dissemination

The researcher piloted the survey by distributing an electronic version to five faculty members who teach in distance education courses in online modalities. The researcher conducted telephone and electronic mail discussion with each of the subjects to gain feedback on survey instructions, clarity of questions, and ease of use. Based on the feedback, the researcher made several small editorial changes to the survey to clarify two of the questions.

The web-based survey was administered electronically using SurveyMonkey.com software and all responses from the subjects and the institution from which they were responding was anonymous. Web surveys offer several advantages, including shorter transmittal time, lower delivery cost, more design options, and shorter times for data entry (Chung et al., 2010). Department chairs and program directors at each institution were contacted via electronic mail. The researcher requested that they distribute an embedded letter of implied consent and an invitation to participate in the survey. Of the 27 department chairs contacted, 21 replied indicating they had distributed the invitation to their faculty. A link to the electronic survey was provided in the letter of implied

consent, and subjects were asked to complete the survey within 10 days.

Table 3.1 - ALA-Accredited Institutions

	Institution	State
1.	*Clarion University*	*PA*
2.	*Drexel University*	*PA*
3.	*East Carolina University*	*NC*
4.	*Florida State University*	*FL*
5.	*Indiana University*	*IN*
6.	*Kent State University*	*OH*
7.	*Louisiana State University*	*LA*
8.	*North Carolina Central University*	*NC*
9.	*Rutgers, The State University of New Jersey*	*NJ*
10.	*San Jose State University*	*CA*
11.	*St. Johns University*	*NY*
12.	*Texas Woman's University*	*TX*
13.	*University at Buffalo SUNY*	*NY*
14.	*University of Alabama*	*AL*
15.	*University of Arizona*	*AZ*
16.	*University of Kentucky*	*KY*
17.	*University of Maryland*	*MD*
18.	*University of North Carolina at Greensboro*	*NC*
19.	*University of Pittsburgh*	*PA*
20.	*University of South Carolina*	*SC*
21.	*University of Southern Mississippi*	*MS*
22.	*University of Tennessee*	*TN*
23.	*University of Washington*	*WA*
24.	*University of Wisconsin-Milwaukee*	*WI*
25.	*University of South Florida*	*FL*
26.	*Valdosta State University*	*GA*
27.	*Wayne State University*	*MI*

Data Analysis

The use of descriptive, comparative methodology in this study allowed the researcher to examine multiple perspectives about the sample. Sparks, Jackson and Silverman (2010) describe descriptive statistics as numbers that allow researchers to synthesize and summarize data sets, including "common or typical values as well as average differences among or between individuals." Collecting quantitative descriptions in a manageable form allowed the researcher to describe multiple ranges of experiences of the sample. Bums and Grove (1997) noted that the purpose of descriptive research is to explore and describe the phenomenon in real-life situations in order to generate new knowledge about topics that have limited research.

The researcher closed the survey instrument after ten days. The first examination of the data was conducted using question summary, data trends, and graphical descriptions in the analytics toolset within the SurveyMonkey.com software package. Of the total sample of n=482, n=77 subjects completed the survey, yielding a response rate of 16%. Sanjeev (2014) suggests that email messages with external links, such as electronic surveys, are often suspect by recipients over concerns that unknown email

messages could contain links to malicious programs that could threaten computers or enterprise-wide networks. Bethlehem (2016) acknowledged that response rates for surveys have declined in recent years.

To expand the analysis of the data, the researcher exported a summary file from SurveyMonkey.com into a Microsoft Excel (2010) spreadsheet. This allowed the researcher to create a data set and convert Likert items into numerical scales. It also allowed the researcher to correct anecdotal and extraneous responses on 7 questions that permitted subjects to enter custom responses. Using Excel, basic calculations of the mean for items 3-7 yielded insight on five demographic items: age, gender, years of experience teaching higher education courses, and years of experience teaching distance education courses.

Sixteen items on the survey instrument used a five-point Likert-type scale, with anchors ranging from "strongly agree" to "strongly disagree." Data analysis for these items was completed using the Statistical Package for Social Science (SPSS) (Version 23, 2015). The Excel spreadsheet data set was exported to a file compatible with SPSS. The file was imported into SPSS for analyses of the nominal and ordinal item data, including descriptive

statistics (frequency and percentage), Pearson correlation, and chi-square tests.

Summary

A descriptive, comparative study was conducted to determine possible relationships between technology and other institutional support services and perceived satisfaction among faculty teaching in American Library Association-accredited master of library and information science programs delivered through online distance education. The research was conducted using an online, electronic survey, which was administered using SurveyMonkey.com software and distributed via electronic mail to faculty teaching at the institutions.

The researcher piloted the survey by distributing an electronic version to five faculty members who teach distance education courses in online modalities. The web-based survey was administered electronically using SurveyMonkey.com software, and all responses were anonymous. After completion of the survey, summary data from SurveyMonkey.com was imported into Microsoft Excel, and a data set was created.

Once in Excel, basic descriptive statistics, including percentages, mean, and standard deviation for the demographic items was conducted. The data set was exported

from Excel and imported into SPSS, allowing the researcher to examine multiple perspectives of those data, including descriptive statistics (frequency and percentage), Pearson correlation, and chi-square tests.

CHAPTER 4

FINDINGS OF THE STUDY

Overview

This chapter discusses the findings of the research. The purpose of this descriptive comparative and correlational study was to determine (1) faculty satisfaction levels with distance education technology and support services in American Library Association-accredited master of library and information science programs, and (2) faculty perceptions of the relationship of those services to distance education teaching effectiveness in American Library Association-accredited master of library and information science programs. It also sought to discover any relationships of faculty demographics (e.g., age, teaching position, numbers of distance courses taught, gender) to perceptions of satisfaction and teaching effectiveness as related to distance education technology and support services.

Independent and Dependent Variables

The study had twelve independent variables. The first six demographic variables were gender, ethnicity, age,

current teaching employment status, years teaching higher education, and years teaching distance education. These were followed by the demographic variables of the quantity of courses taught over the previous twelve months, and primary and secondary learning management systems (LMS) used to teach distance education. The two remaining independent variables were primary and secondary course delivery modalities the respondents used to teach distance education courses and institution type where they currently teach.

The dependent variables for this study comprised three categories of satisfaction in the survey instrument: (1) *perception of teaching* (three survey items), (2) *perception of distance education support services* (six survey items), and (3) *perception of distance education faculty interaction forums* (five survey items). The last item in each category was a summary statement, which asked participants to indicate their overall perceptions of satisfaction.

A five-point Likert-type scale, with anchors ranging from "strongly agree" to "strongly disagree," was used to measure these items. To examine mean, median, mode, and standard deviation of the nominal responses, the researcher converted the Likert-scale items from nominal to ordinal

data using a numerical scale ranging from 1 to 5. Table 4.1 displays the Likert item-to-numerical scale.

Table 4.1-Likert Items Numerical Scale

Likert Item (nominal)	Numerical Value (ordinal)
Strongly Agree	*1*
Agree	*2*
Somewhat Agree	*3*
Disagree	*4*
Strongly Disagree	*5*

Reliability Statistics

Cronbach's alpha is a widely used measure of reliability in the social sciences. Chronbach's (1951) formula is based on his theory that "any research based on measurement must be concerned with the accuracy or dependability, or as we usually call it, the reliability of measurement." A high-reliability coefficient validates that the researcher constructed an instrument that is accurate consistent, and interpretable (Cronbach, 1951). Cronbach's alpha test allows the researcher to examine multiple measurements and determine the degrees to which instrument items have equal variance and covariance.

Chronbach's alpha was calculated to measure internal consistency for the satisfaction-related variables. In keeping with current research, an alpha score of 0.70 was

used as the minimum score to indicate strong reliability of the items in the survey. El Fakir, et al. contended that alpha values above .70 indicated high internal reliability. The alpha score for this instrument was 0.789, indicating strong reliability for the satisfaction-related variables.

Demographic Characteristics

The descriptive statistics of the gender of the 77 respondents are shown in Table 4.2. The table shows that 49 females and 27 males responded to the survey. While respondents comprised four different ethnicities, 84.4 percent (n=65) were Caucasian (White). Table 4.3 presents the descriptive statistics for the ethnicity of the participants. One participant declined to identify his/her ethnicity.

Table 4.2-Gender Distribution of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		1	1.3	1.3	1.3
	Female	49	63.6	63.6	64.9
	Male	27	35.1	35.1	100.0
	Total	77	100.0	100.0	

Table 4.3- Ethnicity Distribution of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		1	1.3	1.3	1.3
	African American	6	7.8	7.8	9.1
	Asian/Pacific Islander	3	3.9	3.9	13.0
	Caucasian (White)	65	84.4	84.4	97.4
	Hispanic	2	2.6	2.6	100.0
	Total	77	100.0	100.0	

As shown in Table 4.4, 29.87 percent of the respondents were 35 to 44 years old, while 4 participants declined to indicate their age. The mean age of the respondents was 47.27 years, and the median age was 46.15 years.

Table 4.4-Age Distribution of Respondents

Age Range	Number	%
25–34 years old	*4*	*5.19*
35–44 years old	*12*	*15.58*
45–54 years old	*44*	*57.14*
55–64 years old	*7*	*9.09*
65–74 years old	*6*	*7.79*
Declined to respond	*4*	*5.19*

Respondents were asked to provide their current teaching employment status. The majority of the respondents (63.6%) indicated they taught in full-time faculty status, while 29.9 percent indicated they taught in adjunct status. Table 4.5 presents the frequencies and percentages of employment status for the 77 respondents.

Question 5 asked respondents to indicate the total number of years they have taught in higher education, including any graduate teaching assistantships. Of the 77 respondents, 51.94 percent (n=40) indicated they had taught in higher education 6 to 15 years. The mean number of years

taught was 13.25. Twenty respondents indicated they had taught 6 to 10 years, and 20 indicated they had taught 11 to 15 years. Table 4.6 shows the number of years in ranges of years.

Table 4.5-Current Teaching Employment Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Adjunct	23	29.9	29.9	29.9
	Full-time	49	63.6	63.6	93.5
	Grad TA	1	1.3	1.3	94.8
	Part-time	2	2.6	2.6	97.4
	Sabbatical	2	2.6	2.6	100.0
	Total	77	100.0	100.0	

Table 4.6- Years Teaching Higher Education

Years	Number	%
1–2 years	3	3.90
3–5 years	12	15.58
6–10 years	20	25.97
11–15 years	20	25.97
16–20 years	12	15.58
More than 20 years	10	12.99

As expected and indicated in Table 4.7, 28.57 percent (n=22) of the 77 respondents indicated they had taught distance education courses 3 to 5 years, while 37.66 percent (n=29) indicated they had taught distance education courses 6 to 10 years. The mean for all 77 respondents teaching distance education was 7.51 years.

Table 4.8 shows the total number of distance education courses the respondents taught over the previous twelve months. A widespread majority (81.82%) of the respondents indicated they taught 1 to 9 courses over the previous 12 months. The mean number of courses taught was 4.45 with the outlier of 22 courses taught over the previous 12 months.

Table 4.7-Years Teaching Distance Education

Years	Number	%
Less than 1 year	2	2.60%
1–2 years	6	7.79%
3–5 years	22	28.57%
6–10 years	29	37.66%
11–15 years	16	20.78%
16–20 years	2	2.60%

Table 4.8-Distance Education Courses Taught-Previous Year

Courses	Number	%
0 courses	6	7.79
1–4 courses	38	49.35
5–9 courses	25	32.47
10–14 courses	4	5.19
15–19 courses	0	0.00
20–24 courses	1	1.30
Declined to respond	3	3.90

To evaluate relationships between age, gender, number of years taught, and the number of distance education courses taught during the previous 12 months, cross-tabulations and chi-square tests were conducted for several

of the variables collected for items 1 through 7. Analyses revealed only one statistically significant difference between years teaching distance education courses and number of distance education courses taught over the previous 12 months.

As expected, given the age, gender, and years of teaching experience distributions, analysis revealed no statistical significance between gender and teaching employment status (χ^2= 7.48, p=.486, 8df, n=77), gender and years teaching higher education(χ^2= 47.69, p=.784, 56df, n=77) or gender and years teaching distance education (χ^2= 17.11, p=.993, 34df, n=77). Also, as expected, analysis revealed no statistical significance between age and teaching employment status (χ^2= 245.09, p=.610, 245df, n=73), age and years teaching higher education (χ^2= 1841.72, p=.097, 1764df, n=73), or age and years teaching distance education courses (χ^2= 1018.61, p=.872, 1071df, n=73).

Analysis revealed strong statistical significance between years teaching distance education courses and quantity of distance education courses taught over the previous 12 months (χ^2= 288.77, p=.014, 238df, n=77). No further cross-tabulations were conducted on variables for items 1 through 7.

Four additional demographic characteristics were measured. These included (1) primary and secondary learning management system (LMS) used to teach distance education, (2) primary and secondary modalities of delivery of distance education courses, and (3) the type of institutions (public or private) where the respondents primarily teach distance education courses.

Respondents indicated that two LMS were predominant for delivery of their distance education courses. Blackboard and Canvas comprised 89.60% (n=69) of LMS systems on their campuses. This is consistent with the literature on institution-wide adoptions of learning management systems (Dziuban, Picciano, Graham, & Moskal, 2016). Table 4.9 shows that while Blackboard and Canvas were the two most common LMS on respondents' campuses, 10.40% indicated they used four other LMS as primary course delivery platforms.

Almost 80% (n=60; see Table 4.10) of the respondents indicated their primary mode of teaching courses in distance education was web-based, asynchronous instruction. This indicated that courses they taught provided options for students with family or professional obligations as well as geographical restrictions that would impede on their ability to participate in live, synchronous courses.

Table 4.9-Primary Learning Management System

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Blackboard	52	67.5	67.5	67.5
	Canvas	17	22.1	22.1	89.6
	Desire2Learn	2	2.6	2.6	92.2
	Drupal	2	2.6	2.6	94.8
	eCollege	2	2.6	2.6	97.4
	Moodle	2	2.6	2.6	100.0
	Total	77	100.0	100.0	

Table 4.10-Primary Distance Education Modality

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		2	2.6	2.6	2.6
	Hybrid	6	7.8	7.8	10.4
	WEB Asynch	60	77.9	77.9	88.3
	WEB Synch	9	11.7	11.7	100.0
	Total	77	100.0	100.0	

The last demographic characteristic item asked respondents to indicate the type of institution where they primarily taught distance education. Ninety percent (n=70) indicated they taught distance education at public universities. (See Table 4.11.) Two respondents indicated "PBS" in their responses. Some universities have an affiliation with public television and public radio and have established partnerships for delivery of K-12 through graduate-level instruction.

Table 4.11-Institution Type

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	PBS	2	2.6	2.6	2.6
	Private	5	6.5	6.5	9.1
	Public	70	90.9	90.9	100.0
	Total	77	100.0	100.0	

Perceptions of Distance Education Teaching Effectiveness

Three survey items were categorized as *Perception of Teaching*. These three items measured respondents' perceptions of overall satisfaction with their distance education teaching.

The first item in this section asked respondents to respond to the statement, *I consider my teaching in distance education to be highly effective.* There were n=75 responses and two respondents who declined to respond. As presented in table 4.12, responses to the statement indicated widespread agreement among the n=75 respondents, with 83.2 percent indicating agreement or strong agreement.

Table 4.12-Distance Education Teaching Effectiveness

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	2.6	2.6	2.6
1	31	40.3	40.3	42.9
2	33	42.9	42.9	85.7
3	9	11.7	11.7	97.4
4	2	2.6	2.6	100.0
Total	77	100.0	100.0	

The second teaching perception item asked the respondents to indicate their level of agreement with the statement *I consider my teaching in distance education courses to be more effective than my teaching in traditional face-to-face courses.* As indicated in Table 4.13, there were n=68 responses with a mean and central

tendency of 3.5. Nine respondents declined to answer this item. Of the responses, 49.4 percent (n=38) were between intermediate points of "somewhat agree" and "disagree," comprising 49.4 (n=38) of the responses. This indicated that nearly half of the respondents did not consider their distance education teaching to be more effective than their traditional, face-to-face teaching.

Table 4.13- Distance and Traditional Teaching Comparison

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		9	11.7	11.7	11.7
	1	8	10.4	10.4	22.1
	2	13	16.9	16.9	39.0
	3	17	22.1	22.1	61.0
	4	21	27.3	27.3	88.3
	5	9	11.7	11.7	100.0
	Total	77	100.0	100.0	

The third item in the perception of teaching section of the survey asked respondents to indicate their level of agreement with the statement *Overall I am satisfied with the effectiveness of my distance education teaching*. There were n=75 responses for this item; two respondents declined to answer. There was widespread agreement, with 83.2 percent of the respondents indicating "somewhat agree" to "strongly agree," while 10.40 percent indicated disagreement to strong disagreement with the statement.

Table 4.14 Overall Distance Teaching Satisfaction

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		2	2.6	2.6	2.6
	1	20	26.0	26.0	28.6
	2	30	39.0	39.0	67.5
	3	17	22.1	22.1	89.6
	4	6	7.8	7.8	97.4
	5	2	2.6	2.6	100.0
	Total	77	100.0	100.0	

Cross-tabulation for distance education teaching effectiveness and comparison of distance and traditional education were significant (r=.617, p=<.000, n=68). The correlation was significant at the 0.01 level (2-tailed), which indicated strong statistical significance between perceptions of highly effective teaching in distance education courses and lower teaching effectiveness in teaching distance education courses compared to teaching effectiveness of traditional, face-to-face courses. Likewise, cross-tabulation for comparison of distance and traditional teaching with overall distance education teaching effectiveness were statistically significant (r=.689, p=<.000, n=68).

Perceptions of Satisfaction with Distance Education Support Services

Seven survey items were categorized as *Perceptions of Distance Education Support Services*. These items measured respondents' perceptions of institution-provided training

for its LMS and web conferencing systems, as well as perceptions of technology and help desk support, instructional design services, and overall perspective of institutional support services and enhancement of their distance education teaching.

The first item in this section asked respondents to indicate their level of agreement with the statement *I receive effective training to use my institution's learning management system.* There were n=77 responses to this item. As indicated in table 4.15, 52 percent of the responses ranged from "somewhat agree" to "agree," while only 16.9% (n=13) strongly agreed with the statement. The mean response for this item was M=2.44, and the standard deviation was SD=.976. Cross-tabulation of LMS training and overall teaching effectiveness *were* highly significant (χ^2= 122.53, p=<.000, 25df, n=77).

Pearson-rho correlation of perception of overall satisfaction with distance education teaching and perception of effective training to use learning management system was strongly significant (p= .001). The correlation was significant at the 0.01 level (2-tailed), which indicated that faculty who were overall satisfied with their distance education teaching perceived they received effective LMS training.

Pearson-rho correlation of perception of the statement *I consider my teaching in distance education courses to be more effective than my teaching in traditional face-to-face courses* and perception of effective training to use learning management system was significant (p= .024). The correlation was significant at the 0.05 level (2-tailed), which indicated that faculty who perceive teaching in distance education courses to be less effective than their teaching in traditional face-to-face courses perceived they did not receive effective LMS training.

The second item in the category measured respondents' perceptions of training for institution-supported web conferencing systems. Respondents indicated their level of agreement with the statement *I receive effective training to use my institution's web conferencing software.* Table 4.16 shows that 57.20% of the responses ranged from "somewhat agree" to "agree." Six respondents (7.80%) indicated "strongly agree," while 11.70% (n=9) indicated "disagree" to "strongly disagree." Additionally, cross-tabulation of web conferencing training and overall distance education teaching effectiveness yielded strong significant results (χ^2= 68.50, p=<.000, 16df, n=77).

Table 4.15-Learning Management System Training

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		2	2.6	2.6	2.6
	1	13	16.9	16.9	19.5
	2	27	35.1	35.1	54.5
	3	26	33.8	33.8	88.3
	4	7	9.1	9.1	97.4
	5	2	2.6	2.6	100.0
	Total	77	100.0	100.0	

Table 4.16-Web Conferencing Systems Training

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		14	18.2	18.2	18.2
	1	6	7.8	7.8	26.0
	2	27	35.1	35.1	61.0
	3	17	22.1	22.1	83.1
	4	11	14.3	14.3	97.4
	5	2	2.6	2.6	100.0
	Total	77	100.0	100.0	

To measure satisfaction with institution-provided technical support services, participants were asked to indicate their level agreement with the statement *My institution provides effective technical support for faculty teaching distance education courses.* As shown in Table 4.17, 83.10% (n=64) responded ranging from "somewhat agree" to "strongly agree," while 14.30% (n=11) responded "disagree" to "strongly disagree." Two participants declined to respond. The mean was for this item was M=2.35, and the standard deviation was SD=.966. As with previous support-related items, cross-tabulation of technology

support and overall distance teaching effectiveness yielded significant results (χ^2= 87.27, p=<.000, 16df, n=75).

Table 4.17-Technology Support for Faculty

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		2	2.6	2.6	2.6
	1	11	14.3	14.3	16.9
	2	40	51.9	51.9	68.8
	3	13	16.9	16.9	85.7
	4	9	11.7	11.7	97.4
	5	2	2.6	2.6	100.0
	Total	77	100.0	100.0	

Technical help desk support services are an integral component of technical support since help desks are typically staffed with technicians trained to offer desktop computer support and arrange support tickets for on-site services. Respondents indicated their level of agreement with the statement *My institution provides responsive technical help desk support for faculty teaching distance education courses.* Seventy-three participants responded to the item; four declined to respond. As shown in Table 4.18, 87.10% (n=67) of the responses ranged from "somewhat agree" to "strongly agree," with a mean response of M=2.31 and a standard deviation of SD=1.00. Cross-tabulation of help desk support with overall distance education teaching effectiveness yielded significant results (χ^2= 77.04, p=<.000, 16df, n=75). Additionally, cross-tabulation with learning management system training yielded significance

(χ^2= 73.50, p=<.000, 16df, n=73), as did cross-tabulation with a comparison of distance and traditional teaching (χ^2= 35.47, p=<.003, 16df, n=68).

Table 4.18-Technical Help Desk Support for Faculty

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	2.6	2.6	2.6
1	13	16.9	16.9	19.5
2	38	49.4	49.4	68.8
3	16	20.8	20.8	89.6
4	4	5.2	5.2	94.8
5	4	5.2	5.2	100.0
Total	77	100.0	100.0	

Two items asked respondents to indicate the type of instructional design services, either department- or college-sponsored or centralized, institution-sponsored instructional design support. The first item asked respondents to indicate if their department unit provided its own instructional design services for faculty teaching distance education courses. As Table 4.19 shows, there were 69 responses and 8 non-responses, with a wide variance from "strongly agree" to "strongly disagree." Of the respondents, 54.6% (n=31) indicated perspectives of "somewhat agree" to "strongly agree," and 35.10% (n=27) indicated responses ranging from "disagree" to "strongly disagree."

Item 14.7 measures respondents' perception of item Q14.7, *My institution offers centralized instructional*

design services and support for faculty teaching distance education courses. As shown in Table 4.20, 61.10% (n=68) of the respondents (84.50%) indicated "somewhat agree" to "strongly agree," and only 10.40% (n=8) indicated they disagreed with the statement.

The results of both instructional design items indicated that faculty were more reliant on institution-centralized instructional design support and services.

Table 4.19-Department Sponsored Instructional Design

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		8	10.4	10.4	10.4
	1	10	13.0	13.0	23.4
	2	17	22.1	22.1	45.5
	3	15	19.5	19.5	64.9
	4	13	16.9	16.9	81.8
	5	14	18.2	18.2	100.0
	Total	77	100.0	100.0	

Table 4.20-Centralized Instructional Design

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		2	2.6	2.6	2.6
	1	16	20.8	20.8	23.4
	2	31	40.3	40.3	63.6
	3	21	27.3	27.3	90.9
	4	7	9.1	9.1	100.0
	Total	77	100.0	100.0	

Cross-tabulation for these two items yielded no significance (χ^2= 15.48, p=<.216, 12df, n=67). There was, however, strong significance between department-sponsored instructional design and overall distance education

teaching effectiveness (χ^2= 35.26, p=<.004, 16df, n=67). Likewise, when cross-tabulation of centralized instruction design and overall distance education teaching effectiveness was calculated, the results were significant (χ^2= 30.05, p=<.003, 12df, n=73). These calculations indicate the strong relationship between instructional design services and faculty overall perceptions of distance education teaching effectiveness. When asked to indicate their level of agreement regarding the availability of department-sponsored and centralized instructional design support, only 13% (n=10) of the respondents indicated "strongly agree." Similarly, when asked about the availability of institution-sponsored, centralized instruction design support, only 20.80% (n=16) indicated "strongly agree."

As shown in Table 4.21, 53 respondents (59.90%) indicated "somewhat agree" to "agree" when asked if institution technical support services enhance their distance education teaching. Cross-tabulation of this variable with the overall distance education teaching significance yielded significant results (χ^2= 27.89, p=<.006, 12df, n=73).

Table 4.21-Support Services and Teaching

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		4	5.2	5.2	5.2
	1	12	15.6	15.6	20.8
	2	30	39.0	39.0	59.7
	3	23	29.9	29.9	89.6
	4	8	10.4	10.4	100.0
	Total	77	100.0	100.0	

The last item in the *Perceptions of Distance Education Support Services* section of the instrument asked respondents to indicate their overall satisfaction with the support services available for their distance education. Of 74 responses to this item, 63 respondents (97.5%) indicated "strongly agree" to "somewhat agree," with a mean M=2.49 central value between agreement and strong agreement (Table 4.22). Eight respondents (10.40%) indicated disagreement with the statement.

Table 4.22-Overall Satisfaction with Support Services

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		4	5.2	5.2	5.2
	1	10	13.0	13.0	18.2
	2	31	40.3	40.3	58.4
	3	22	28.6	28.6	87.0
	4	6	7.8	7.8	94.8
	5	4	5.2	5.2	100.0
	Total	77	100.0	100.0	

Pearson-rho correlation of perception of overall satisfaction with distance education teaching and perception of overall satisfaction with support services

were strongly significant (p= .017). The correlation was significant at the 0.01 level (2-tailed), which indicated that faculty who were overall satisfied with their distance education teaching were overall satisfied with support services.

Pearson-rho correlation of perception of the statement *I consider my teaching in distance education courses to be more effective than my teaching in traditional face-to-face courses* and perception of overall satisfaction with support was moderately significant (p= .060). There seemed to be some, but not a strong correlation.

Perceptions of Satisfaction with Faculty Forums Related to Distance Education

The third section of the survey queried respondents' perspectives on institution-sponsored faculty forums for the exchange of ideas and collaboration on distance education best practices and pedagogy. Popovich, Perverly and Jackson (2006) described faculty forums as conversation sessions for faculty to "discuss, explore, and reflect on various teaching topics in a relaxed, informal, interactive format."

When asked about their perception of the importance of faculty forums to distance education teaching effectiveness, a widespread majority (87.10%, n=67) indicated "somewhat agree" to "strongly agree." As shown in Table 4.23, only 5.2% (n=4) disagreed that forums were important to distance education

teaching effectiveness. To further examine perceptions of faculty forums, respondents were asked to indicate their agreement with a statement that suggested faculty forums regarding effective distance education were offered on their campuses. Table 4.24 shows that 55.90% (n=43) agreed with the statement while 39.00% (n=30) disagreed or strongly disagreed. Four respondents declined to indicate their perception of the statement.

Table 4.23-Importance of Teaching Forums

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		6	7.8	7.8	7.8
	1	19	24.7	24.7	32.5
	2	29	37.7	37.7	70.1
	3	19	24.7	24.7	94.8
	4	2	2.6	2.6	97.4
	5	2	2.6	2.6	100.0
	Total	77	100.0	100.0	

Table 4.24-Forums on Teaching Provided

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		4	5.2	5.2	5.2
	1	11	14.3	14.3	19.5
	2	21	27.3	27.3	46.8
	3	11	14.3	14.3	61.0
	4	24	31.2	31.2	92.2
	5	6	7.8	7.8	100.0
	Total	77	100.0	100.0	

Table 4.26 shows that 50.70% (n=39) agreed that forums were beneficial while 33.80% (n=26) disagreed that forums offered on their campuses were beneficial. The third item in the section on faculty interaction forums asked participants to indicate if they participate in faculty

forums offered at their institution. Twelve participants (15.60%) declined to respond to this item. There were 39 (50.70%) responses of agreement while 26 (33.80%) respondents disagreed or strongly disagreed. (See Table 4.25.) The respondents were then asked if forums they attended were beneficial to their distance education teaching.

Table 4.25- Participation in Forums on Teaching

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		12	15.6	15.6	15.6
	1	5	6.5	6.5	22.1
	2	22	28.6	28.6	50.6
	3	12	15.6	15.6	66.2
	4	22	28.6	28.6	94.8
	5	4	5.2	5.2	100.0
	Total	77	100.0	100.0	

Thirty-nine (50.70%) respondents agreed that they were satisfied with institution-offered forums while 24 (31.20%) disagreed (See Table 4.27.) The question asked respondents to indicate their overall satisfaction with forums offered by their institutions for faculty to interact regarding distance education teaching. Consistent with other questions on perceptions of forums, 18.20% (n=14) declined to respond. For this item, there was an even distribution, with a mean and central tendency of M=3.03 (somewhat agree).

Table 4.26-Teaching Forums Effectiveness

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		16	20.8	20.8	20.8
	1	6	7.8	7.8	28.6
	2	21	27.3	27.3	55.8
	3	16	20.8	20.8	76.6
	4	18	23.4	23.4	100.0
	Total	77	100.0	100.0	

Table 4.27-Overall Satisfaction with Teaching Forums

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		14	18.2	18.2	18.2
	1	6	7.8	7.8	26.0
	2	16	20.8	20.8	46.8
	3	17	22.1	22.1	68.8
	4	18	23.4	23.4	92.2
	5	6	7.8	7.8	100.0
	Total	77	100.0	100.0	

A cross-tabulation of overall satisfaction with the effectiveness of distance education teaching and levels of agreement with the importance of faculty yielded very high significance (χ^2= 39.90, p=<.000, 12df, n=69). This could indicate that respondents who felt their distance education teaching was effective placed increased value on forums to engage faculty in discussions about effective teaching.

Summary

Chapter 4 analyzed the results of a survey administered to faculty teaching in American Library Association (ALA) accredited master of library and information science (MLS) programs delivered through online

distance education. The dependent variables for this study comprised three categories of satisfaction in the survey instrument. A five-point Likert-type scale, with anchors ranging from "strongly agree" to "strongly disagree," was used to measure these items.

The data revealed that there were statistically significant relationships between faculty perceptions of satisfaction and support services. There were statistically significant relationships between faculty demographic factors and perceptions of satisfaction and teaching effectiveness.

The correlation of perception of overall satisfaction with distance education teaching and perception of effective training to use learning management system was strongly significant (p= .001). The correlation was significant at the 0.01 level (2-tailed), which indicated that faculty who were overall satisfied with their distance education teaching perceived they received effective LMS training.

There was significant correlation between perception of the statement, *I consider my teaching in distance education courses to be more effective than my teaching in traditional face-to-face courses* and perception of effective training to use learning management system (p=

.024). The correlation was significant at the 0.05 level (2-tailed), which indicated that faculty who perceive teaching in distance education courses to be less effective than their teaching in traditional face-to-face courses perceived they did not receive effective LMS training.

Pearson-rho correlation of perception of overall satisfaction with distance education teaching and perception of overall satisfaction with support services were strongly significant (p= .017). The correlation was significant at the 0.01 level (2-tailed), which indicated that faculty who were overall satisfied with their distance education teaching were overall satisfied with support services.

There was moderate correlation between faculty perception of the statement *I consider my teaching in distance education courses to be more effective than my teaching in traditional face-to-face courses* and perception of overall satisfaction with support. While there is not strong correlation between these variables, the data indicated some relationship between teaching effectiveness and overall perceptions of support.

CHAPTER 5

DISCUSSION

Overview

As detailed in Chapter 4, data for the study were collected using a 28-item survey (see Appendix) to measure demographic and perceptual variables. Investment in distance education is a mutually shared responsibility of instructors, administrators, and technical and instructional services teams on most campuses (Olcott & Wright, 1995).

There were broad areas in the survey: (1) perceptions of distance education teaching effectiveness, (2) perceptions of distance education support services, and (3) perceptions of distance education faculty interaction forums (five survey items). The last item in each category was a summary statement, which asked participants to indicate their overall satisfaction in that area. A five-point Likert-type scale, with anchors ranging from "strongly agree" to "strongly disagree," was used to measure these items. To examine mean, median, mode, and standard deviation of the nominal responses, the researcher

converted the Likert-scale items from nominal to ordinal data using a numerical scale.

Summary of Key Findings

Findings of the study showed various significant faculty perspectives regarding support services for distance education teaching. The data indicated a statistically significant relationship between faculty support services and perceptions of satisfaction with online teaching. The findings further revealed a significant number of the faculty perceived insufficient technical training and support for faculty teaching online courses. Finally, the study found no statistical significance between several demographic characteristics (age, ethnicity, gender) and teaching employment status, perceptions of teaching effectiveness, and perception of support services. The study did reveal a strong significance between years of teaching distance education and quantity of distance education courses taught over the previous year. The following conclusions to the research questions were drawn from the study.

Research Question One

The first research question was, "In American Library Association accredited master of library and information science programs, what is the relationship, if any, between

faculty support services and programs and perceived faculty satisfaction and teaching effectiveness in online distance education courses?" The data indicate there are both statistically significant as well at statistically insignificant relationships between faculty support services and perceptions of satisfaction and online teaching effectiveness.

Eighty-three percent of the respondents indicated that they consider their distance education to be highly effective. This widespread agreement could be viewed as an indication that, overall, there were high levels of acceptance of the concept of teaching online and satisfaction with learning outcomes in their pedagogy among the faculty. However, responses to the survey items asking respondents to provide more in-depth perspectives of their teaching were mixed. While the faculty indicated strong agreement that they perceived their distance education teaching to be highly effective, almost half the respondents did not consider their distance education teaching to be more effective than their traditional, face-to-face teaching.

Comparing effectiveness of distance education with traditional instruction has been researched extensively since the mid-twentieth century (Sorenson, 1933; Jones &

Long, 2013). Russell (1999) compiled a comprehensive bibliography of comparative studies from 1928 to 1998, most of which cited "no significant difference" in learning outcomes between distance and traditional courses (Nguyen, 2015). Nguyen (2015) suggested that critics of Russell's research cite poor methodology of many of the earlier studies he referenced. However, some recent studies (McCutchen, Lohan, Traynor & Martin, 2015), using more rigorous methodology, validated Russell's research.

While learning outcomes between delivery modalities might not differ significantly, instructors who teach online distance education courses are challenged by numerous constraints and obstacles that impede effective pedagogy. Distance education teaching experience was one of the most critical constraints that affect faculty perceptions of quality and learning outcomes. Ulmer, Watson, and Derby (2007) studied faculty at all accredited institutions in one state and found that those with more teaching experience viewed distance education more favorably than those with less or no experience. Research by Allen and Seaman (2012) found that three-quarters of faculty with no current-year distance education teaching assignments perceived online instruction as inferior to traditional instruction (Bunk, et al., 2015).

The results of this study found that a substantial number of the faculty (87.10%) placed value on forums to discuss distance education teaching effectiveness and practices. Although they were identified as important to the faculty, only half of their universities offered institution-sponsored faculty forums on distance education teaching. Likewise, only half the faculty attended and benefited from teaching forums on their campuses.

Given that nearly half the faculty did not consider their distance education teaching to be more effective than their traditional, face-to-face teaching, there could be a correlation between perceptions of quality and lack of training to teach in online environments. This is consistent with Allen and Seaman's (2012) suggestion that experience significantly affects faculty perceptions of learning outcomes. Moreover, some instructors with little or no experience teaching online consistently consider learning outcomes in online instruction to be inferior to traditional face-to-face instruction (Allen & Seaman, 2012).

Personal interaction is an important aspect of effective pedagogy (Maddix, 2012). Interaction paradigms are most evident in learning transactions that occur between students and instructors, students and

instructional content, and students and their peers. The interaction between faculty in forums that provide opportunities to exchange ideas, best teaching practices, and pedagogical strategies can be beneficial, especially for junior faculty or teaching assistants.

Junior faculty often use teaching styles and strategies to which they were exposed as students (Popovich, Peverly & Jackson, 2006) rather than models that could be more effective in distance education modalities. Johnson and Ridley (2004) suggested that mentoring relationships are dynamic and interpersonal interactions during which more experienced individuals guide, counsel, and give recommendations to less experienced individuals. Faculty forums about teaching provide opportunities to discuss various facets of pedagogy and effective instructional practices.

Bower (2001) suggested that faculty satisfaction with distance education is largely dependent on institution commitments to create value and support for teaching. This was supported by Simonson, Smaldino, Albright, and Zvacek (2009), who suggested that faculty who teach online have a greater sense of satisfaction when institutions support them through online course development services. The faculty in this study indicated that forums that provide

opportunities for faculty engagement with peers are important to their teaching. Creating effective online courses is typically more time-consuming for faculty than face-to-face courses (Bower, 2001), which is best demonstrated through institutional responsiveness by providing coordinated and effective support models designed to ensure quality control in distance education courses (Betts, 1998).

Research Question Two

The second research question was, "In American Library Association-accredited master of library and information science programs, what is the relationship, if any, between learning management systems and delivery modes and perceived faculty satisfaction and teaching effectiveness in online distance education courses?" The findings revealed that a significant number of the faculty perceived they are not receiving sufficient technical training and support for the course management and delivery systems they are using to teach online courses.

The faculty indicated that Blackboard and Canvas comprised almost ninety percent of the learning management systems (LMS) they use to support their distance education teaching on their campuses. This is consistent with research by Dziuban, Picciano, Graham, and Moskal (2016),

which suggests these two brands of LMS are the most prevalent in the higher education information technology market. While a majority of faculty indicated agreement that they received effective training to use their LMS, there was not strong agreement. Almost twelve percent of the faculty responded that their institutions did not offer sufficient LMS training to support their teaching. Moreover, there was strong statistical significance between LMS training and overall distance education teaching effectiveness.

Faculty had even stronger unfavorable perspectives for institution support of web conferencing systems they used to teach students at a distance. The data indicated that seventeen percent disagreed and strongly disagreed that they are supported sufficiently with training for web conferencing systems on their campuses. This finding was reinforced by the strong significance of the co-predictor, overall distance education teaching effectiveness. These concerns expressed by the faculty are supported in the body of research regarding faculty dependency on course management and course delivery systems.

Central instruction features of LMS most instructors use to teach online courses are study skill tools, communication tools, and productivity tools (Wichadee,

2015). LMS tools most commonly used by instructors include features that facilitate course syllabi distribution, calendaring, task assignment and tracking, assessment and grading, online discussion boards, and digital drop boxes for assignment uploading and distribution. This is consistent with the literature on institution-wide adoptions of learning management systems (Dziuban, Picciano, Graham & Moskal, 2016). Table 4.9 showed that while Blackboard and Canvas were the two most common LMS on respondents' campuses, 10.40% indicated they used four other LMS as primary course delivery platforms.

Research Question Three

The third research question was, "In American Library Association-accredited master of library and information science programs, what is the relationship, if any, between distance education faculty demographics (i.e., age, gender, teaching status) and perceived satisfaction and teaching effectiveness in distance online education courses?" The demographic characteristics measured in the study included baseline demographics of age, gender, and ethnicity, as well as affinity items including employment, teaching status and experience, teaching load, and attributes of institution type and technologies deployed to support distance education.

The demographic data indicated that the typical respondent for the survey was female, Caucasian (white), 47 years old, with thirteen years of higher-education teaching experience and seven and half years of distance education teaching experience. She had a full-time faculty appointment at a public university, where she taught 4.5 distance education courses over the previous twelve months. Her university provides Blackboard learning management system (LMS), which she used in teaching asynchronous, online courses.

The study found no statistical significance between gender and teaching employment status, gender and years teaching higher education, or gender and years teaching distance education. Furthermore, there were no statistical significance between age and teaching employment status age and years teaching higher education, or age and years teaching distance education courses. However, there were strong statistical significance between years teaching distance education and quantity of distance education courses taught over the previous year. Finally, there was no significance between age, gender or ethnicity, and satisfaction of overall distance teaching effectiveness or perceptions of satisfaction with faculty support services and programs.

Limitations of the Study

The limitations of the study were identified and include limitations and size of the sample, considerations for respondents' perspectives on support services, the terminology used to describe support services, and variance or duplicity of learning management systems. The following are noted limitations of the study:

1. The study is limited to faculty teaching in master's programs in the field of library and information science. Discuss MLS differences and how it could affect a study like this.
2. The study included the relatively small sample (n=77), which decreased the ability to generalize about the entire population of library science faculty who teach distance education courses. The researcher used the findings as an observation and part of the whole.
3. All of the items in the survey instrument were self-reported by individual faculty members and might not take into account all support services offered at each institution.
4. In the field of teaching and learning at a distance, there are several terms that describe some of the same processes and fundamental tenets of online distance education.

5. Some faculty reported using multiple learning management systems at the same institution.

Implications for Practice

Institutions examine their present and planned support models for faculty teaching online courses. Specifically, universities should consider ways to help faculty who teach distance education courses become better online teachers. This will not only improve faculty perspectives of quality and teaching effectiveness but also will lead to better learning outcomes for students. The findings of this study lead the researcher to make the following recommendations:

1. Increase relevance and effectiveness of distance education programs by providing strategic faculty support and training programs.
2. Establish institution-wide quality guidelines for distance education courses, including standards for design, consistency, and accessibility.
3. Create a cross-discipline distance education faculty advisory committee, to include representation from administrative units responsible for technical support, instructional design, distance course delivery, information technology, and student disability services.

4. Develop financial incentive programs to provide grants, stipends, or release time for faculty to create or enhance existing distance education courses.
5. Universities with investment in distance education should establish processes for improving faculty satisfaction.
6. Establish mandatory learning management system training for all faculty teaching online distance education courses. Offer certifications and financial incentives for participation in training.

The literature suggests that faculty are motivated to teach online distance education courses for intrinsic rather than extrinsic reasons (Herzberg, 1966; Bunk, et al., 2017; Maguire, 2005; Shea, 2007). Herzberg's (1976) suggestion that individuals who have both hygiene and motivator factors are most fulfilled and satisfied. Higher education institutions, therefore, should explore ways to make technology and training support for distance education more than hygiene factors. Technology should be a component of training rather than integrating training to support technology.

Recommendations for Further Research

There has been little research in the area of satisfaction and support services among faculty members who

teach in online distance education modalities. This study did not provide administrators of technology and instructional support services to evaluate their support paradigm. Moreover, the study was limited to the discipline of library science and cannot be generalized to faculty in other academic disciplines. Further research might include these topics:

1. Examination of selection processes of learning management systems and faculty roles in selecting, evaluating and recommending systems for procurement consideration.
2. Evaluation of the role of graduate teaching assistants and adjunct instructors regarding their perspectives on teaching effectiveness and access to institutional support services.
3. Exploration of retention rates in online courses and comparison with faculty satisfaction with online teaching and learning outcomes.
4. Interpretation of institution goals and strategies and what role faculty have in providing input and direction for strategic plans for distance education.
5. Examination of other support models for assisting faculty with online courses and aligning those models

with institution strategies and standards for distance education courses.

6. Exploration of transactional distance theory as a framework for institutions to use in the design of training and support models for faculty teaching distance education. Can transactional distance be used to frame institution services such as technical support, LMS orientation and training and faculty support forums?

Conclusion

The intent of this study was to investigate factors that affect possible relationships between technology and other institutional support services and perceived satisfaction among faculty teaching online distance courses.

In this study, descriptive statistics and inferential statistics were used to examine ordinal and nominal variables in the data. The research was conducted using an electronic survey, which was distributed electronically to faculty teaching in master of library and information science programs. The study found that there were statistically significant relationships between faculty perceptions of satisfaction and support services. However, there were no statistically significant relationships

between faculty demographic variables and perceptions of satisfaction and teaching effectiveness.

Institutions of higher learning have obligations to provide resources to enhance scholarship and teaching in both traditional and online formats. Christensen and Eyring (2011) viewed higher education through the framework of "theory of disruptive innovation" and argued that most universities are at a critical crossroad of "competitive disruption and potentiality for an innovation-fueled renaissance." They cited economic downturn, diminished external and governmental financial support, and market competition as catalysts for universities to reinvent themselves. Innovation is disrupting the status quo but simultaneously increasing the prominence of technology as a tool for educating more students online (Christensen & Eyring, 2001).

As new online student populations propagate for institutions, so does the necessity for training initiatives, reliable technology systems and support, and innovative instructional design services. Dzuiban, Shea, and Arbaugh (2005) contended that instructors transitioning into online teaching environments have demands placed on them that contradict most of the course organization,

student interaction, assessment, and workload expectations they were accustomed to in face-to-face teaching.

Institutions of higher learning are complex organizations with missions of teaching, research, and service that are often dependent on current leadership and governance interpretations of those missions. In knowledge-based organizations, administrators must be accountable for providing resources vital to creating and sustaining credible, affirmable, and effective delivery of education to their students and other constituents. Work environments for faculty teaching in distance education programs in higher education must include support services that are innovative and designed to foster effective online pedagogy.

As discussed in the review of the literature, library science educators have been at the forefront of using technology to meet the needs of students at a distance since the early 1990s (Barron, 1996). Becnel, Moeller and Pope (2016) suggested that library science education merges practice and theory relevant to other disciplines and supported "embedded librarianship" to teach information literacy and research practices. This strengthens the argument that library science represents a cross-section of academe.

The researcher studied faculty in library science programs because of the unique and wide-reaching interconnection the discipline has with academe, information collection and dissemination, and technology-assisted teaching and learning. Throughout the process of the study, the researcher had numerous conversations and electronic mail exchanges with deans, department chairs, and individual faculty in the discipline of library science. These conversations provided valuable context that not only guided the researcher but also consistently revealed attitudes of commitment to scholarship and dedication to quality distance education pedagogy.

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APPENDIX A – MLS FACULTY SATISFACTION SURVEY

1. What is your gender?

- ◯ Female
- ◯ Male

2. What is your ethnicity?

- ◯ African American
- ◯ American Indian
- ◯ Asian/Pacific Islander
- ◯ Caucasian (White)
- ◯ Hispanic
- ◯ Other (please specify)

3. What is your age?

4. Please indicate your current teaching employment status.

- ◯ Full-time
- ◯ Part-time
- ◯ Adjunct
- ◯ Graduate teaching assistant
- ◯ Other (please specify)

5. Please indicate the number of years you have taught in higher education. (Please include all teaching, including graduate teaching assistantships.)

6. Please indicate the number of years you have taught distance education courses. (Please include all distance education teaching, including graduate teaching assistantships).

7. Please indicate the number of distance education courses you have taught over the last 12 months.

8. Please indicate the primary learning management system you use to support your distance education courses.

- ◯ Blackboard
- ◯ Cornerstone
- ◯ Edmodo
- ◯ Moodle
- ◯ Skillsoft
- ◯ SumTotal Systems
- ◯ Desire2Learn
- ◯ Other (please specify)

9. Please indicate the other learning management systems you use to to support your distance education courses. (Check all that apply)

- ☐ Blackboard
- ☐ Cornerstone
- ☐ Edmodo
- ☐ Moodle
- ☐ Skillsoft
- ☐ SumTotal Systems
- ☐ Desire2Learn
- ☐ Other (please specify)

10. Please indicate the primary delivery modality you use to teach distance education courses.

- ◯ Web-based asynchronous delivery
- ◯ Web-based synchronous delivery, using live meeting software)
- ◯ Hybrid or blended
- ◯ Two-way videoconferencing or telepresence
- ◯ Satellite delivery
- ◯ Removable media delivery (DVD, CD, or other removable data storage)
- ◯ Other (please specify)

8. Please indicate the primary learning management system you use to support your distance education courses.

- ◯ Blackboard
- ◯ Cornerstone
- ◯ Edmodo
- ◯ Moodle
- ◯ Skillsoft
- ◯ SumTotal Systems
- ◯ Desire2Learn
- ◯ Other (please specify)

9. Please indicate the other learning management systems you use to to support your distance education courses. (Check all that apply)

- ☐ Blackboard
- ☐ Cornerstone
- ☐ Edmodo
- ☐ Moodle
- ☐ Skillsoft
- ☐ SumTotal Systems
- ☐ Desire2Learn
- ☐ Other (please specify)

10. Please indicate the primary delivery modality you use to teach distance education courses.

- ◯ Web-based asynchronous delivery
- ◯ Web-based synchronous delivery, using live meeting software)
- ◯ Hybrid or blended
- ◯ Two-way videoconferencing or telepresence
- ◯ Satellite delivery
- ◯ Removable media delivery (DVD, CD, or other removable data storage)
- ◯ Other (please specify)

APPENDIX B – IRB APPROVAL LETTER FOR EXEMPT REVIEW

UNIVERSITY OF SOUTH CAROLINA

OFFICE OF RESEARCH COMPLIANCE

INSTITUTIONAL REVIEW BOARD FOR HUMAN RESEARCH
APPROVAL LETTER for EXEMPT REVIEW

This is to certify that the research proposal: **Pro00051208**

Entitled: *Perceptions of Satisfaction and Support Services Among Faculty Teaching Distance Education Courses in American Library Association-Accredited Masters of Library and Information Studies Programs*

Submitted by:

Principal Investigator: David S. Adams
College/Department: Education
Education Leadership & Policies
1244 Blossom Street, Room 207
Columbia, SC 29208

was reviewed in accordance with 45 CFR 46.101(b)(**2**), the referenced study received an exemption from Human Research Subject Regulations on **12/17/2015.** No further action or Institutional Review Board (IRB) oversight is required, as long as the project remains the same. However, the Principal Investigator must inform the Office of Research Compliance of any changes in procedures involving human subjects. Changes to the current research protocol could result in a reclassification of the study and further review by the IRB.

Because this project was determined to be exempt from further IRB oversight, consent document(s), if applicable, are not stamped with an expiration date.

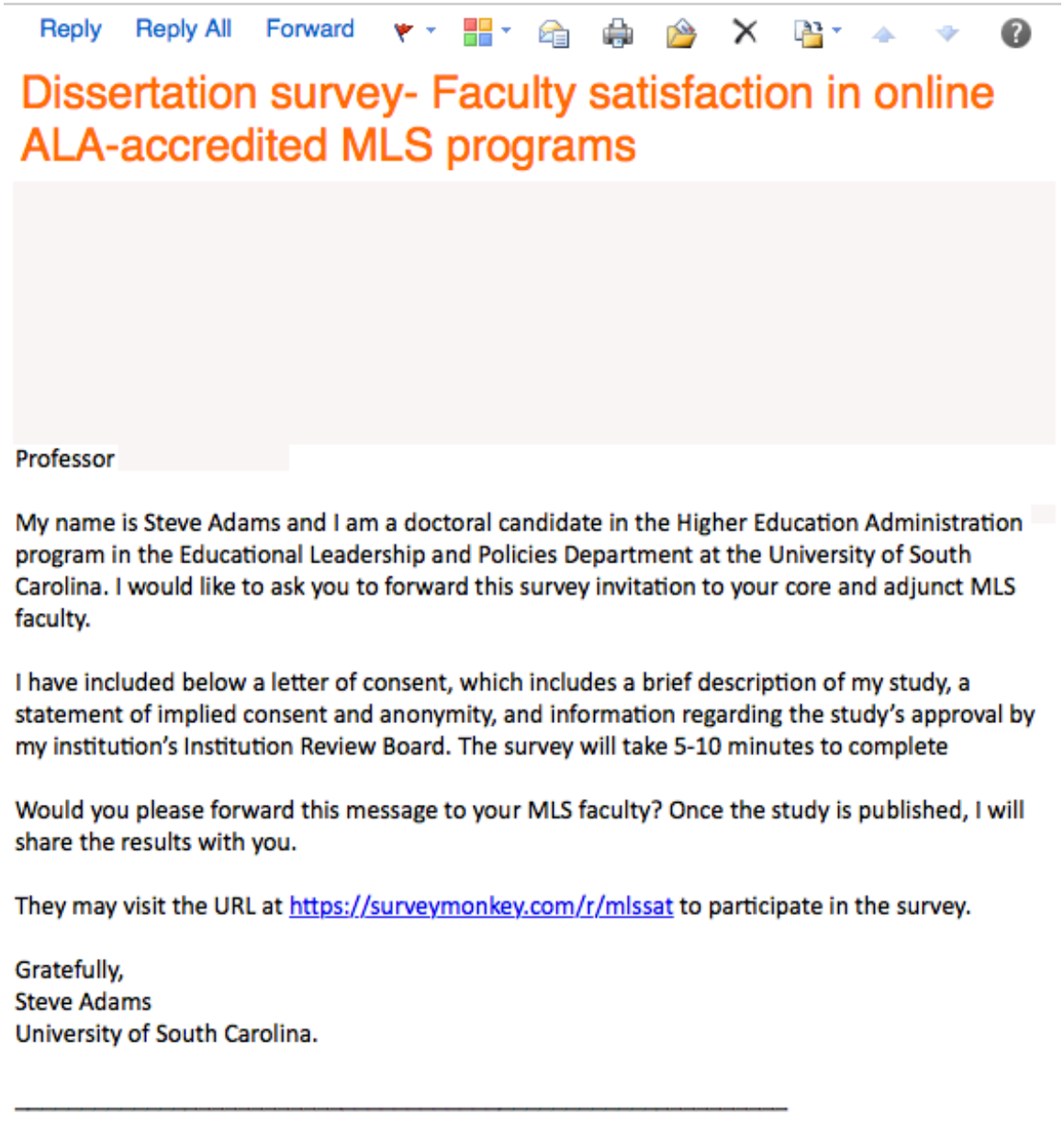
Research related records should be retained for a minimum of three (3) years after termination of the study.

The Office of Research Compliance is an administrative office that supports the University of South Carolina Institutional Review Board (USC IRB). If you have questions, contact Arlene McWhorter at arlenemc@sc.edu or (803) 777-7095.

Sincerely,

Lisa M. Johnson
IRB Manager

APPENDIX C – ELECTRONIC MAIL TO DEPARTMENT CHAIRS



Reply Reply All Forward

Dissertation survey- Faculty satisfaction in online ALA-accredited MLS programs

Professor

My name is Steve Adams and I am a doctoral candidate in the Higher Education Administration program in the Educational Leadership and Policies Department at the University of South Carolina. I would like to ask you to forward this survey invitation to your core and adjunct MLS faculty.

I have included below a letter of consent, which includes a brief description of my study, a statement of implied consent and anonymity, and information regarding the study's approval by my institution's Institution Review Board. The survey will take 5-10 minutes to complete

Would you please forward this message to your MLS faculty? Once the study is published, I will share the results with you.

They may visit the URL at https://surveymonkey.com/r/mlssat to participate in the survey.

Gratefully,
Steve Adams
University of South Carolina.

APPENDIX D – LETTER OF CONSENT

Letter of Consent

Dear Library Studies Faculty Member,

My name is Steve Adams and I am a doctoral candidate in the Higher Education Administration program in the Educational Leadership and Policies Department at the University of South Carolina.

I am inviting you, as a faculty member in library and information studies, to participate in my dissertation research. The focus of my research is to determine if technology support and other institution support services improve satisfaction among faculty teaching in online ALA-accredited masters of library and information studies programs Please consider assisting me by completing a brief survey about your perceptions about support services at your institution. The survey is online and should take approximately 10 minutes to complete.

Your participation in this study is completely voluntary and you may withdraw at any time. Individual responses will be keyed for statistical analysis purposes only. Your anonymity is assured and your identity will not be revealed. Your university will not be identified other than on the sample population list. All answers provided on the survey are completely anonymous and data from this research will only be reported in the aggregate.

The study was approved by the University of South Carolina's Institutional Review Board on December 17, 2015, protocol number Pro00051208. By accepting this invitation and taking the survey, consent to participate is implied. You may exit the survey at any time or decide not to respond to any question you are not comfortable answering.

I'm happy to answer any questions you have about the study. Please contact Steve Adams, doctoral candidate and primary investigator at [redacted] or you may contact my faculty advisor Dr. Katherine Chaddock at [redacted] for questions or concerns. If you have questions about the conduct of the study or your rights as a research participant, you may contact the Office of Research Compliance at the University of South Carolina at [redacted].

Thank you for your considering participating in this study. To participate, please click on the following link to begin the survey:
https://www.surveymonkey.com/r/_____.

With regards,

Steve Adams
MMA, Ph.D. Candidate
University of South Carolina
Columbia, SC 29208