Public Librarian Perceptions: Use of and Preparedness to Perform CILF Competencies

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Public Librarian Perceptions:
Use of and Preparedness to Perform CILF Competencies

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A Dissertation Presented to
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of the Requirements for the Degree
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COMPETENCY USE AND PREPAREDNESS BY PUBLIC LIBRARIANS

Lynchburg, Virginia

APPROVAL OF THE DISSERTATION

This dissertation, Public Librarian Perceptions: Use of and Preparedness to Perform CILF Competencies, has been approved by the Ed.D. Faculty of Lynchburg College in partial fulfillment of the requirements for the Ed.D. degree.

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Abstract

This study surveyed public librarians from American Library Association accredited library and information science programs to ascertain their perceptions regarding their usage of the Online Computer Library Center’s 2015 Competency Index for the Library Field in identifying discrete activities in which librarians engage. Further, study participants were surveyed regarding their perceptions of preparedness from the library and information science program to perform these competencies. Two hundred sixty-two respondents, out of 511, completed the survey in its entirety. The study sought to determine if competency use and feelings of preparedness were affected by the independent variables of type of school attended (traditional or iSchool) and type of library job (youth services, reference, collection management, and administrative). While the interaction of school AND job is not significant in reporting perceptions of preparedness, those attending iSchools reported feeling more prepared than those attending traditional schools in four of the five competency areas. These competencies included personal skills, library collection, library management, and public service. Youth service librarians reported feeling more prepared than other librarian types for public service skills. Data suggests that CILF competencies are representative but that certain types of librarians from iSchools feel better prepared to perform them while another type and all types from traditional schools feel unprepared.
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Chapter I

Over the past decade, the public has enjoyed unprecedented access to and manipulation of knowledge, due to the proliferation of internet resources. Librarians have historically served as information retrievers to the general public and academia alike, but this expansion of public access to information has changed the field. Librarianship and the technology that has made public access possible will evolve side by side well into the future. Whether the profession thrives or survives may be determined by how well library schools are preparing librarians for the rapid evolution of the profession. Thus, this study seeks to determine if library school graduates perceive that their library information science (LIS) schools have adequately prepared them for this changing role; whether commonly accepted library professional competencies are applicable to the field; and if there are interactions between the type of librarianship practiced and the type of library school attended in relation to preparation and competency applicability.

Problem Statement

Research measuring librarian perceptions of preparedness by LIS programs is scant. Studies reveal the current state of library schools (Lynch, 2008), content (Chu, 2012), and a gap between workforce demands, professional competencies (Papaconstantinou, Chatzimari, & Tsafou, 2008), and LIS curricula (Lester & Van Fleet, 2008). The profile of the ideal library professional begins to take shape through the work of Haycock (2011), Hedlund and Copeland (2013), Heinrichs and Lim (2008) and Latham, Whitte and Gross (2013). These characteristics include technologic agility, management finesse, and leadership prowess. Additionally, professional competencies have been established in a round-table manner with librarians, library users and related professionals through the Online Computer Library Center, Inc. (OCLC) and
accepted as industry standard (Online Computer Library Center, Inc, 2014). However, few contemporary studies attempt to determine if librarians themselves perceive the representativeness of these competencies in the workforce and their presence within LIS curricula, much less prepare them to perform these competencies. The two studies that do exist examined practicality of course content, offered recommendations for change (Noh, Ahn, & Sang-Ki, 2012) and measured librarian preparedness for management demands in the workforce (Schreiner & Pope, 2011). Both reveal a gap between practicality of the curricula and subsequent feelings of preparedness for the workplace. Both call for additional research, which this study attempts.

Purpose

The purpose of this research is to contribute to the body of knowledge regarding actual workplace demands, whether OCLC competencies represent those demands, by measuring usage, and whether LIS curricula prepare public library professionals for those demands, as self-reported by the profession itself. Further, this research seeks to engage LIS curricula directors in conversation about the results of the work and the implications therein.

Hypotheses and Research Questions

This study seeks to determine whether type of librarianship and type of LIS program are related to the use of CILF competencies and perceptions of preparedness to perform CILF competencies. The following research questions and hypotheses are presented:

1. Does type of librarianship (Youth/Children’s Services, Collection Management, Reference/Public/Adult Services, Administration) affect the reported usage of CILF competencies in the workplace?
H1: Public librarians who work in Reference/Public Service and Administration library fields will report more frequent usage of CILF competencies than other types of librarianship.

2. Does the type of LIS program (iSchool vs. traditional) affect the reported usage of CILF competencies in the workplace?

H2: The type of LIS program (iSchool vs. traditional) will have no effect on whether librarians on the reported frequency of usage of CILF competencies.

3. Does type of librarianship (Youth/Children’s Services, Collection Management, Reference/Public/Adult Services, Administration) affect perceptions of preparedness to perform CILF competencies?

H3: Youth Services and Collection Management librarians will feel more prepared to perform CILF competencies place than other types of librarians.

4. Does type of LIS program (iSchool vs. traditional) affect perceptions of preparedness to perform CILF competencies?

H4: Graduates of LIS programs in an iSchool context will feel more prepared to perform CILF competencies than non-iSchool graduates.

5. Do type of librarianship and type of LIS program interact to affect perceptions of preparedness of perform CILF competencies?

H5: iSchool prepared Youth Services and Collection Management types of librarianship will report greater perceptions of preparedness to perform CILF competencies.

6. Do type of librarianship and type of LIS program interact to affect reported frequency of use of CILF competencies?
H$_6$: iSchool prepared Youth Services librarians will report greater usage of CILF competencies than other types of librarians.

Significance of Study

This study is significant in being the first of its kind to a) measure the usage of accepted professional competencies and b) measure librarians’ feelings of preparedness to perform these competencies. The literature review that follows will demonstrate that researchers circle the topic, performing studies of curricula, actual demands, and even perceptions regarding one competency, but fail to ask the larger question: how prepared do public librarians feel for work force demands by their LIS program? Further, this study is significant in its goal to begin bridging the gap indicated by the literature review and start the conversation between library science practitioners and the academics that train them.

Conceptual Framework

The conceptual framework for this research hinges on librarian-reported perceptions that CILF competencies are used in the workplace and thus representative of actual workplace demands and whether their LIS program prepared them to perform the same. Further, this research sought to determine if these feelings are affected by varying types of LIS programs and librarianship.

Methodology

This mixed methods study solicited the input of public librarians who have matriculated in the past 10 years from an American Library Association (ALA) accredited program. A pilot survey (Appendix A) was developed and reviewed and refined by the State Librarians of both North Carolina (Caroline Shepherd) and Virginia (Sandra Treadway). Further, the pilot survey
was distributed via SurveyMonkey to a group of North Carolina librarians, as directed by Caroline Shepherd. The review of the State Librarians as well as the pilot group provided distinct feedback for revision. The research survey (Appendix B) was subdivided by OCLC competency set and edited for clarity, brevity, and completion requirements.

The survey was distributed via social media, such as Facebook, LinkedIn, Twitter; through state library association listservs, at the request of the Virginia Library Association Executive Director, Lisa Varga; to the listserv of State Librarians by Sandra Treadway, Librarian of Virginia; and by personal contacts throughout the library field. It is impossible to know the number of potential participants viewed the link, due to the viral nature of this distribution process. However, automated logic was used to eliminate responses from anyone who did not fit the participation parameters of 10 years of less since LIS program matriculation from an ALA accredited school or did not serve the public library community. It is also impossible to know how many individuals began the survey and were sorted out via this logic tree. Five hundred twenty-six participants began the survey. Due to incomplete data, erroneous identification of type of librarianship (some indicated public librarianship but in other answers stated they worked in academic libraries), or otherwise disqualifying instances, the pool was reduced to 264 respondents who matched all criteria and completed all questions.

Limitations

This methodology relied solely on self-reporting and neglects the views of those served by the population and those who supervise the population. Librarians may feel a certain way about their performance within each competency, but their supervisors and those whom they serve may report different perceptions. Thus, reported perceptions are those of the participants and cannot be considered common in the 360 degree view of service. Further, this study lacks
generalizability to academic librarians. Additionally, over half of the respondents are located within Virginia and North Carolina and thus may not fully represent the entire experience of the librarians in other locations. Finally, the length of the survey appeared to deter completion and limited the pool of respondents. Replication of this study surveying a population encompassing all types of librarians nationwide would further illuminate the relevance of professional competencies and LIS program applicability.

**Definition of Terms**

A number of acronyms are prevalent in the field and thus in this study. These include:

- **ALA**: The American Library Association, the national professional organization. [www.ala.org](http://www.ala.org).

- **CILF**: “Competency Index for the Library Field,” a set of competencies established by a working group of the Online Library Computer Center (see below), found at [http://www.webjunction.org/documents/webjunction/Competency_Index_for_the_Library_Field.html](http://www.webjunction.org/documents/webjunction/Competency_Index_for_the_Library_Field.html).

- **iSchool**: library schools that have been enfolded within or sharing a dual purpose with information and science technology schools in a university setting.

- **ICT**: information and communication technology: refers to set of skills common in librarianship.

- **IMLS**: Institute for Museum and Library Services, the federal agency that serves as the distributor of federal funds and sets guidelines for the field. [www.imls.gov](http://www.imls.gov)

- **LIS**: Library and Information Science, the acronym describing the field of study.
• MLIS: Master’s of Library and Information Science, one iteration of the degree title from an LIS program.

• MLS: Master’s of Library Science, one iteration of the degree title from an LS program.

• OCLC: Online Computer Library Center, a non-profit library research and service provision firm. [www.oclc.org](http://www.oclc.org).

• PLA: the Public Library Association, a subset of the ALA focusing specifically on public libraries, [www.pla.org](http://www.pla.org).

**Organization**

Chapter 2 will discuss search terms and databases that produced the literature review to follow. The literature is organized in three sections. The first section describes the current state of library science education, its challenges and evolution; the second section reviews literature that profiles the ideal library professional, as defined by workplace demands; while the third section reviews studies that are as similar to the proposed study as could be found. These studies ask library professionals about the practicality of and their perceptions of course work in preparing them for real work force demands.

Chapter 3 discusses the methodology for this research, including research questions; a description of the development of the instrument (which is found in the Appendix A and B) and subsequent research procedures. Chapter 4 will present the data, broken down by OCLC competency subsets of Essential or Core Competencies; Library Collection Competencies; Library Management Competencies, and Public Services Competencies, in relation to the independent variables. Chapter 5 will discuss implications found in the data and present research implications.
Chapter II

Literature Review

Public library services continue to evolve in the midst of this information age (Noh, Ahn, & Sang-Ki, 2012). So too do the requirements of those providing these services (Online Computer Library Center, Inc, 2014). Public librarians continually adapt to new sources, delivery methods, and technologies related to that provision (Clay III & Bangs, 2000). Are library school curricula keeping pace? Are commonly accepted competencies relevant to workplace demands? Are these competencies taught within library school curricula? Does the kind of librarianship being practiced influence these perceptions? This literature review attempts to assess previous research regarding the perception of preparedness for the workplace by Masters of Library and Information Science (MLIS) graduates.

Search Methods

Literature results were limited to the years from 2008 to present, as the field has evolved quickly in response to technologic and economic conditions never before experienced by the profession (Heinrichs & Lim, 2008; Singh & Mehra 2013). The following keywords were used in multiple combinations to uncover literature related to the competencies espoused and effectively transmitted by MLIS programs to its graduates and its relevance to real world library applications: Assessing librarian competencies; library career outcomes; competent information professional; measuring curriculum efficacy; curriculum effectiveness; information competency; librarian evaluation; librarian preparation; librarian perceptions of preparedness; Library competencies measurement; library job preparation; job preparation survey; measuring library competency; measuring information competency; real world library skills; training effectiveness.
Search engines used included Lynchburg College’s One Search, with ERIC and Worldcat proving particularly useful; www.infomine.ucr.edu; www.yippy.com; Literati-Credo Reference; www.google.com; and www.ALA.org. The resulting literature outlined the current state of library education and the ideal profile of an effective library science professional, but only two formal studies emerged that surveyed MLIS students or graduates regarding a comparison of outcomes, or practicality of, courses to their real world application.

Literature Review Structure

This literature review will present four topics. The first topic establishes a standard for American Library Association institutional accreditation (American Library Association, 2015) as well as library competencies, commonly accepted in the field (Georgy, 2010/2011). The second section presents the current state of library science education. The third section presents a profile of the ideal library professional, as established by the literature. The fourth section presents the only two studies uncovered, using the methods stated above, that actually assess the perceptions of MLIS graduates regarding the practicality or outcomes of their LIS coursework. Upon completion of the review, implications will be discussed.

Establishing a Standard

The American Library Association (ALA) is the recognized national professional organization for the library professionals. The ALA was founded in 1876 with the stated mission “to provide leadership for the development, promotion and improvement of library and information services and the profession of librarianship in order to enhance learning and ensure access to information for all (American Library Association, 2015). The ALA also accredits Library and Information Science programs through a review process conducted by external practitioners and academics. The review seeks to ascertain whether the program meets the
criteria set forth in *Standards for Accreditation of Master’s Programs in Library and Information Studies*, published by the ALA; whether faculty, support resources, evaluation tools and overall curriculum are matched with the program’s mission and objectives; and that students can be expected to meet or exceed the requirements for completion of the program (American Library Association, 2015). Further, the accredited program must reside within an institution that is also accredited by its own appropriate accrediting agency.

These standards, updated in 2015, are purported to provide public accountability as well as improved academic quality, judged by the demonstrated results of supporting the educational development of its students. After a six year process, this iteration of standards departs from the previous prescriptive standard application and asserts a new posture: “The Standards are indicative, not prescriptive, with the intent to foster excellence through a program’s development of criteria for evaluating effectiveness, developing and applying qualitative and quantitative measures of these criteria, analyzing data from measurements, and applying analysis to program improvement.” (American Library Association, 2015) However, the ALA also retains a philosophy of measuring programs for accreditation by the attainment of goals and objectives set by the institution, not the ALA.

The Standards are set forth in four parts: Systematic Planning; Curriculum; Faculty; and Administration, Finances and Resources. For the purposes of this research, accreditation standards regarding curriculum are relevant. The curriculum standards require a goal and objective based program that is evolutionary in nature and constantly updated for currency in the field. The curriculum standards are based on information management and use and the services and technologies that facilitate the same. The curriculum standards are split into 6 specific realms as follows:
1. Fosters development of library and information professionals who will assume a leadership role in providing services and collections appropriate for the communities that are served;
2. Emphasizes an evolving body of knowledge that reflects the findings of basic and applied research from relevant fields;
3. Integrates technology and the theories that underpin its design, application, and use;
4. Responds to the needs of a diverse and global society, including the needs of underserved groups;
5. Provides direction for future development of a rapidly changing field;
6. Promotes commitment to continuous professional development and lifelong learning, including the skills and competencies that are needed for the practitioner of the future.

(American Library Association-Committee on Accreditation, 2015)

Interestingly, the 2009 ALA Council adopted core competencies for the library profession (American Library Association, 2009), which do not appear to be repeated, updated, or evaluated with the 2015 standards. The Standards broadly encompass many of the OCLC standards previously discussed. OCLC fleshes out ALA standards and provides a level of detail that the standards lack. This research seeks to ascertain whether the OCLC competencies, hung on the ALA framework, are an effective articulation of the skills of librarians in the workplace and a comment on the efficacy of ALA accredited schools.

The ALA asserts that “Graduating from an ALA-accredited program provides flexibility in the types of libraries and jobs you can apply for and enhances career mobility. Many employers require an ALA-accredited master's degree for professional level positions, and some states require an ALA-accredited degree to work as a professional librarian in public or school libraries” (American Library Association, 2015). While this may be accurate, this research seeks to determine if accreditation also indicates preparedness for the workplace. Mulvaney and O’Connor point out that “this approach does not necessarily meet the intent of the standards in providing a coherent and consistent body of knowledge to be mastered by MLIS graduates,” (O'Connor & Mulvaney, 2013) However, the Online Computer Library Center has
attempted to provide a set of standards to contribute coherency and consistency to library graduate expectations.

The *Competency Index for the Library Field* (Online Computer Library Center, Inc, 2014) –CILF—has served as the library profession’s basic competency set since its first publication in 2009 and will be considered the standard for this review. It is compiled from input from a wide variety of library leaders and practitioners and in concert with other library associations, such as the American Library Association (ALA), and the state associations of California, Colorado, Kansas, New Jersey, North Carolina, and Ohio, as well as several other library topic-related associations, such as the Colorado Virtual Library Technology Association. This index is partially funded by the Institute of Museum and Library Services, the primary source of support (financial, research, and policy) for libraries in the United States (Online Computer Library Center, Inc, 2014).

The CILF is broken into 5 subsets: essential library competencies; library collection competencies; library management competencies; public service competencies; and technology competencies. Each subset describes as few as two (essential competencies) to as many as eleven (management competencies) with the majority of the competencies surrounding issues related to human (communication, supervision, strategic planning, staff development, leadership, etc.) and technology (automation, software, public access technology, technology planning) management. This emphasis reflects the evolution of the responsibilities of a contemporary librarian, with “emphasis on communication, collaboration, critical thinking and creativity. Technology is ubiquitous. Self-directed learning and innovation are highlighted throughout.” (Online Computer Library Center, Inc, 2014, p. 1)
While the listed competencies were developed by a broadly representative working group, no independent research was discovered testing the accuracy or comprehensiveness of the list. So, while the index asserts that these competencies are fundamental to everyone who works in a library, two questions arise: are these competencies accurate and do the schools that supply MLIS degrees include these competencies in their curricula? This literature review attempts to assess these questions, beginning with the current state of library science education followed by emerging trends and profiles of the ideal library professional; and culminating with the identification of a lack of research regarding the views of the library practitioner.

**Current State of Library Science Education**

Since its inception, library science has evolved around creating a context and framework on which to store knowledge, i.e. cataloging, archiving, and organizing. This section of the literature review will address the current structure of library science education (Lynch, 2008); the use of competencies in curriculum development (Lester & Van Fleet, 2008); the variability among types of degrees (Chu, 2012); and the overarching demand for technology competencies on all fronts (Singh & Mehra, 2013).

Today’s information demands focus on user access rather than repository creation (Georgy, 2010/2011). Lynch examined program records and catalogs and used this examination to describe the evolution of library school curricula as well as the tensions created by the evolution of knowledge and its management (Lynch, 2008). Lynch described the path from inception through the information revolution, noting that respected schools eliminated library programs, such as Columbia University, or enfolded them within information technology programs, such as Valdosta State University, UCLA-Berkeley and California State University-Northbridge. Lynch asserted that these developments “suggest that market analyses and
assessment of student and employer demand is leading some schools to turn again to professional education for the library environment.” (Lynch, 2008, p. 946) Contemporaneous with Lynch’s description of the MLS education, research was being conducted to compare American Library Association requirements for MLS education accreditation with the practical hiring needs of library directors.

**Use of Competencies in Curriculum & Professional Development**

Lester and Van Fleet (2008) proposed that accreditation guidelines required by ALA to guide curriculum development were not in sync with the needs and demands of library directors, whose practical hiring needs do not match these guidelines. They sought to ascertain the different weight and utility that guidelines are given in curriculum development vs. hiring.

The theoretical underpinnings of this research were based on the 1994 Public Library Association (PLA, a division of ALA) competencies, which were dated at the time of their writing and the researchers suggested that an update reflecting actual practice was in order. Such competencies could then be reflected in the curricula. They then suggested a comparison between competency sets and their utility in public libraries. Lester and VanFleet’s mixed methods study utilized content research of competency documents and surveys. One survey went to state library professionals inquiring about their use of competencies in developing requirements for state librarianship certification. A second surveyed a stratified sample of public library directors and their use of professional competency lists in hiring and professional development planning. A third survey was conducted among the faculty in charge of LIS curriculum in ALA-accredited programs. Twenty-four out of 56 responded. The surveys included structured and open-ended questions. Limitations include an over-representation of
schools in the mid-west, and under-representation of schools in the north-east, and under-representation of programs with doctoral as well as graduate programs.

Lester and VanFleet’s content analysis of curricula found that less than half mentioned professional competencies in their program descriptions, and when they were, they did not reference a specific organization or competency document, with the Special Libraries Association list of competencies most frequently mentioned. The survey of LIS program directors revealed that 50-60% reference competencies from a variety of accrediting bodies (subsets of ALA) as general background to inform curriculum development and expected graduate skills. State libraries, as revealed by the survey, are the second most frequent users of competency sets behind the LIS programs, using or referencing them between 20 and 45% of the time. Conversely, however, public library directors surveyed report a usage of less than 10% to 30% usage of competency sets when hiring or planning professional development activities. They also ranked the competency statements “not useful at all” 39% (representing a majority on the Likert-based scale) whereas 56% of LIS schools rated them very useful in curriculum planning (Lester & Van Fleet, 2008).

Thus, Lester and VanFleet noted a disconnect present in LIS school curriculum development’s use of competency sets and practical use by public library directors. Instead, Lester and Van Fleet asserted that LIS schools and real world practitioners focus on:

- The degree of agreement with practice on what the outcomes of the educational process should be,
- The importance that the schools attach to the demands of the primary market for their products, or
- The concern of the schools to be in compliance with the particulars of the Standards for Accreditation.

Lester and Van Fleet (2008) called for further research, suggesting that those bodies creating competencies consult with practitioners in their development. The year following Lester and Van
Fleet’s recommendations, OCLC published their first set of competencies in conversation with practitioners, hiring directors, LIS curriculum directors, and public representatives (Online Computer Library Center, Inc, 2014). This development began to address some of Lester and Van Fleet’s recommendations. At the same time, LIS education continued its evolution in response to technology, user demand, and the academic market (Lynch, 2008). Chu (2012) studied this shift and its impact on the profession.

**iSchool vs. Traditional**

Current library education options include iSchools—those enfolded within or sharing a dual purpose with information and science technology schools—and non-iSchools, or traditional library science graduate programs (Lynch, 2008). This variability in educational preparation may contribute to differing degrees of perceived preparedness, an independent variable this research proposes to explore. Chu (2012) investigated the comparability of traditional library schools against those that have been combined into information science schools within accredited institutions, continuing the investigation of whether library schools are adequately preparing future librarians for the digital age. Chu’s methodology compared curricula of 10 ALA accredited schools, 5 of which were in the context of an iSchool model and the other 5, a traditional model. He compared required and elective courses by their course descriptions. Two main flaws exist within this design—a lack of generalizability and the potential mismatch between course descriptions and course content.

Chu found few differences between programs. The greatest variability was the titling of the resulting degree, varying between Master of Library Science, Master of Library and Information Science, and Master of Science in Information Science. Tracks or concentrations were not noticeably varied. Quantity of electives did prove greater in iSchools than non-iSchools
and distance education was more frequently offered in the iSchool setting. iSchools also placed a greater emphasis on research and doctoral degrees.

Chu’s work illuminates the controversy regarding the titling, depth and expectation of the information science world but is also limited in its scope. Chu thus demonstrated a demand for additional ranges of educational accomplishment within the discipline but did not discuss whether its content meets the needs of the contemporary librarian. Chu called for additional study to be done regarding the essential and appropriate future of librarianship and for all else to be set aside for the good of the profession (Chu, 2012).

Technology Competencies

Technological competence has been a critical component in LIS education from the earliest published competencies in 1994 by the Public Library Association (Lester & Van Fleet, 2008) to the current trend towards 100% online LIS programs (Chu, 2012). It is unsurprising that technology skills have been studied specifically for the library professional.

Asserting that contemporary librarianship has technology at its heart, Singh and Mehra (2013) took up research regarding information and communication technology (ICT) skills presented in library education programs, based on curriculum analysis of 25 library and information science schools, all of which are ALA accredited and ranked by the U.S. News and World Report. Singh and Mehra were motivated by the rapidly changing pace of technology in the delivery of information services, as well as the expectation that librarians keep pace as translators of not only information but its myriad delivery platforms. Their framework hung on a curricular evaluation in the context of employers’ expectation of LIS graduates, as based on evolving job descriptions.
Their qualitative, five-step protocol began with obtaining a sample of the 100 top rated schools (all ALA accredited), as ranked by the US News and World Report. The top 25 were selected as influential and likely representative. Next, curricula were examined for commonalities and exceptionalities. Frequency of course offering was not considered. Third, courses were analyzed and placed in an "IT" or 'Non-IT" category. Fourth, using the OCLC Competency Index from 2009, the researchers established 28 IT competencies for comparative purposes. The final step involved a detailed comparison of competency and course lists. The comparison found that the highest rate of commonality between competency and course was 15 out 28 competencies being taught and the lowest rate 3 out of 28 competencies being taught, although the researchers noted that one class might cover more than one competency. Overall, Singh and Mehra report a marked gap between what is demanded by OCLC competencies and employers and what is taught by the top LIS schools. The least offered skill set revealed, yet highly needed, included email programs, photo-editing programs, core hardware, core operating systems, core software applications, advanced hardware, presentation programs, e-resource management, and technology training.

While limited in analyzing only ICT skills, the pair illuminated the preparedness—the “technological agility” (Singh & Mehra, 2013, p. 221)—of LIS graduates from these schools. They concluded that LIS students, their future employers, and those they serve are being done a disservice by not adequately preparing librarians for the real demands of the work place and focusing instead on sometimes archaic, often field specific platforms (Singh & Mehra, 2013). Indeed, this gap appears to be global. The next study examined is that of Greek researchers, Papaconstantinou, Chatzimari and Tsafou (2008), who reported on a study comparing US, UK, and European library curricula to their own and a survey of their own.
Papaconstantinou, et al., (2008) acknowledged the rapid change within information management and delivery systems and thus sought to determine if the LIS curriculum in their university was keeping pace, and equipping their graduates with adaptable skills for "employability for life" (p.121). Set in the Technology Education Institute in Athens, the LIS program benefited from its assignment to the Economics department, as it lent an entrepreneurial filter to the program. However, the increased demand for consistent standards across the European Union demanded that the program be evaluated for relevance. The research intention was to compare TEI LIS education with others as well as design a process by which the curriculum could be revamped. Papaconstantinou and his colleagues conducted a literature and curriculum review of LIS schools in the US, UK, Canada, and other EU programs. Then, students of TEI LIS completed a small sample survey, as did potential employers. Limitations included limited generalizability to other institutions, as well as its small sample size.

The literature and curriculum review produced a portrait of the TEI LIS program that was consistent and comparable with other LIS programs across those evaluated. Student surveys were conducted among those in the final year of their studies, 57 of whom responded, representing 90% of the potential population. These surveys revealed that 67% felt that courses needed to be modernized; 40% felt that new courses should be developed; 26% that some courses should be eliminated altogether; and 37% felt course objectives were not consistent with practice. Eighty-six percent suggested that technology based courses were needed and that there was a perceived gap in technology skills, knowledge management, search skills, and retrieval methods taught and those needed in the workplace (Papaconstantinou, et al., 2008, p.125).

The results of employer (library managers) surveys echoed that of the students: with a 5.9 mean on a 10 point Likert scale on the need for expanded computer skills. They also suggested
that courses be improved or introduced on the same topics as the students but suggested that the greatest weakness was a lack of familiarity with a variety of search engines. Further, the library managers suggested communication as a critical skill. Overall, the library managers reported a desire for graduates to have a comprehensive knowledge in technology issues, managerial expertise and knowledge organization.

The researchers then proposed a curriculum with 5 subsets: general education; systems and information technologies; management; organization of information; and information provision (Papaconstantinou, et al., 2008). Interestingly, the communication aspect specifically mentioned by library managers is not listed among the courses of each subset. The researchers concluded that the educational model could do a better job of reflecting workplace demands and called for additional study.

This compilation of literature portrays an LIS education model that, while evolving, remains at odds with workplace demands. All four studies reviewed demonstrate disconnects between LIS education, stated competencies and/or their use. Singh and Mehra (2013), note in particular, the gap in technologic competencies required in the workplace and those taught in LIS programs. Papaconstantinou, et. al, (2008) sum up the assertion of all researchers in this section, stating, that the educational model should reflect the professionals the MLIS programs are attempting to produce.

So what kind of professional is that? Leaving behind this glance at the current state of library science education, the next section of this review examines roles currently discussed in the professional body of literature in regards to the nature of the skilled library and information professional.
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Ideal Profile of a Library Science Professional

The ideal library science professional balances leadership (Jordan, 2012), managing a diminished budget (Hedlund & Copeland, 2013), information literacy instruction, and constantly evolving technological access platforms and capabilities (Heinrichs & Lim, 2008). The following literature explores these roles as well as their under-representation in LIS curricula.

Librarian as Leader

By virtue of holding graduate degrees, librarians often find themselves in leadership roles, whether they intended to be so or not. In public libraries, diminishing budgets find fewer and fewer professional librarians and an increasing number of paraprofessionals who look to their degreed colleagues for information, instruction and guidance (Schreiner & Pope, 2011). Indeed, the CILF describes at least 6 competency subsets that are related to leadership, personnel management and development, and community relations, commenting that there are “opportunities to demonstrate leadership at any level” (Online Computer Library Center, Inc, 2014, p. 10). Haycock fleshed out this particular ideal for librarians: “The exemplary library leader is profiled as having outstanding management and communication skills, high emotional intelligence, and the ability to handle emotions and stress with sensitivity for others, along with the ability to motivate the same, in a purposefully set direction” (Haycock, 2011, p. 270).

Haycock attempted a qualitative review of the characteristics of an exemplary library leader, as reported by library staff, trustees, and governing officials/politicians. This review revisited his original work in 2000 to see what, and if, anything had changed, given recent budget crises. He noted the lack of a clear and concise definition of leadership as a limitation of his study but cited relevant research to begin compiling the required characteristics of empathy,
motivational skills, political savvy, behavioral complexity, transformational leadership and networking. Innovation, strategic planning, and vision were also mentioned. Haycock posited that the economic crises of 2007 and beyond made higher demands on the dynamic leadership of library managers for survival of libraries. He noted that leadership competencies within this field had not been defined at the time of his writing and that his study proposed to begin establishing such competencies (Haycock, 2011).

The period of study covered two years, the first including the branch managers themselves and the second making the other interviews and comparisons (Haycock, 2011). Limitations acknowledged included limited generalizability and representativeness. Further, Haycock suggested that additional research towards developing competencies be pursued. The most commonly mentioned traits included:

- Management know-how, in terms of supervising, directing, coordinating, disciplining and mentoring staff;
- A supportive and inclusive disposition with the ability to energize;
- Interpersonal skills for managing difficult people and creating working relationships in a variety of settings;
- Adaptability, flexibility, an open-minded, approachability and curiosity

Further, the stakeholders also cited organizational change and direction setting as mission critical. Decision making, organization, and technology were other reported skill sets necessary for success in the work place. Direct reports cited well-roundedness in job understanding and communication as top competencies. Managers themselves cited emotional intelligence, community relations and job knowledge. Among those nominated as exemplary managers, the
Myers-Briggs Type Indicator personality types most commonly exhibited were ENTJ, ENFJ and ESFJ, in respective order. Haycock commented on the commonality of the extroversion scale and the intuition scale and the judging scale as supportive of the results from the qualitative interviews, affirming the importance of social skills: instinctual knowledge regarding human relations and emotional intelligence; and the importance of sound judgment (Haycock, 2011). The results of this study begin to develop a portrait of the competencies need to be a successful manager in the library field and encourage additional development. Mary Wilkins Jordan (2012) followed suit and examined the traits of effective library leaders in light of the fast-paced evolution of the field.

Jordan (2012) acknowledged the fast pace at which information and library services/information/practice evolve in response to technology and budgetary fluctuations. She acknowledged that library leadership/directors must be equipped to respond to such rapid change in order to be successful (Jordan). In keeping with these conditions, Jordan sought to refine a set of competencies identified from literature as well as opinions of current practitioners. She asserted that a research-based set of competencies would help develop training opportunities and curriculum bases for leadership success and that such a list should be formed by both educators and practitioners. The goal of her study was to provide a bridge between professional research and literature and those actually working in the provision end of the field (Jordan).

Jordan used a mixed methods design, analyzing the data of a previous study analyzing curriculum, as well as performing the Delphi Method, featuring structured interviews of practitioners. Participants were selected by using the Institute of Museum and Library Services annual ranking of libraries, based on 10 criteria. The top directors of the top 100 ranked libraries were consulted. Jordan acknowledged that this cannot guarantee that this pool represents the best
leadership. A further limitation is that the IMLS standards are budget-dependent and thus rely on local funding to even be considered for the list. Two rounds of online surveys were conducted. The first round had 31 respondents out of 100, who were asked to identify the top competencies needed for success in their field in the next 5 to 10 years, based on the competencies offered from the data-mining previously mentioned. There was also an open-ended opportunity to offer their own elaboration if desired. Round 2, also an online survey, had participants rate the value of the identified competencies on a Likert scale. These values were then analyzed through statistical analysis. Round 3 used a similar survey and analysis method (including additional tests, including ANOVA) to analyze responses regarding the imperative of possessing each competency in the next decade. Rounds 2 and 3 saw a decline in participants to 26 and 23, respectively (Jordan, 2012).

This research discovered a shift in competency valuation, depending on the length of service of the respondent. More experienced directors responded with softer skills, such as leadership, budget management, risk taking, HR management, while less experienced directors responded with creativity, enthusiasm, and vision. Overall, however, the following competencies were developed and the research suggested that they be utilized in professional development and curricular activities, as well as considered by the profession in evaluation as a whole: enthusiasm; demonstrating leadership; delegation; accountability; planning; integrity; risk-taking; credibility; resource management; creativity; customer service; interpersonal skills; communication; flexibility; vision; political understanding; maturity; problem-solving skills; advocacy (Jordan, 2012).

Haycock and Jordan both identified leadership skills necessary for success and create profiles that match CILF competencies yet no literature yet identifies where these skills may be
initially learned or subsequently developed. The same is so for financial management and planning.

**Librarian as Fiscal Manager**

Contemporary librarians are forced to manage shrinking budgets along with increased demand. Business models, such as “just in time” ordering, consortium participation, and customer-driven acquisition are common collection development techniques today, yet popular collection development texts reviewed in a 2013 study focus on development principles such as professional review, collection depth and breadth, and populace representation (Hedlund & Copeland, 2013) with little reference to budget management, as required in CILF competency sets. Further, library budget management on the whole is a neglected field of study, as indicated by the dearth of literature on this topic, encompassing budget-related yet individually discrete, competencies such as personnel, project and facilities management. Hedlund and Copeland explored this topic further.

Hedlund and Copeland reflected on the theoretical underpinnings of Reference and User Services Association (RUSA) guidelines and their incompatibility with contemporary budget issues, as basis of "must haves" for a balanced collection instead of a decision-making model in the face of budgetary uncertainty (Hedlund & Copeland, 2013). Hedlund and Copeland’s researched whether LIS curricula prepare students to manage collection budgets given current budget instability. Their stated research question was: Are current collection management practices that have evolved as a result of budgetary constraints included in the LIS curriculum? Their mixed methods research identified ten collection management trends related to budgetary constraints through a review of the literature. Then, collection management educators at
Association for Library and Information Science Education member institutions were identified and surveyed, with 35 respondents, who had widely ranging experience, regarding the inclusion of the aforementioned trends in their curricula. Survey results were analyzed using descriptive statistics and content analysis (Hedlund & Copeland, 2013).

Four trends (collaborative collection development, just-in-time acquisitions, patron-driven acquisitions, and participation in consortia) were mentioned in nearly all curricula; six others were covered with varying frequency. Professional standards were also found to include limited information on collection management. Additionally, a review of two popular collection development texts revealed that very few of the trends were covered in a budgetary context. Educators generally relied on guest speakers and web based content to cover these issues, when they were covered at all (Hedlund & Copeland, 2013). The researchers concluded that not only do curricula need to be revamped but so should RUSA guidelines that drive curricular development, professional development funding, and actual professional practice (Hedlund & Copeland, 2013). Thus, Hedlund and Copeland join others in their identification of a gap in skills needed in the work place and those taught in LIS curricula. The next skill set addressed will be that of technology interpreter and educator, competencies reflected in CILF but, according to the following studies, not found in LIS programs.

**Librarian as Technology Intermediary**

Additional competencies that face the contemporary librarian are those requiring the development and execution of training programs for lifelong learning and information literacy skills for the public, including the delivery of formal and informal instruction, both in group and one-on-one settings (Heinrichs & Lim, 2008). Topics include personal device and peripheral
use, platform and production options, data manipulation and storage, and all manner of
technology troubleshooting, delivered with appropriate presentation style with a basis of learning
theory and styles, in person and in a virtual setting. Heinrichs and Lim examine the emerging
role as computer-based access facilitator in addition to, or instead of, information retriever. They
discovered perceived operational gaps between demand and ability, particularly among women
and professionals over the age of 40, in their ability to instruct and assist the public (Heinrichs &
Lim).

The current user-based information retrieval availability has added a complexity to the
skill base of librarians. Heinrichs and Lim asserted that computer-related competencies have
expanded from retrieval skills to a familiarity with a myriad of search engines, platforms and
applications, as users become more adept at finding their own information while their need to
manipulate that information grows. This study examined the emerging role as computer-based
access facilitator in addition to, or instead of, information accessor. The following categories
were addressed: web design, multimedia, computer skills, database, spreadsheet, presentation,
and word processing. Further, the researchers desired to know the gap between librarian-
perceived and desired skill sets required; the magnitude of differences in various technical
competency areas; and initial target scores for competency levels. The findings also aspired to
provide hiring managers and training programs with areas on which to focus for improvement
(Heinrichs & Lim, 2008).

This quantitative, online, survey solicited 627 Wayne State LIS graduate students; 216
participated (34.5%). Of these participants ¾ were female and ´4 male. Students were asked to
compare their perceived technological abilities and the gap between the demands of the job on a
Likert scale from "novice" to "very experienced." MS Office products were used as examples for
the various manipulation platforms. The one-site nature of participants limits the generalizability of this study (Heinrichs & Lim, 2008).

The study revealed that the competency that had the smallest gap between perception and desired skill rank included basic operational tasks in computing skills and word processing. The next category for lowest perceived gap was in presentation and spreadsheet skills; multimedia skills, database manipulation and web design. Database manipulation ranked higher in utility than multimedia skills and web design. Further, a statistically significant gender difference was discovered, with women reporting fewer database and multimedia skills in comparison with men. Age differences also presented significantly, with those respondents in their 40s and 50s reporting diminished perceived ability in web design, computer skills, and word processing. Overall, all participants reported a perceived need for additional computer competency related instruction. The researchers asserted that the implication of these findings is important to LIS programs and their curriculum development, as the role of librarian is redefined. The researchers suggested replication as well as a study of library users about their expectations of skill sets by librarians in their user setting (Heinrichs & Lim, 2008).

**Librarian as Educator**

Heinrichs and Lim reveal another neglected field of study: librarian as educator. Only two studies can be found on the role of librarian as instructor, addressing the anxiety librarians’ face in this role, having no formal instruction in how to teach (Schulte, 2009), and the faulty perceptions of those outside the profession regarding this role (Latham, Whitte, & Gross, 2013). In this study, Schulte (2009) found that many academic librarians face significant anxiety
(leading to poor performance results) in teaching students, whether in the use of literature or library services and calls for additional research on this under-studied topic.

Schulte, noting the trend towards teaching by librarians, particularly in her academic setting, set about to discover the role of anxiety as it affects their performance in the workplace. While this study is slightly off center for this particular literature review, it does highlight a role of contemporary librarians that, while noted in CILF, appears to be neglected in LIS education. Schulte constructed a 35 question online survey that was distributed through a professional listserv of about 3,700 academic librarians. Questions consisted of multiple choice items that included an option for “other” in which respondents could enter text. Several Likert-type questions were also included. Of 687 responses, only 382 surveys were adequately completed and used for evaluation. Using SPSS, responses were analyzed, finding 74% enjoyed teaching but that 29% frequently experience physical and mental distress when faced with teaching assignments and 41% reporting these symptoms occurring sometimes. Further, 78% reported that other faculty did not fully understand the entire scope of librarian roles, including teaching (Schulte, 2009). The researcher called for additional study on librarian teaching anxiety.

Limitations of the study, however, call for caution in accepting results as representative. The low response rate, the lack of prior validation, question design and leading language all contribute to flaws in design, limiting its generalizability and legitimacy of results. A next study in this literature review picks up the thread of librarian as teacher and its resulting challenges.

Latham, Whitte and Gross (2013) reported on the differing views between pre-service LIS and education faculty regarding their collaborative roles in assuring 21st century technological literacy skills among students (2013). Education students view the LIS role more broadly than the LIS students themselves, with both rating innovation and learning skills as the
most important, yet differing on whose responsibility it is to teach those skills (Latham, Whitte, & Gross, 2013). The study’s primary purpose was to identify perceptions regarding collaborations between education and library faculty, not the ability of LIS faculty to perform the instruction and did not include public librarians as a sample—an opportunity open for research.

Latham et al. (2013) asserted the growing emphasis on standardized learning benchmarks and professional evaluation based on student performance influences the needs for the disciplines to work together, not only for the benefit of the professional evaluation but for student performance and mastery of 21st century life skills. A case-study approach was designed in a university setting in the United States. Semi-structured interviews were performed with twelve members of the full-time faculty—six in education and six in library and information studies, chosen to ensure representation from core courses that all students in each discipline are required to take, as well as representation from special programs in education and from the group of LIS instructors who teach courses in school librarianship. The participants were presented with a graphic representing the 21st Century Skill Set and asked to reflect on their role in teaching these skills to pre-service educators and librarians. They were then asked to use a color-coded scheme to demonstrate where they felt their discipline fit and where their counterparts fit and where they overlapped. They were also asked open-ended questions to the same end as well as who they thought was teaching each skill and how collaboration could be taught in the university setting. Each interview lasted about 30 minutes. Analysis was performed on the graphic model to tabulate the areas circled and then coded using SPSS. Frequencies and cross-tabulation by discipline was produced and analyzed. Interview data was coded and analyzed for convergent and divergent themes (Latham, Whitte, & Gross, 2013).
In graphing what disciplines lay in the realm of the education department, education faculty was more likely to report that all 21st century skills were mission critical for their schools whereas LIS faculty were more likely to report that information, media and technology skills were mission critical, followed closely by the area entitled "core subjects." Conversely, when asked what disciplines lay in the realm of the LIS department, education faculty found the LIS department responsible for all but the core curriculum facet (these included life and career skills; information, media and technology skills; and learning and innovation skills) whereas the LIS department felt they were only responsible for information, media and technology skills. This divergence in perceived accountability translated into a pre-service environment that was NOT conducive to an accurate understanding of or practice in collaboration for the transmission of 21st century skills, which then translates into a workplace divergence as well, to the detriment of students (Latham, Whitte, & Gross, 2013). Thus, the researchers asserted that faculty of LIS and Education departments on the university level should find a way to narrow this gap and provide collaboration and innovation opportunities across departments before students enter the workforce (Latham, Whitte, & Gross, 2013). Study limitations included applicability across university settings, since this study was limited to one institution. This study is certainly a call for additional research.

Thus, while little has been studied in regards to the role of librarian as educator, the gaps in preparedness and perception described by Schulte and Latham, et. al., demonstrate the role of educator as a neglected but important aspect of the ideal library professional.

In summary, the ideal library professional profile includes being an excellent all around leader of staff and the public; technologically agile; and an instructor well-versed in learning theory as well as constantly evolving technology. Additional literature would have health
information aggregator (Harris, 2010), social worker (Cathcart, 2008), entrepreneurs (Clay III & Bangs, 2000), e-government navigator (Jaegera, Bertota, Shulerb, & McGilvray, 2012) and empathetic listener (Birdy, Wilson, & So, 2009) in that profile as well.

This literature review has thus far examined the current state of library and information science education, its competencies, and the profile of important aspects of the library professional. Unfortunately, research directly surveying librarians on their perceptions of preparedness for the workplace by their LIS education is severely lacking. The following two studies are the only of this nature revealed by the search methods previously described. Both address the perceptions of librarians but are limited in their scope and do not address the use of competencies at all.

**Studies Regarding Practicality and Preparation**

While many scholars are describing the current status of curricula, defining what a librarian should be, few studies are asking librarians themselves if curricula match the profile—are librarians emerging unprepared for these new roles? While Papaconstantinou, Chatzimari, & Tsafou (2008), as previously reviewed, did ascertain that fewer than 47% of ILS students report feeling technically prepared for their profession, only one other study (Noh, Ahn, & Sang-Ki, 2012) measures perceptions of practicality or preparedness by the curriculum and a single study (Schreiner & Pope, 2011) was found measuring librarian perceptions of preparedness for management duties upon graduation from library school.

Like many studies described above, Noh, Anh, and Sang-Ki (2012) evaluated LIS programs in Korean library schools, as well as in the US and Europe in regards to offerings, electives, and courses added. These researchers were concerned with the process of change for
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LIS curriculum, which is rapid in the ever-changing technological environment. Noh and his colleagues sought to know which courses were most commonly taken, completed, and viewed most practical for librarians in the workforce a few months to a year after graduation. Stated research questions include how LIS departments select courses; for which courses is the highest demand; which courses are most frequently completed; what gaps exist in current offerings; and how are courses changing?

This study's approach progressed through 6 steps:

1. Investigating the background of why current courses are offered by interview of faculty;
2. Discovering the current course offerings through web search and phone interviews;
3. Discovering which courses students most commonly completed among those offered through literature and resource research;
4. Evaluating the practicality of the available courses by surveying practicing librarians;
5. Exploring the demand for new courses by student survey;
6. Analyzing the process of change in courses offered over the last 20 years (literature research).

Surveys were distributed to random representatives of the relevant population (Korean LIS graduates) and offered a Likert scale to reflect opinion. Faculty samples were drawn form 10 Korean universities; practitioner samples were drawn from libraries of all types across the country. The sample represented 15 to 20% of the eligible population of each. 1200 surveys were distributed, 42% returned, representing 508 participants (Noh, Ahn, & Sang-Ki, 2012).
The survey revealed that class offerings were discovered to be most strongly influenced by faculty. Second, the number of new classes offered is growing, and becoming more diversified and specific. Third, only 50% of available courses are being completed in the universities studied. Fourth, practitioners rated 21 courses out of 90 suggested as a 4 on a 5 point Likert scale for new courses needed. These courses included Practice in Organizing and Managing Web Resources, Library Planning, Marketing, and Assessment, Understanding Information Technology for Managing Digital Collections and Information and Communication in a Digital Age. These students rated general information science, information retrieval, and library management as the most practical (which correlated with the most completed) courses. Fieldwork opportunities were also rated as highly practical. The least practically rated classes include specialized classes on MARC, archiving, and classification (Noh, Ahn, & Sang-Ki, 2012). Finally, agreement between courses completed by students and those which gained high levels of demand in the practicality evaluations was demonstrated. These researchers asserted that their findings began painting a picture for a core curriculum based on practicality, as rated by actual field professionals These ratings certainly coincide with the literature regarding library roles previously described but are limited in generalization by nature of country of origin; results taken from students prior to entering the profession; and in an academic only environment (Noh, et al., 2012).

Noh, et al. (2012) study population mention library management as a practical course offering. CILF competencies embrace this notion, as do previously reviewed studies by Haycock and Jordan. The final study to be reviewed in this literature review is the only of its kind, discovered by this researcher’s methods, in which Schreiner and Pope (2011) evaluate library management preparedness among LIS graduates in the U.S., as reported by the same.
Schreiner and Pope asserted that “librarians are managers. Even if they do not want to be…” (Schreiner & Pope, 2011, p. 1) but that they are expected to manage resources, both personnel, capital, and human with a minimum of managerial training. These researchers explored librarians’ perceptions of their management education, both in completeness and how any gaps might be filled by continuing education (Schreiner & Pope, 2011, p. 2).

Schreiner and Pope surveyed (via an online SurveyMonkey survey) members of eight American Library Association and Public Library Association listservs that served general and management interests. Targeting librarians who had matriculated at least 12 months prior and representative of all types of librarians, 14 questions assessed perceptions of management preparedness after library school. The survey had five demographic questions while the remaining questions explored their feelings about “library school management training they received and the management training they wish they had received with the benefit of 20/20 hindsight” (Schreiner & Pope, 2011, p. 1). The majority were yes/no or multiple choice, with the option of providing additional information.

Of the 1,093 library graduates who responded, 40% did not think LIS curricula provided adequate training in management; 45.6% were uncertain and only 14% of this population responded affirmatively that library school had adequately prepared them for management duties. With such a large gap between those who did not feel or were not sure library schools were adequately preparing students for management duties and those who did, Schreiner and Pope assert that this is clear evidence of failure.

Further, 64.5% report already taking additional management skills continuing education in the form of classes, web-based learning, seminars, conferences and self-study. Interestingly,
over 50% of the respondents also indicated that they had no interest in or aspiration to management jobs after library school, with 15% asserting that they “absolutely [did] not” want to enter the management aspect of their institution. Further, the researchers found that even though 63% of the survey respondents wished they had taken additional management classes, only 38% would have taken them had they been offered. Schreiner and Pope assert that this disconnect is further evidence that library schools should require an increased number of required courses in management to communicate the message that all librarians manage at some level (Schreiner & Pope, 2011, p. 7).

Schreiner and Pope’s work, while only addressing management competencies, attempted to test post-graduation, real world, librarian perceptions. The study is limited, however, in that respondents were all part of listservs, which may create a homogeneity of response—all librarians who use larger professional polls as a resource. Schreiner and Pope themselves point out that the majority of their respondents were new in their careers (58% having 1-7 years post library school graduation under their belts) and perhaps indicate the kinds of professionals who subscribe to listservs, i.e., those who are seeking advice and insight. Further, the sample is weighted towards academic librarians (49%). Lastly, it does not appear that the survey was validated prior to its dissemination, which may dilute its validity. Overall, however, Schreiner and Pope began the important work of testing librarian perception of post-graduation in the management competency set. Thus, the two studies (Noh, et al. 2012, Schreiner & Pope, 2011) that weigh practicality and preparedness indicate a broad opening and need to further study librarian perception of preparedness to meet contemporary library skill competencies.

This literature review reveals the current state of library science programs in the United States and outlines the desired characteristics of a 21st century librarian, but fails to elucidate
whether MLIS programs adequately prepare librarians for the expectations of the work place, based on their own perceptions. Standard curricula include cataloging, index searching, field specific database familiarity, but the contemporary general librarian rarely applies these skills on a day to day basis. Rather, they spend significant time helping patrons navigate a dizzying array of media, information, and application platforms as well as sorting the informational wheat from the chaff. Much has been made of the emergence of a new type of information professional, evolving from an organizer and classifier of information to that of teacher, interpreter, access wizard, and technology trouble-shooter, all while serving an increasingly sophisticated public in an ever expanding universe of knowledge on a continuously shrinking budget line. Thus, the literature presents a field ripe for additional study of librarian preparedness and its implications for MLIS curricula. The next chapter describes the methodology for contributing to this body of knowledge.
Chapter III

A Simultaneous, Mixed Methods Survey-Based Approach to Measure Librarian Perceptions Regarding Competencies & Preparedness to Perform Them

Contemporary librarians find themselves in an ever-changing work environment, with public demands evolving at the speed of technology (Heinrichs & Lim, 2008), influenced by the economy (Haycock, 2011). The literature review demonstrates the changing environment of library science education (Chu, 2012), competencies (Online Computer Library Center, Inc, 2014) and workforce expectations (Schreiner & Pope, 2011) but that little research has been done to ascertain whether professionally accepted competencies are widely used and thus representative of workplace demands and if librarians perceive their education adequately prepares them to perform these competencies. This study sought to address this gap in the literature. To develop research regarding the degree to which competencies represent, by measuring usage, and LIS programs prepare librarians to perform these competencies, public librarians were surveyed with both closed and open ended questions and the responses statistically analyzed. Research methodology is described below, including statement of hypotheses and research questions; instrument development and delivery; population; data analysis and timelines.

Variable and Research Question Identification

Graduates of American Library Association accredited LIS programs in the past ten years, working in public libraries, were surveyed to self-report their perceptions using an online survey. Respondents were categorized by the following independent variables:

Type of librarianship: Participants identified themselves, by role in public librarianship, with the following positions:
a. Youth/Children’s Services (frontline interaction with patrons)

b. Collection Management (cataloging, acquisitions, technical services)

c. Reference/Public/Adult Services (frontline interaction with patrons)

d. Administration (library or branch management with supervisory requirements)

**Type of library program:** Participants identified the type of program they participated in, as defined in the literature review:

a. Traditional

b. I-School

Dependent variables for this survey included 1) the perceived frequency of use of CILF competencies and 2) the perceived perception of LIS programs to prepare public librarians to perform these competencies. Research questions posed include:

1. Does type of librarianship (Youth/Children’s Services, Collection Management, Reference/Public/Adult Services, Administration) affect the reported usage of CILF competencies in the workplace?

2. Does the type of LIS program (iSchool vs. traditional) affect the reported usage of CILF competencies in the workplace?

3. Does type of librarianship (Youth/Children’s Services, Collection Management, Reference/Public/Adult Services, Administration) affect perceptions of preparedness to perform CILF competencies?

4. Does type of LIS program (iSchool vs. traditional) affect perceptions of preparedness to perform CILF competencies?
5. Do type of librarianship and type of LIS program interact to affect reported frequency of use of CILF competencies?

6. Do type of librarianship and type of LIS program interact to affect perceptions of preparedness of CILF competencies?

The following hypotheses were developed, based on personal knowledge and experience:

H₁: Public librarians who work in Reference/Public Service and Administration library fields will report more frequent usage of CILF competencies than other types of librarianship.

H₂: The type of LIS program (iSchool vs. traditional) will have no effect on whether librarians on the reported frequency of usage of CILF competencies.

H₃: Youth Services and Collection Management librarians will feel more prepared to perform CILF competencies place than other types of librarians.

H₄: Graduates of LIS programs in an iSchool context will feel more prepared to perform CILF competencies than non-iSchool graduates.

H₅: iSchool prepared Youth Services librarians will report greater usage of CILF competencies than other types of librarians.

H₆: iSchool prepared Youth Services and Collection Management types of librarianship will report greater perceptions of preparedness to perform CILF competencies.

These hypotheses and research questions were explored through survey research. The development and execution of the survey is discussed below.
Survey Development

Due to the gap in research regarding these hypotheses and research questions, an original survey was developed, and piloted prior to research execution. The pilot survey (was developed and reviewed and refined by the State Librarians of both North Carolina (Caroline Shepherd) and Virginia (Sandra Treadway). Next, the pilot survey was distributed via SurveyMonkey to a group of North Carolina librarians, as directed by Caroline Shepherd. The review of the State Librarians as well as the pilot group provided distinct feedback for revision. The research survey (Appendix B) was then revised and subdivided by OCLC competency set and edited for clarity, brevity, and completion requirements. The pilot survey and ultimate research survey (Appendix B) are web-based instruments, designed and deployed with Survey Monkey. The first section of the research survey queried the following demographic qualities:

1. Age
2. Gender
3. LIS program completed (name of university)
4. Was this LIS program considered an iSchool during your matriculation?
5. Was the LIS program accredited by the ALA during your term of study?
6. Year of LIS program completion
7. Type of librarianship:
   a) Youth/Children’s Services (frontline interaction with patrons)
   b) Collection Management (cataloging, acquisitions, technical services)
   c) Reference/Public/Adult Services (frontline interaction with patrons)
   d) Administration (library or branch management with supervisory requirements)

The second section of both surveys presented Likert-scaled questions, requiring participants to rank their perceptions of frequency of use and preparedness of 4 out of 5 OCLC competency sets, as outlined in CILF. The 5th competency set, addressing System and IT competencies, was eliminated due to their specialized nature, in consideration of the length of the tool. The research survey’s standard format listed the competency and then offered two scales. An example follows:

   Personal and Communication Competencies
1. Develops and maintains effective relationships with others to achieve common goals

Do you use this competency on the job?
(Not at all) 2 3 4 5 (frequently/completely)

Did your LIS program prepare you to perform this competency?
(Not at all) 2 3 4 5 (frequently/completely)

The third section presented a qualitative, open-ended question to further illuminate responses:

1. “Is there anything else upon which you would like to comment?”

The final research survey concluded with an incentive question, offering entry to a drawing for a $200 donation to be given in the participant’s honor to the library charity of their choice. To preserve anonymity, a yes response to this question will conclude the research survey and redirect the participant to an incentive survey requiring responses to the following questions:

1. Name/email/phone
2. Library to receive donation if name is drawn
3. What motivated you most to complete this survey?
   a. Drawing for library donation.
   b. Contribute to development of profession.
   c. Because a colleague or boss asked me to.

Question 3 may be utilized in future research regarding survey participation incentives but will have no bearing on this research.

Survey Population

The research population for this study was public librarians who had graduated from an American Library Association accredited MLIS program in the past ten years. Access to this population was viral in nature, beginning with the following targeted groups:
• State library association listservs
• ALA groups on Facebook and LinkedIn
• Personal professional contacts
• The State Librarian Association (comprised of the State Librarians of all 50 states)
• LinkedIn library school alumni pages

It is impossible to know the number of potential participants who viewed the link, due to the viral nature of this distribution process. However, automated logic was used to eliminate responses from anyone who did not fit the participation parameters of 10 years of less since LIS program matriculation from an ALA accredited school or did not serve the public library community. It is also impossible to know how many individuals began the survey and were sorted out via this logic tree. Five hundred eleven respondents, who self-report these matching criteria, completed the survey over a 31 day period, from October 1, 2015 to October 31, 2015.

Analysis

Data analysis included two parts: quantitative and qualitative, with the unit of analysis being the individual respondent. Quantitative analysis was performed using SPSS statistical analysis software, version 21. All cases were considered qualifying cases as automated survey logic eliminated any self-reported respondents that did not fit the criteria previously described.

Quantitative Analysis

Describing the Population.

Five hundred eleven individuals completed the survey. Delimiters within SurveyMonkey™ failed to reject twenty cases that responded “no” to the data requirement that their LIS program meet ALA accreditation to move forward in the survey and seventy cases that
did not graduate in the past ten years. These cases were eliminated from further analysis, as were “other” and “collection management” categories (described below) due to their low percentage of respondents. Further, the data of any respondent who did not complete the survey was eliminated. The resulting data pool comprised 264 respondents. The population is described below:

- Gender: 86% female; 14% male;
- Age: 23.1% in the 22 to 30 year old range; 51.9% in the 31 to 44 year old range; and 25% in the 45 year and older range;
- iSchool affiliation: 36.4% report an iSchool affiliation; 63.6% report no iSchool affiliation;
- Librarianship Type: Collection management represented a small percentage and were removed from further analysis. The job type distribution was 23.3% children/youth services; 43.6% reference/adult/public services; and 34.1% administration. Those identifying as “other” range from cases that could have been attributed to the above categories. For example, those who responded “circulation” would be considered public services; “archives” would be considered collection management; “project management” would be considered administration. These cases were recoded to match their classification.
- Location: Librarians from 28 states and Puerto Rico responded, with the highest representation coming from Virginia (73) and North Carolina (77), representing 56.9% of the survey population. The entire representation is reported in Appendix C, Table 3.1. Thus, the population emerges as largely female; with over half in the 31 to 44 year old cohort, from a traditional library/information science, ALA accredited school with positions weighted to reference/public services and administration job division, in the mid-Atlantic region.
Validity and Reliability.

The face validity of this survey was established by expert review and piloting and followed OCLC’s competency structure closely. The competency structure is quite lengthy, totaling 94 competency based question. Thus, subscales of each competency set, one indicating usage of the competency and one indicating LIS preparation for the competency, were created and subjected to reliability analysis, using Cronbach’s alpha >.70, offering confidence in the validity and reliability of the instrument. The questions included in the subscales and their associated alpha scores are indicated in Table 1.

<table>
<thead>
<tr>
<th>Sub-Scale</th>
<th>Questions included in scale</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
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<tr>
<td>Essential Technology Use:</td>
<td>9-20</td>
<td>.843</td>
</tr>
<tr>
<td>Essential Technology Prep:</td>
<td></td>
<td>.941</td>
</tr>
<tr>
<td>Essential Interpersonal Use:</td>
<td>21-35</td>
<td>.893</td>
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<tr>
<td>Essential Interpersonal Prep:</td>
<td></td>
<td>.954</td>
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<td>Library Collections Use:</td>
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<td>.926</td>
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<td>Library Collections Prep:</td>
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<td>.930</td>
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<td>Library Management Use:</td>
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<td>.973</td>
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<tr>
<td>Library Management Prep:</td>
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<td>Public Services Use:</td>
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<td>.859</td>
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<tr>
<td>Public Services Prep:</td>
<td></td>
<td>.931</td>
</tr>
</tbody>
</table>

ANOVA.

Factorial ANOVAs were conducted to compare the perceptions of use of and preparation for each competency for each type of librarianship and for each type of LIS and any interactions between them. The standard p<.05 was used for all measurements.
Qualitative Analysis.

Qualitative analysis was performed on responses to the open-ended question using a grounded theory model. Content analysis (coding directly from responses) searched for themes while constant-comparative analysis refined the themes into discrete categories of response. These qualitative techniques supported quantitative results.

Between the qualitative and quantitative analysis of this survey, a picture emerges from this population regarding their perception of how well CILF competencies reflect their day to day work, as measured by frequency of use; and how well their LIS program prepared them to perform these competencies. This study, however, is limited by a number of factors.

Limitations

This methodology is limited by the self-reporting quality of the research; the viral means of reaching participants; limited pool of complete responses; the length of the survey and its limitation to public librarianship.

Librarians may feel a certain way about their performance within each competency, but their supervisors and those whom they serve may report different perceptions of that individual’s job duties and preparation to perform them.

Due to the viral means of distribution, there is no way of knowing how many potential respondents exist or how or why potential respondents chose to or not to participate. The viral distribution may have also limited and slanted the response pool to those who felt comfortable with technological response and those who were connected in some way to others through social media, creating a potential for homogeneity in respondents. Further, the length of the survey appears to have eliminated almost half of all respondents who did not complete the entire survey.
Additionally, generalization and extrapolation to other types of libraries cannot occur because the respondents all work in the public library setting.
Chapter IV
Results

This chapter presents survey results of the quantitative data using IBM’s Statistical Package for Social Sciences, v. 21. Themes that emerged from qualitative data are also presented. The research findings are presented in two sections, quantitative and qualitative. The quantitative section is further broken down into five subsections, representing each of the subscales, Core Technology, Essential Personal Skills, Library Collection, Library Management, and Public Service, and reporting the impact of each independent variable: type of library education (iSchool versus traditional school) and type of library job (Youth Services, Collection Management, Reference/Adult, or Administration) on reported use and perceptions of preparedness. The qualitative section reports the frequency with which common themes appear in the free response item on the survey. Axial coding was used to identify and enumerate these themes. The results are then applied to the previously posed hypotheses and research questions and summarized.

Quantitative Data

Data for each of the subscales was analyzed using a 2 (school type) x 3 (job type) factorial analysis of variance, with a .05 statistical significance level. Results are reported by each subscale: Essential Core Technology Competencies; Essential Personal Skills Competencies; Library Collection Competencies; Library Management Competencies and Public Service Competencies. The means reported in each table are derived from the number of questions in each subset, the mean response, by the number of participants.

Essential Core Technology Use (12 questions). The main effect of school type was not significant, $F(1,255)=1.04, p>.05$. However, the main effect of job type demonstrated significance, $F(2,255)=4.59, p<.05, \eta^2=.04$, as did the interaction between the two,
F(2,255)=3.21, p<.05, $\eta^2=.03$. Table 2 displays the means and standard deviations for this analysis. A Tukey post hoc test demonstrated that youth service librarians report less frequent use of core technology than reference librarians and, further, the interaction of school type yielded a statistically significant difference between iSchool youth service librarians who reported more core technology use than traditionally schooled youth service librarians, demonstrated in Figure 1.

**Table 2:** *Essential Core Technology Use—Means and Standard Deviations, 12 questions*

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<tr>
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<th>Library Department</th>
<th>Mean</th>
<th>Standard Deviation</th>
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</tr>
</thead>
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</tr>
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<td></td>
<td>Administration</td>
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<td></td>
<td>Total</td>
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Figure 1: Essential Core Technology Use-Between Variable Interactions

Essential Core Technology Preparedness (12 Questions). In reporting preparedness for essential core technology competencies, neither the main effect of school type was significant, $F(1,255)=4.18, p>.05$, nor of job type, $F(2,255)=3.45, p>.05$ or interaction $F(2,255)=3.22, p>.05$. Table 3 demonstrates the means and standard deviations for this analysis.

Table 3: Essential Core Technology Preparedness—Means and Standard Deviations, 12 questions

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<tr>
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<th>Standard Deviation</th>
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<td>Administration</td>
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<td>Total</td>
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<td>95</td>
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<tr>
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<td>Administration</td>
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</table>
**Essential Personal/Interpersonal Skills Use (17 Questions).** The main effect of school type on use of essential personal competencies was not significant, $F(1,256)=.036$, $p>.05$. However, the main effect of job type demonstrated significance, $F(2,256)=9.20$, $p<.05$, $\eta^2=.07$, with Administration job types reporting higher use, as did the interaction between the two, $F(2,256)=1.15$, $p<.05$, $\eta^2=.01$. Table 4 demonstrates the means and standard deviations for this analysis. A Tukey post hoc tested the mean differences for main effect and demonstrated that iSchool trained reference and youth service librarians reported using core personal and interpersonal skills competencies less than library administrators from both types of schools, as demonstrated in Figure 2.

**Table 4:** *Essential Personal/Interpersonal Competency Use – Means and Standard Deviations, 17 questions*

<table>
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<td></td>
<td>Total</td>
<td>68.7</td>
<td>6.65</td>
<td>262</td>
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</table>
Essential Personal Skills Preparedness (17 Questions). The main effect of school type on perceptions of preparedness for essential personal skills was significant, \( F(1,253)=9.47, p<.05, \eta^2=.04 \), demonstrating greater feelings of preparedness by iSchool trained librarians. However, the main effect of job type was not significant, \( F(2,253)=2.29, p>.05 \), nor was the interaction between the two, \( F(2,253)=.734, p>.05 \). Table 5 demonstrates the means and standard deviations for this analysis.
Table 5: Essential Personal Skills Preparedness-Means and Standard Deviations, 17 questions

<table>
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<tr>
<th>Attended iSchool?</th>
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<td>Reference/Public/Adult</td>
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**Library Collection Competencies Use (21 Questions).** For reported use of library collection competencies, the main effect of school type was not significant, \( F(1,253)=0.037, p>0.05 \). The main effect of job type was also not significant, \( F(2,253)=13.04, p>0.05 \). However, the interaction between the two was significant \( F(2,253)=1.52, p<0.05, \eta^2=0.01 \). Table 6 demonstrates the means and standard deviations for this analysis. A Tukey post hoc test demonstrated that Library Administration job types reported significantly greater use of the library collection competencies than other library job types. Further, iSchool-prepared Library Administration job types reported significantly greater usage of this competency set, as demonstrated in Figure 3.
Table 6: Library Collection Competency Use-Means and Standard Deviations, 21 questions

<table>
<thead>
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<th>Standard Deviation</th>
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Figure 3: Library Collection Competency Use-Between Variable Interactions

Library Collection Competency Preparedness (21 Questions). The main effect of school type in reported feelings of preparedness for library collection competencies was significant, $F(1,251)=4.55$, $p<.05$, $\eta^2=.02$ with iSchoolers feeling better prepared. The main effect of job type, $F(2,251)=3.11$, $p<.05$, $\eta^2=.02$, was also significant with Reference/Adult
services librarians feeling better prepared. However, there was no significant interaction between the two, $F(2,251)=.64, p>.05$. The means and standard deviations are reported in Table 7.

**Table 7: Library Collection Competency Preparedness—Means and Standard Deviations, 21 questions**

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<td>Youth/Children’s</td>
<td>48.00</td>
<td>15.51</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>Reference/Public/Adult</td>
<td>57.23</td>
<td>15.91</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>Administration</td>
<td>53.00</td>
<td>16.95</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>53.76</td>
<td>16.37</td>
<td>93</td>
</tr>
<tr>
<td>No</td>
<td>Youth/Children’s</td>
<td>46.77</td>
<td>14.60</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>Reference/Public/Adult</td>
<td>50.15</td>
<td>15.68</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td>Administration</td>
<td>47.82</td>
<td>15.26</td>
<td>61</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>48.56</td>
<td>15.27</td>
<td>164</td>
</tr>
<tr>
<td>Total</td>
<td>Youth/Children’s</td>
<td>47.26</td>
<td>14.85</td>
<td>58</td>
</tr>
<tr>
<td></td>
<td>Reference/Public/Adult</td>
<td>52.93</td>
<td>16.07</td>
<td>112</td>
</tr>
<tr>
<td></td>
<td>Administration</td>
<td>49.37</td>
<td>15.87</td>
<td>87</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>50.44</td>
<td>15.85</td>
<td>257</td>
</tr>
</tbody>
</table>

**Library Management Competency Use (40 Questions).** In reporting library management competency usage, the main effect of school type was not significant, $F(1,256)=.01, p>.05$. The main effect of job type was significant, $F(2,256)=38.37, p<.05, \eta^2=.23$, with administration library job types reporting greater use. The interaction between the two was not significant $F(2,256)=.23, p>.05$. Table 8 demonstrates the means and standard deviations for this analysis.
Table 8: Library Management Competency Use—Means and Standard Deviations, 40 questions

<table>
<thead>
<tr>
<th>Attended iSchool?</th>
<th>Library Department</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Youth/Children’s</td>
<td>114.75</td>
<td>36.68</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>Reference/Public/Adult</td>
<td>119.25</td>
<td>39.16</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>Administration</td>
<td>159.64</td>
<td>26.26</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>129.90</td>
<td>39.84</td>
<td>96</td>
</tr>
<tr>
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<td>Youth/Children’s</td>
<td>119.57</td>
<td>36.90</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>Reference/Public/Adult</td>
<td>118.86</td>
<td>29.71</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>Administration</td>
<td>156.74</td>
<td>30.13</td>
<td>61</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>132.93</td>
<td>36.21</td>
<td>166</td>
</tr>
<tr>
<td>Total</td>
<td>Youth/Children’s</td>
<td>117.61</td>
<td>36.57</td>
<td>59</td>
</tr>
<tr>
<td></td>
<td>Reference/Public/Adult</td>
<td>119.01</td>
<td>33.50</td>
<td>114</td>
</tr>
<tr>
<td></td>
<td>Administration</td>
<td>157.65</td>
<td>28.85</td>
<td>89</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>131.82</td>
<td>37.53</td>
<td>262</td>
</tr>
</tbody>
</table>

Library Management Competency Preparedness (40 Questions). The main effect of school type in reported feelings of preparedness for library management competencies was significant, $F(1,243)=3.38 \ p<.05$, $\eta^2=.01$, with iSchool librarians reporting better preparedness.

The main effect of job type was not significant, $F(2,243)=.75$, $p>.05$, nor was there significant interaction between the two, $F(2,243)=.03$, $p>.05$. Table 9 demonstrates the means and standard deviations for this analysis.
### Table 9: Library Management Competency Preparedness—Means and Standard Deviations, 40 questions

<table>
<thead>
<tr>
<th>Attended iSchool?</th>
<th>Library Department</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Youth/Children’s</td>
<td>107.10</td>
<td>43.35</td>
<td>20</td>
</tr>
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<td></td>
<td>Reference/Public/Adult</td>
<td>112.72</td>
<td>38.88</td>
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</tr>
<tr>
<td></td>
<td>Administration</td>
<td>104.63</td>
<td>37.98</td>
<td>27</td>
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<td></td>
<td>Total</td>
<td>109.04</td>
<td>39.36</td>
<td>90</td>
</tr>
<tr>
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<td>Youth/Children’s</td>
<td>96.00</td>
<td>38.99</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>Reference/Public/Adult</td>
<td>101.91</td>
<td>41.80</td>
<td>67</td>
</tr>
<tr>
<td></td>
<td>Administration</td>
<td>96.50</td>
<td>36.22</td>
<td>59</td>
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<td></td>
<td>Total</td>
<td>98.67</td>
<td>39.08</td>
<td>159</td>
</tr>
<tr>
<td>Total</td>
<td>Youth/Children’s</td>
<td>100.19</td>
<td>40.64</td>
<td>53</td>
</tr>
<tr>
<td></td>
<td>Reference/Public/Adult</td>
<td>106.14</td>
<td>41.80</td>
<td>110</td>
</tr>
<tr>
<td></td>
<td>Administration</td>
<td>99.05</td>
<td>36.76</td>
<td>86</td>
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<td></td>
<td>Total</td>
<td>102.42</td>
<td>39.42</td>
<td>249</td>
</tr>
</tbody>
</table>

Public Service Competency Use (15 Questions). The main effect of school type was not significant in reporting usage of public service competencies, $F(1,256)=3.87, p=.05$, nor was the main effect of job type, $F(2,256)=17.17, p>.05$. The interaction between the two was also not significant, $F(2,256)=.231, p>.05$. Table 10 demonstrates the means and standard deviations for this analysis.

### Table 10: Public Service Competency Use—Means and Standard Deviations, 15 questions

<table>
<thead>
<tr>
<th>Attended iSchool?</th>
<th>Library Department</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Youth/Children’s</td>
<td>44.00</td>
<td>6.50</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>Reference/Public/Adult</td>
<td>35.60</td>
<td>10.38</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>Administration</td>
<td>39.86</td>
<td>12.02</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>38.94</td>
<td>10.58</td>
<td>96</td>
</tr>
<tr>
<td>No</td>
<td>Youth/Children’s</td>
<td>41.77</td>
<td>7.81</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>Reference/Public/Adult</td>
<td>31.89</td>
<td>8.84</td>
<td>71</td>
</tr>
<tr>
<td></td>
<td>Administration</td>
<td>38.03</td>
<td>11.57</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>36.19</td>
<td>10.46</td>
<td>166</td>
</tr>
<tr>
<td>Total</td>
<td>Youth/Children’s</td>
<td>42.68</td>
<td>7.33</td>
<td>59</td>
</tr>
<tr>
<td></td>
<td>Reference/Public/Adult</td>
<td>33.30</td>
<td>9.59</td>
<td>115</td>
</tr>
<tr>
<td></td>
<td>Administration</td>
<td>38.61</td>
<td>11.68</td>
<td>88</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>37.20</td>
<td>10.57</td>
<td>262</td>
</tr>
</tbody>
</table>
Public Service Competency Preparedness (15 Questions). The main effect of school type in reported feelings of preparedness for public service competencies was significant, \( F(1,252)=6.75 \ p<.05, \ \eta^2=.03 \), with iSchool librarians reporting greater preparedness. The main effect of job type was also significant, \( F(2,252)=3.83, \ p<.05, \ \eta^2=.03 \), with Youth Services librarians reporting greater feelings of preparedness than other job types. There was, however, no significant interaction between the two, \( F(2,252)=.22, \ p>.05 \). Table 11 demonstrates the means and standard deviations for this analysis.

<table>
<thead>
<tr>
<th>Attended iSchool?</th>
<th>Library Department</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Youth/Children’s</td>
<td>40.26</td>
<td>9.62</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>Reference/Public/Adult</td>
<td>34.33</td>
<td>12.63</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>Administration</td>
<td>34.54</td>
<td>10.63</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>35.90</td>
<td>11.52</td>
<td>94</td>
</tr>
<tr>
<td>No</td>
<td>Youth/Children’s</td>
<td>34.86</td>
<td>10.99</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>Reference/Public/Adult</td>
<td>32.40</td>
<td>11.72</td>
<td>68</td>
</tr>
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<td></td>
<td>Administration</td>
<td>31.41</td>
<td>10.36</td>
<td>61</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>32.06</td>
<td>11.10</td>
<td>164</td>
</tr>
<tr>
<td>Total</td>
<td>Youth/Children’s</td>
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<td></td>
<td>Reference/Public/Adult</td>
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<td>12.12</td>
<td>110</td>
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<tr>
<td></td>
<td>Administration</td>
<td>32.39</td>
<td>10.49</td>
<td>89</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>33.46</td>
<td>11.39</td>
<td>258</td>
</tr>
</tbody>
</table>

Likert Scale Comparison

Having already determined the various statistically significant relationships of job type and school type, the following section will compare Likert scale ratings for use and preparation by those independent variables.
Table 12 demonstrates the mean Likert ranking of reported use of competencies by job type and school type. Assigning a value of 3 or over on a 5 point Likert scale to indicate frequent usage, the table demonstrates that all library job types find Essential Technology competencies and Essential Personal Competencies frequently used on the job and representative of day to day tasks. Administrative Librarians found Library Management competencies to also be frequently used with Reference librarians also reporting average usage, with Youth Service librarians 0.1 point behind.

**Table 12: Comparison of Likert Scale Means by Competency Subset for Use**

<table>
<thead>
<tr>
<th>Job Type</th>
<th>Mean Likert Rating for Use</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Essential Tech</td>
</tr>
<tr>
<td>(I=iSchool; T=Traditional school)</td>
<td>I  T  I  T</td>
</tr>
<tr>
<td>Youth/Children’s</td>
<td>4.6 4.4 4.1 4.0</td>
</tr>
<tr>
<td>Reference/Public/Adult</td>
<td>4.7 4.7 3.9 4.0</td>
</tr>
<tr>
<td>Administration</td>
<td>4.6 4.6 4.2 4.2</td>
</tr>
<tr>
<td>Total</td>
<td>4.6 4.6 4.0 4.1</td>
</tr>
</tbody>
</table>

Table 13 demonstrates a comparison of Likert scale means for competency subset preparedness. The gray cells indicate subsets on which respondents reported feeling prepared to perform these competencies, demonstrated by any score that is 3 or greater on the 5 point Likert scale. The only subscales on which Youth Services and Reference librarians feel prepared are the essential technology and essential personal skills competencies, with iSchool librarians feeling better prepared than traditionally schooled librarians across all competency sets. Administrative librarians from either school type do not perceive their LIS program to have prepared them to perform these competencies, with one exception: essential personal/interpersonal skills as reported by those who completed an iSchool program.
Table 13: Comparison of Likert Scale Means by Competency Subset for Preparation

<table>
<thead>
<tr>
<th>Job Type</th>
<th>Mean Likert Rating for Perceptions of Preparedness</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Essential Tech</td>
</tr>
<tr>
<td>(I=School; T=Traditional school)</td>
<td>I</td>
</tr>
<tr>
<td>Youth/Children’s</td>
<td>3.6</td>
</tr>
<tr>
<td>Reference/Public/Adult</td>
<td>3.2</td>
</tr>
<tr>
<td>Administration</td>
<td>2.7</td>
</tr>
<tr>
<td>Total</td>
<td>3.2</td>
</tr>
</tbody>
</table>

Qualitative Data

An open-ended question concluded the survey: “Is there anything you would like to comment upon?” One hundred twenty-seven (49%) respondents offered input (see Appendix C). Thirty-eight respondents’ comments were not related to preparedness or use (for example, responses of “no” or comments clarifying their job type or relating to the survey itself), resulting in 38% of the participants contributing to the qualitative data analysis. An analysis, using grounded theory and word frequency counts and limited to those who responded to preparedness or use, produced the following responses. The number of occurrences of their appearance in text, from most commonly occurring to least commonly occurring, is indicated for each comment type.

- Most competencies were learned on the job (respondents cited or implied that this learning could have occurred before entering, during and after graduation from library school): 22 occurrences
- Library school was not useful/ left me ill-prepared/with little real world knowledge/false impression of librarianship: 22 occurrences.
- Library School was primarily theoretical and not practical: 17 occurrences (example: “was taught the history of cataloging but not how to catalog”).
• Most learning occurred in the context of a practicum or internship: 17 occurrences
• Technology skills should be assumed and/or a prerequisite: 10
• Classes were offered in these competencies but were not taken by the respondents: 8

Two comments were made included concern regarding the lack of diversity among LIS faculty as well as concern for the lack of national standards for core classes. Due to the low percentage of participation in the free response section of the survey, the qualitative analysis section does not represent statistically significant information but anecdotal evidence to support the quantitative results.

Conclusion

Statistical analysis demonstrates the following conclusions for each hypothesis previously posed.

\[ H_1: \text{Public librarians who work in Reference/Public Service and Administration library fields will report more frequent usage of CILF competencies than other types of librarianship.} \]

This hypothesis is partially supported based on reported usage and thus, competency representativeness of workplace demands. Core Technology Competency use was the only subscale on which reference librarians reported statistically significant greater usage than other job types. Further, administrative librarians reported statistically significant higher use of core personal competencies, library collection competencies, and library management competencies, than both youth services and reference librarians. Thus, the answer to the research question associated with this hypothesis, does type of librarianship affect reported usage of CILF
competencies in the workplace?, is yes: Administration type librarians report more frequent usage of CILF competencies than other types of librarianship.

H₂: The type of LIS program (iSchool vs. traditional) will have no effect on librarians’ report of frequency of use of CILF competencies in the workplace.

This hypothesis is supported. In all subscales except that of library collection competencies, there was no significant difference between traditional and iSchool trained librarians in their reports of use of competencies. Research question two, Does the type of LIS program (iSchool vs. traditional) affect whether librarians reporting of frequency of use of CILF competencies is no.

H₃: Youth Services librarians will feel more prepared to perform CILF competencies in the work place than other types of librarians.

This hypothesis is necessarily amended to exclude Collection Management librarians, because so few responded that their related data was removed from the respondent pool, as previously discussed. However, this hypothesis, in regards to only Youth Services librarians is not supported. The only subscale on which Youth Services librarians reported statistically significant greater feelings of preparedness was on the public services competencies scale. The related research question, does type of librarianship (Youth/Children’s Services, Collection Management, Reference/Public/Adult Services, Administration) affect perceptions of preparedness to perform CILF competencies? is a qualified yes. In three of the five subscales, librarians from different types of jobs reported statistically significant greater feelings of preparedness over other job types. In addition to the Youth Services job type reported above, Public Service librarians reported feelings of preparedness at a higher rate than other job types in the subscales of Library Collection and Library Management competencies.
H₄: Graduates of LIS programs in an iSchool context will have greater feelings of preparedness to perform CILF competencies.

This hypothesis is partially supported. iSchool trained librarians reported greater feelings of preparedness at statistically significant levels than traditionally trained librarians in all but one category (Essential Personal Skills) and no difference between schooling types in another (Core Technology). On the Library Collection, Library Management, and Public Services competency subscales, reports were positively and statistically significant for iSchoolers. Thus, the related research question, Does type of LIS program (iSchool vs. traditional) affect perceptions of preparedness to perform CILF competencies? is yes: iSchool librarians perceive to be better prepared for three of the five competency sets than traditionally trained librarians.

H₅: iSchool prepared Youth Services librarians will report greater usage of CILF competencies than other types of librarians.

This hypothesis is partially supported. iSchool-prepared Youth Services librarians reported greater usage of Core Technology competencies than their traditionally prepared peers. There was no statistically significant difference for other library job or school types. However, the associated research question: does an interaction of type of librarianship and type of LIS program reported frequency of use of CILF competencies? is yes. iSchool-prepared Youth Services and Reference type librarians report statistically significant greater frequency of use of Essential Personal/Interpersonal competencies than their traditionally prepared peers. Further, iSchool prepared Administrative librarians report more frequent use of Library Collection competencies. There was no difference in usage reported by job and school type for Library Management and Public Service competencies.
H₆: The combination of Youth Services librarianship and iSchool-preparation will result in greater perceptions of preparedness to perform CILF competencies.

This hypothesis is wholly unsupported. There were no statistically significant differences between job type and library school type interactions in feelings of preparedness. Thus, the answer to related research question, does an interaction of type of librarianship and type of LIS program affect perceptions of preparedness? is no.

In summary, type of library job is predictive of perceptions of the frequency of use of CILF competencies, with Administration type librarians reporting the greatest usage. Type of library school is not predictive of perceptions of the frequency of use of CILF competencies. Feelings of preparedness to perform these competencies are partially predictive by job type, with Administration type librarians feeling the least prepared. iSchoolers feel better prepared than traditionally schooled librarians. No combination of job type or school type can be considered predictive of feelings of preparedness to perform CILF competencies in the workplace. However, the interaction of job type and school type is partially predictive of usage reporting for some subsets of CILF competencies, exclusively by iSchool-prepared librarians, varying by subset.
Chapter V

Discussion

This chapter will present an overview of significant findings in the context of existing research; limitations of the study; implications for current practice and recommendations for further study. Significant findings will be organized by each research question and its hypothesis while implications will be organized by competency subscales.

Significant Findings

Statistically significant findings present a contributing factor to both reported usage and feelings of preparedness, but the effect size (and thus practical significance) is small. Type of LIS program and/or type of librarianship contribute to reported usage and perceptions of preparedness but should not be considered exclusive. Further, while within normal ranges, standard deviations did vary among school types, particularly in reporting perceptions of preparedness, with greater variability among traditionally schooled respondents. However, these results present a strong voice from the profession that is worth heeding.

Competency Use

Does type of librarianship affect reported usage of CILF competencies?

While the associated hypothesis, $H_1$: Public librarians who work in Reference/Public Service and Administration library fields will report the highest usage of CILF competencies than other types of librarianship, is not supported based on means reported for competency usage, the question itself requires qualification. Job type was a significant factor across all CILF subsections except Library Collection and Public Service Competencies.
On the Essential Technology Competency subscale, reference/public service librarians reported significantly greater use than youth services or administrative librarians. This report is plausible as much of today’s reference librarianship is technology and device driven, as previously indicated by Heinrichs and Lim (2008) and Jaege, et al. (2012). On the Essential Personal/Interpersonal Skills subscales, administrative librarians demonstrate significantly greater use of these competencies than other library types. Administrative librarians are, by definition, in leadership roles, with supervision and policy making duties. Haycock (2011) and Jordan (2012) concur on the need for outstanding communication skills, sensitivity for others, political savvy and purposeful direction setting. Haycock particularly noted the need for administrative type librarians to display adaptable skills in a fluid workplace, with curiosity and confidence. Jordan’s research supports this need, reporting that softer skills were more highly valued by seasoned leaders than new leaders (Jordan, 2012).

Unsurprisingly, Administrative librarians report the highest use of Library Management Competencies. Schreiner and Pope (2011) suggest a greater need for management training in library school, while Jordan (2012) exhorts the development of leadership competencies: these findings support these researchers’ recommendations. Indeed, the CILF (OCLC, 2014), bears this out by offering the most competencies in this category, numbering twice that of any other competency, with 40 specific requirements. Certainly, the literature review presented in chapter 2 of this study outlines the multi-faceted duties of library leaders in teaching, leading, facilitating, supervising, advocating, policy-making, etc.

**Does type of LIS program affect reported usage of CILF competencies?**

The related hypothesis, the type of LIS program (iSchool vs. traditional) will have no effect on whether librarians report significant frequency of use of CILF competencies is
supported. There were no significant differences between traditional and iSchool trained librarians in their reports of use of competencies on any subscale. This finding supports the notion that CILF competencies are indeed representative of workplace demands with agreement across librarians from varying types of LIS programs.

Table 14 summarizes significant results regarding competency use, which can be predicted by job type, with administrative librarians finding them to be most frequently used in the workplace.

Table 14 summarizes significant findings for competency usage data, with individual findings following.

**Table 14: Summary Findings for Competency Usage**

<table>
<thead>
<tr>
<th>School Type</th>
<th>Essential Tech</th>
<th>Essential Personal</th>
<th>Library Collection</th>
<th>Library Management</th>
<th>Public Service</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Job Type</th>
<th>Essential Tech</th>
<th>Essential Personal</th>
<th>Library Collection</th>
<th>Library Management</th>
<th>Public Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;Reference</td>
<td>Sig:</td>
<td>Sig:</td>
<td>NS</td>
<td>Sig:</td>
<td>NS</td>
</tr>
<tr>
<td>&lt;Youth Services</td>
<td>&lt;Admin</td>
<td>&lt;Admin</td>
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</tbody>
</table>

**Perceptions of Preparedness**

**Does type of librarianship affect perceptions of preparedness to perform CILF competencies?**

The subscales of Library Collection and Public Service competencies did reveal significant differences in perceptions of preparedness by job type. Reference librarians reported greater perceptions of preparedness in Library Collection competencies than their colleagues while Youth Service librarians perceived greater preparedness in Public Services, the latter supporting the original hypothesis that Youth Services librarians will feel more prepared for the
work place than other types of librarians. Chu’s (2012) comparison of curricula, while intended to examine the differences between iSchool and traditional library programs, also serves to illuminate reasons for this result. Chu’s comparisons reveal available courses directly related to Library Collection competencies but none or few courses related to core technologies, interpersonal skills, or management. He also identified specific courses in children’s literature, development and programming, while there are no specific courses that are so specially ascribed for adults. Thus, course offerings can be considered to affect perceptions of preparedness along with type of librarianship, one perhaps informing the other.

**Does type of LIS program (iSchool vs. traditional) affect perceptions of preparedness to perform CILF competencies?**

iSchool trained librarians report greater feelings of preparedness at statistically significant levels than traditionally trained librarians in all but one category: Essential Personal Skills. Both types of librarians reported equal feelings of preparedness on the Library Collection subscale. iSchool librarians perceive themselves to be better prepared for the remaining competencies (Essential Personal Skills, Library Management and Public Services) than traditionally trained librarians, largely supporting the hypothesis that graduates of LIS programs in an iSchool context will have greater feelings of preparedness for the workplace. This data supports studies cited in the literature review in chapter two, in which Chu (2012) and Lynch (2008) review the differences between iSchools and traditional schools. Chu and Lynch both found a greater presence of technology and public service oriented courses offered in iSchools than traditional schools. Further, Chu revealed a trend towards 100% online LIS programs (Chu, 2012). As such, iSchool trained librarians could be expected to have greater technology competence since the very navigation of their training requires such competence. Further, the nature of online courses may require a greater amount of personal discipline and management to succeed (from actively
listening and reading materials to time management of required postings and project completion that could be perceived as more instructor-driven in the traditional classroom) that translates into work place competencies (Chu, 2012). Table 15 summarizes these results.

Table 15: Summary Findings for Perceived Preparedness

<table>
<thead>
<tr>
<th>School Type</th>
<th>Essential Tech</th>
<th>Essential Personal</th>
<th>Library Collection</th>
<th>Library Management</th>
<th>Public Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>NS</td>
<td>Sig: iSchool</td>
<td>Sig: iSchool</td>
<td>Sig: iSchool</td>
<td>Sig: iSchool</td>
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</tbody>
</table>

Interaction between School Type x Job Type

Do type of librarianship and type of LIS program interact to affect reported frequency of use of CILF competencies?

On the Essential Personal Skills subscale, the interaction between job and school type is marked, with iSchool Youth Service librarians far outpacing their traditionally schooled peers in reporting the usage of this subscale. Further, iSchool Reference librarians report a significantly less frequent use of this competency set. Administrative librarians from either school type (no significant difference) report the greatest usage of this skill set. The contrast between iSchool Youth Services and Reference librarians is vast and requires further study. Speculative considerations are that iSchool reference librarians may find themselves more frequently employed in virtual reference jobs where face to face service, and thus personal skills, are less frequently used than their Youth Services counterparts who not only interact with their young patrons but also their parents and thus represent a greater part of day to day activity.

iSchool-prepared Administrative librarians report significantly greater usage of the Library Collection competencies than any other combination of job and school type. The
Library Collection subscale is broad and covers a wider variety of activities, from acquisition to cataloging to processing and preservation. No research unearthed in this study explains this finding other than the speculation by Toshimori (2010) that contemporary librarians are increasingly required to perform tasks across the spectrum of library services rather than specializing.

The final significant interaction in usage reporting between job type and school type occurs in the Public Service subscale. This subscale finds iSchool Youth Service and Reference librarians reporting usage of these competencies at a significantly higher rate than their traditionally prepared peers. Chu’s 2012 study does find public service oriented classes present in iSchool curricula as well as traditional schools so this finding may require additional study.

**Do type of librarianship and type of LIS program interact to affect perceptions of preparedness of CILF competencies?**

This research question and its related hypothesis, the combination of Youth Services librarianship and iSchool preparations will result in greater perceptions of preparedness, are wholly unsupported. No interaction between job type and program type is predictive of perceptions of preparedness, which this study finds to be low across types. The anecdotal qualitative responses as well as research by Papaconstantinou, et al. (2008) and Noh, et al. (2012) support the quantitative finding and thus amplify the need for LIS programs to consider their curricula. Table 16 summarizes the interaction between school and job type for both competency usage and perceptions of preparedness.
In summary, type of library job is predictive of perceptions of frequent usage of CILF competencies, with Administration type librarians finding them most representative. Type of library school is not predictive of perceptions of frequent CILF competency usage. Perceptions of preparedness to perform these competencies are partially predictive by job type, with Administrative librarians feeling the least prepared. However, iSchoolers feel better prepared than traditionally schooled librarians. However, no combination of job type or school type can be considered predictive of feelings of preparedness. The interaction between job and school type, however, can be predictive of use of competencies, with iSchools having a predictive value for all job types of reporting greater usage across all but Library Management and Public Service subscales. This study, however, cannot be considered comprehensive or representative of the field, its subdivisions, or individuals. Its limitations are discussed in the next section.

Limitations of the Study

This research model is limited by a number of factors, including population, distribution, survey length, and the self-reporting nature of the survey. Creation of subscales also posed a problem with analysis of Library Collection Public Service Competencies.
The population is relatively small (262 complete responses) compared to the number of practicing librarians in the United States. Further, this population is representative of librarians working in public libraries only and cannot be extrapolated to librarians in any other setting (academic, special, corporate, etc.). An additional limitation to the population represented is that Collection Management library job types who responded were eliminated due to the small numbers of respondents and thus are not represented.

Effect size is also relatively small, and while statistically significant results are demonstrated, replication is required to establish practical significance.

The distribution method of this study, relying on viral contact, prevents an analysis of response rate and, thus, engagement of the population in the subject at hand. Further, the distribution of and response to the survey was greater in areas where the researcher had personal contacts, thus concentrating results in the mid-Atlantic region of the country. This geographic concentration may skew results but such an analysis cannot be made due to the distribution method.

Further, just 51% of the respondents completed the survey (262 out 511), likely due to the length of the study, though this is impossible to know. In the qualitative analysis portion of the study, a participant who completed the survey did comment to that effect.

Self-reporting is not the same as actual usage or preparedness of competencies. This study must be considered from the point of the view of the individual, taking into account their prior experiences, personal histories, strengths and interests, which may sway their perceptions.

The final limitation for this study is created by the subscales for Library Collection and Public Service Competencies. While Cronbach’s Alpha was acceptable for both scales, these
Competency Use and Preparedness by Public Librarians

competencies encompassed varying skill sets that don’t usually overlap in job descriptions. Library Collection competencies include Acquisition, Cataloging, Processing and Preservation—skills that are often assigned to different departments. In Public Services, Adult Services, Children’s Services, and Young Adult Services competencies are provided by distinctly different types of librarians and the subsection of Circulation Services are often provided for by paraprofessionals. For example, youth services librarians would not report frequent usage for competencies regarding older adult services but contribute to the overall mean for usage reporting. These subscales may call for individual analysis for a more accurate summation of competency usage.

Despite these limitations, this study does bring to bear a number of implications for the field and recommendations for further research.

Implications

This research is a first step in reporting first hand reports from library professionals in regards to use of CILF competencies and their preparation by their LIS program to perform these competencies. No prior research was identified that engaged the professionals themselves in these questions.

Unsurprisingly, Administrative Librarians found Library Management competencies to be frequently used, with Reference librarians reporting average usage, with Youth Service librarians .1 point behind. This finding is plausible because Youth Service library positions are often entry level and have fewer supervisory or management responsibilities. Reference librarians often serve as middle management and thus would naturally express higher usage of these competencies. Library Collection and Public Services competencies may be reported as
less frequently used because of the varying scope of the library collection competencies (acquisitions, cataloging, preservation, etc.) and public services competencies (adult, teen, youth, circulation services, etc.), as previously discussed. As a result, this study does not propose to draw conclusions based on this data. The primary implication is that library professionals find CILF competencies to be largely performed on the job and that this study may not adequately represent the usage of Library Collection and Public Services competencies. However, when LIS preparation means are evaluated, greater implications arise.

These comparisons implicate traditional LIS programs in inadequately preparing librarians within these three job types for the competencies assigned by OCLC, while iSchool programs are only slightly more successful. As 10 participants commented in the qualitative section of this study, some competencies should be prerequisite to entering an LIS program, such as using basic email functions, internet, etc. Others, rightly, commented that many things were and could only be learned on the job. However, if LIS programs are intended to prepare the student for real world application, traditional schools are failing by the measure of this study and the American Library Association may need to reconsider its accreditation standards. Georgy (2011) called for a European common core curriculum for LIS education, noting that a re-orientation to an evolving work force was required for the sustainability of the field. The results of this study indicate that American LIS programs may need to heed this call as well, using OCLC competencies as curricula guidelines. Twenty-two participants shared this sentiment in the qualitative portion of the data, stating that library school left them ill prepared for real world practice and that library school was largely theoretical and not practical. The success of iSchools in preparing librarians for the core skills of technology and interpersonal relationships may well be a result of Chu’s 2012 findings that iSchools incorporate classes from other university
departments and include a greater use of technology and practical experiences in their pedagogy, which may have produced the greater feelings of preparedness by iSchool librarians. In any case, the message is clear: basic technology and interpersonal skills are reported as the most highly and commonly used competencies by this participant pool and yet only iSchool graduates feel prepared to perform them. Traditional programs will need to evaluate their requirements of students to shore up both technology and interpersonal skills within their curricula, whether through admission requirements, direct instruction or the creation of activities which promote student success in theses competencies. For example, the qualitative reporting of study, 17 participants responded that most of their learning occurred in the context of library experience through practicum or library work prior to or during their formal library education—occasions during which core competencies could be practiced, thus fieldwork should be emphasized, if not required, in all LIS curricula.

The Library Management Competency Subset is also reported to be frequently used by the participants of this study, yet no job type or school type report feelings of preparedness to perform them. This gap is striking but not surprising given the literature previously presented: Clay and Bangs (2000) call for an entrepreneurial spirit; Haycock (2011) outlines successful library managers by skill type; Jordan (2012) calls for leadership competencies for the field; Noh, Anh, and Sang-Ki (2012) support the lack of practicality and leadership skills in LIS curricula; Schreiner & Pope (2011) question the lack of management training in LIS programs. CILF Library Management Competencies are also the most numerous of all the subsets: 40 competencies compared to 21 as the next nearest in number. Thus, the literature, the CILF, and the results of this study agree that both types of LIS programs need to seek opportunities to integrate management and leadership training into their curricula for the betterment of the
profession and sustainability of libraries in general. LIS programs may only need look outside their department, within their larger universities, to find the requisite opportunities to do so, mining their management and leadership schools for courses to add to their curricula. Regardless of the method, LIS programs should further explore leadership and management opportunities to serve its students.

**Recommendations**

The limitations of this study reveal several additional areas for research. Primarily, these include further study with a larger respondent pool; with academic librarians; and perhaps a study of each subscale individually.

As previously discussed, the small number and geographic concentration of respondents limits the generalizability of this study to the larger library population. Further, the large number of incomplete responses indicates a need to reduce this study to specific subscales. Ideally, this study would be replicated to include academic librarians as well as public librarians and be conducted in 3 parts (one part surveying use and preparedness for Essential Competencies; one part for Library Management Competencies; and one part for Library Collection and Public Service Competencies). This three part approach would reduce the length of each part of the study and thus potentially increase the number of valid responses and strengthen the data.

**Conclusion**

Public libraries continue to evolve in their role in their communities; so to must the professionals that serve them. Necessarily, the training ground for those librarians must also evolve. Librarians are unique in that their specific skill sets equip them to be lifelong learners and to undertake evolution with their community, discovering and applying new ways of
working as needs arise. However, our training institutions need to follow suit and evolve with the ever-expanding expectations of librarians—librarians as leaders, as technologic interpreters, as community connectors.
References


http://www.ala.org/educationcareers/sites/ala.org.educationcareers/files/content/careers/corecomp/corecompetences/finalcorecompstat09.pdf


Appendix A: Survey

**Purpose:** The purpose of this research study is to determine the perceived preparedness of LIS graduates for the workplace.

**Participation:** You are being asked to participate in this study because you are a graduate of an LIS program from an ALA accredited institution in the past 10 years. This study will take place online. You will be asked to respond to questions about your use of various professional competencies in your day to day job and your feelings of preparedness to perform these competencies, based on your LIS training.

**Time Required:** Your participation is expected to take about 15 minutes.

**Risks & Benefits:** The potential risks associated with this study are feelings of inadequacy; inferiority and ill-preparedness as well as frustration at having invested in an educational degree that has failed them on a professional level. This may result in lowered job performance. Further, participation may result in self-awareness not previously known and accompanying shaken confidence. Participants experiencing these symptoms are encouraged to seek the assistance of the Human Resources department for referral to mental health support, as covered by the employers’ insurance. The cost of such support is the responsibility of the participant. The study is expected to benefit you by creating a greater awareness of particular professional development needs; feelings of accomplishment in professional competency; positive feelings of contribution to the furthering of the profession; and the possibility to be the winner of a donation in your honor to the library charity of your choice. In addition, the study is expected to benefit the library science profession and the community it serves by creating a greater match between training and day to day responsibilities, providing better equipped librarians the first day on the job.

**Compensation:** As compensation for your participation, you will receive the opportunity to be entered into a drawing for a $200 contribution to made in your honor to the library charity of your choice (your library, the Friends of your library, your state library association, etc.); and the conditions associated with this compensation are that the odds will be determined by the number of participants but no worse than 1 in 1,500.

**Voluntary Participation:** Please understand that participation is completely voluntary. You have the right to refuse to participate and/or answer any question(s) for any reason, without penalty. You also have the right to withdraw from the research study at any time without penalty. If you want to withdraw from the study please tell the researcher or a member of the research team who is present during your participation. The researcher reserves the right to exclude participation or resulting data from incomplete surveys.

1. Survey Purpose, Parameters, and Confidentiality

**Confidentiality:** Your individual privacy will be maintained throughout this study by this researcher. In order to preserve the confidentiality of your responses, we will be utilizing an
anonymous online survey tool. Any ip addresses collected will not be used to identify participants. Signed informed consent agreements and research data will be kept in a locked office, in a locked cabinet, at the Campbell County Public Library building at 684 Village Hwy, Rustburg, VA. All data will be destroyed after three years.

2. Contacts for Questions and Survey Agreement

**Contact with Questions:** If you have any questions or would like additional information about this research, please contact Nan Carmack at 434-332-9658 or carmack_n@students.lynchburg.edu. You can also contact my faculty research sponsor, Alisha Marciano, who is the Principal Investigator (PI) for this project and is supervising my work on the study, at marciano.a@lynchburg.edu. The Lynchburg College Institutional Review Board (IRB) for Human Subjects Research has approved this project. This IRB currently does not stamp approval on the informed consent/assent documents; however, an approval number is assigned to approved studies – the approval number for this study is LCHS1415129. You may contact the IRB Director and Chair, Dr. Sharon Foreman-Kready, through the Office of the Associate Dean for Academic Affairs at Lynchburg College at 434.544.8327 or irb-hs@lynchburg.edu with any questions or concerns related to this research study.

**Agreement:** I understand the above information and have had all of my questions about participation in this research study answered. By clicking “next” below I voluntarily agree to participate in the research study described above and verify that I am 18 years of age or older. Please print this agreement for further personal reference.

3. Demographics
1. Are you male or female?
2. What is your age?
   - 22 to 30
   - 31 to 44
   - 45+
3. From what library school did you graduate?
4. Was your library school accredited by the American Library Association when you graduated?
   - Yes
   - No
5. Was your library school considered an iSchool when you graduated
   - Yes
   - No
6. Did you graduate from Library School between 2005-2015?
   - Yes
   - No

*7. In which library department are you currently employed? If you have responsibilities in more than one field, please indicate the department in which you spend the most of your efforts/time.
   - Youth/Children’s Services
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- Collection Management (cataloging, acquisitions, technical services)
- Reference/Public/Adult Services
- Administration (library or branch management with supervisory requirements)
- Other (please specify)

8. In what state or U.S. territory do you live?

The following sections are organized by the subsections of the OCLC Professional Competencies. Each question will ask you to indicate, using a Likert-type scale, how frequently you use each competency in your job and how well your LIS program prepared you to perform that competency.

4. Survey

All questions were responded to using the following two queries and scales:

Do you use this competency on the job?
(Not at all) 2 3 4 5 (frequently/completely)

Did your LIS program prepare you to perform this competency?
(Not at all) 2 3 4 5 (frequently/completely)

Essential Competencies

Core Technology Competencies

1. Perform basic functions of email, calendar, and task management * functions
2. Performs basic calendar operations and task management
3. Understands, uses and helps others use basic computer hardware and peripherals
4. Understands, uses and helps others * use mobile devices
5. Understands, uses and helps others use the Internet
6. Demonstrates information literacy
7. Understands and performs basic operating * system functions
8. Understands and performs basic functions and tasks of common software programs
9. Performs basic word processing operations
10. Performs basic printing operations from common applications
11. Maintains awareness of commonly used technologies and applies technology effectively for ongoing
12. learning and collaboration

Personal/Interpersonal Competencies

2. Develops and maintains effective relationships with others to achieve common goals
3. Works effectively in teams with strong team-building skills and attitudes
4. Applies effective strategies to manage organizational politics, conflict and difficult coworker behaviors
5. Manages the library environment to enhance the user experience
6. Develops and evaluates standards and practices for the delivery of quality customer service
7. Applies customer service skills to enhance the level of user satisfaction
8. Applies effective techniques to address difficult situations with users
9. Understands and acts in accordance with the basic values and ethics * of library service
10. Aligns efforts with the vision and direction of the organization
11. Demonstrates leadership qualities and behavior
12. Employs sound project management principles and procedures in the planning and
    implementation of programs and services
13. Anticipates and adapts to change and challenges * effectively
14. Manages the development of one’s own learning and ongoing improvement of skills and
    knowledge
15. Demonstrates critical thinking and problem-solving abilities
16. Uses creative and innovative approaches

Library Collection Competencies

**Acquisition and Processing**
1. Manages the processes by which library materials are ordered, received and tracked
2. Manages the expenditures and accounting for acquisitions
3. Manages the catalog to ensure that library users have optimal access to the collection

**Collection Development and Management**
1. Builds and maintains a collection of resources in many formats based on a determination
   of community needs.
2. Establishes and applies selection and evaluation criteria to build a collection of high-
   quality and
   relevant resources.
3. Researches and designs systems and services to provide optimal access to resources.
4. Understands and establishes collection development policies and procedures
5. Ensures that the collection is current, useful and in good condition

**Digital Resources Technology**
1. Selects, organizes and maintains the library’s collection of digital resources
2. Demonstrates working knowledge of programming languages applicable to digital
   resources
3. Develops and manages interface services to provide integrated access to the library’s
   resources
4. Pursues efforts to sustain and improve the digital resource systems and services

**E-Resource Management**
1. Develops and manages the library’s collections of electronic resources
2. Provides distributed access to the library’s collections of electronic resources
3. 

**Preservation**
1. Establishes and implements appropriate techniques for the preservation and conservation
   of library
2. materials
3. Identifies, selects and maintains * special collections
4. Establishes and implements policies and procedures for digitization of library resources for access and preservation
5. Establishes and implements policies and procedures for digitization of library resources for access and preservation

Library Management Competencies

Community Relations
1. Builds support for the library among a variety of groups, using the most appropriate methods
2. Maintains positive public relations through communication and promotion of the library’s values, services, accomplishments and needs to all stakeholders
3. Builds relationships with community organizations

Facilities
- Creates a welcoming and user-friendly physical environment that encourages all community members to use library services
- Plans library spaces that promote community engagement and collaboration
- Creates and maintains a healthy, safe and environmentally responsible environment for library personnel and users

Financial Management
1. Understands and employs basic budget and finance concepts * and terminology
2. Establishes effective financial management processes and services, using sound business and financial judgment
3. Identifies and pursues multiple funding sources for the library

Laws, Policies and Procedures
1. Understands, applies and explains applicable laws
2. Develops policies and procedures based on the library’s mission and user needs to guide efficient and effective library operations
3. Creates policies and practices to ensure safety and security
4. Creates, evaluates and implements policies and procedures for library technology

Marketing and Public Relations
1. Understands and applies marketing theory and practices
2. Develops, implements and evaluates an ongoing marketing plan for the library

Organizational Leadership
1. Uses leadership skills to provide vision and guidance to library staff, board members and the community
2. Contributes effective strategies and decisions regarding library services and resources
3. Provides effective leadership of all stakeholders and teams
4. Embraces change and fosters understanding and acceptance by all stakeholders
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Personnel Management
1. Contributes to a productive workforce through effective recruitment and selection
2. Leads and empowers employees to deliver effective, high-quality library service
3. Establishes effective strategies for performance management
4. Understands and applies legal standards and requirements for performance management
5. Works appropriately with consultants and volunteers

Project Management
1. Employs sound project management principles and procedures in the planning and implementation of programs and services
2. Leads work teams with clear direction and effective communication
3. Monitors and evaluates projects and adapts as needed

Staff Training and Development
1. Establish strategies and long-range initiatives to create a learning environment within the library
2. Plans for and supports staff career development opportunities
3. Develops and implements a culture that embraces ongoing learning
4. Develops effective methods to evaluate learning initiatives

Strategic Planning
1. Designs and implements an ongoing strategic planning process * for the library
2. Performs ongoing evaluation to gauge the success of the strategic plan
3. Collaborates with IT to create and implement an ongoing technology planning process that integrates with the strategic plan

Trustees, Friends and Foundation
1. Manages the relationship and communication with the Library Board (Trustees)
2. Understands and sustains the library’s roles and relationships with the Friends of the Library
3. Understands and sustains the library’s roles and relationships with the Library Foundation

Public Services Competencies

Adult and Older Adult Services
1. Designs and implements library services to engage and meet the need and interests of adults and older adults to promote lifelong learning.
2. Assist users with choosing recreational and informational reading, viewing and listening choices, and developing professional strategies for staff to stay abreast of new offerings.
3. Develop, maintain, and facilitate reference collections and respond to library users’ information needs and reference services.

Children's Services
1. Designs and implements spaces, programs, collections and services to meet the needs and interests of children in the community.
2. Works with parents, caregivers, and adults who serve children; reach underserved populations; and
3. articulate the importance of quality library services to the development of children.
4. Builds collections and reference services relevant to the recreational and information needs of the
5. community's children and connect children and families with resources that encourage reading.

Circulation Services
1. Understand and perform basic circulation operations, including general knowledge of library automation systems, records standards, interlibrary loan, privacy and copyright issues, as well as shelving with sensitivity to audience and individuals from diverse backgrounds.

Patron Training
1. Provides informal instruction to patrons on library functions, information access, and basic technology skills, to build skills of library users.

Young Adult Services
1. Design and implement spaces, programs, collections and services to meet the needs and interests of young adults in the community.
2. Works with parents, caregivers, and adults who serve young adults; reach underserved populations; and articulate the importance of quality library services to the development of young adults.
3. Builds collections and reference services relevant to the recreational and information needs of the community's young adults, connecting them and their families with resources that encourage reading.

Open response
Is there anything you would like to comment upon?

This page concludes the survey and links to an optional drawing for a charitable donation to the library charity of your choice.

26. Thank you! Enter Drawing for $200 Charitable Donation

Thank you for participating in this research survey. Your response is valued and appreciating. If you would like to be entered for a $200 drawing to the library charity of your choice, please click on the link below. The drawing form will open in a new window. Click "finish" to close this research survey. Click here to enter drawing.
Appendix B: Qualitative Survey Responses

NB: all responses reported /SIC/

- I think it would be difficult to master all the competencies in one LIS program. A lot of the areas mentioned in this survey deal with situations that occur OTJ.
- Much of being a librarian is learning on the job through hands-on experience. Professors were out of touch with reality and the best education I have received is through on the job experiences.
- I, unfortunately, feel as if library school did not prepare me at all for working in a public library or for working with the public in general. Most of the classes were theoretical, which is important as a foundation, but even the more practical classes did nothing to prepare me for managing, leading, developing plans and strategies. Except for the fact that my MLIS is required to be a professional librarian, I did not get much of out of library school (except some great contacts and friends).
- I work for a large library system, there are many things that i never touch like collection development. I'm currently leading the all ages summer reading team, so even though I'm an Adult Librarian i serve all ages. My degree was geared towards serving teens.
- I felt like my online MLS program was a waste of two years. It was no surprise to me when my school lost its accreditation near the end of my time there.
- I learned many of the skills listed here while (a) on the job, (b) in optional internships while in library school, or (c) in oblique ways while in library school. (For example, I only really got an understanding of how libraries work as whole, interconnected systems, in a music librarianship class.) Some of this is inevitable, but it would be great if much of it had been better incorporated into the curriculum with required internships (or even brief volunteer sessions). It should also be noted that the school I attended did not emphasize public librarianship as a priority in its class offerings, which is a shame. I received a good education, but too much of that (in my opinion) was in spite of the institution, not because of it.
- I didn't start library school till the age of 48. I was very disappointed in my experience at FSU. None of my courses were challenging and I honestly didn't feel that I learned anything other than some titles I could use for Reader's Advisory. It really just felt like a diploma mill. Additionally, I lament the lack of any national standards for core requirements. I brought loads of transferable skills with me to the library profession so I haven't been lost, but the traditional age students in my classes without that wealth of job experience - I bet they have had a hard time getting their feet under them since graduation. Very ill-prepared to enter the job market and with little real-world knowledge gained in school.
- I was in the academic libraries track for my MLS but have ended up working in a public library environment, which reflects some of the "not at all" responses. I think of my
MLS as a useful (and brief) bird's eye view of the library world, and now I'm on the ground while also frequently flying overhead. The best part of my MLS was the reference training (and that habit of mind) and the foundational courses that explored the history of libraries and their ethos and ethical philosophy/behavior. These helped fill in the other gaps.

- I think LIS programs give a false impression of what a librarians job will entail. It is not this cerebral thinktank job of yesteryear. We are teachers, IT experts and managers. Not a lot of opportunities for pure reference resource problem solving.

- My library school actually lost its accreditation a few years after I graduated. Frankly, it deserved it.

- I spent most of my career working in an academic library. I took the academic track in my MLS program. Not sure what this may do to your results.

- Elementary school librarian so some questions are na

- yes. Many of these subject would or could never be taught in an ILS program. There are too many variables to make something like "learning ILS systems" very useful. This is where on the job training comes in. There are too many types of libraries and most of them do not have the same purpose, vision, ideals,values and technologies. These questions were way too general and too centered around unique on the job training that would never translate in a classroom.

- I hope that in the future perhaps the personnel section could include something about supporting and hiring diverse individuals and mentoring them in leadership roles. I don't think people are completely aware of how non-diverse librarians actually are, because we are mostly comprised of women. I am not sure how aware everyone is that those at the top of the totem pole are not often women, either. That seems like it should be a competency that people are hyper-aware of when involved with the recruitment and promotion process.

- My degree had an emphasis on School Media. I worked in a school for several years and am now in the public sector. My experience in school does not reflect what I might have learned if I had chosen a public library emphasis. BUT I feel that my experience obtaining my Master's was incomplete and did not accurately reflect what my experience would be like once employed in schools.

- Some of the things I didn't learn in library school were due to not taking the related courses. However, for the most part I found that what I got out of grad school is due to my own persistence - the courses were largely geared toward academic librarians, and I had to work to fit what I learned into a public library perspective. Without previous experience and an unpaid internship that I looked for myself (with no encouragement by the school), I would have gotten even less out of my coursework. In addition, coursework is overly-focused on ideas rather than realities. Most of the things we do every day - technology troubleshooting, budgeting, handling difficult patrons, and above all MARKETING - were never addressed. I have found my degree useful only as the piece
of paper that qualifies me to get my foot in the door. The rest has been on me to learn as I go.

- Library schools need to teach less theory and start teaching more practical skills.
- I often hear MLS/LIS programs criticized for being too heavy on theory and light on practical skills, and I definitely agree with that. However, it does seem difficult to teach some of these practical skills in a classroom setting. As students, we were encouraged to seek out field experiences to gain practical knowledge of the profession. Ideally, field experience complements theory. I found practical experience to be absolutely invaluable, and probably even more beneficial than the degree itself.
- The notion of LIS preparedness needs to shift, at least in academic libraries (though a case can be made for public libraries as well) to pedagogy and advocacy. Learning the nuts and bolts of collection development and management, and patron services is important, but preparation for teaching is essential, and lacking in many LIS programs.
- This survey is way too long.
- I felt my school focused on students who were either paraprofessionals who needed a degree to keep their job or librarians who wanted a School Media Specialist certificate. The only things I remember learning are: ""To make things random, alphabetize them"" and ""All conflicts come down to one of two things: He has a cookie and I don't or His cookie is bigger than mine."" I also got the strong impression that only people of a specific political and social viewpoint were acceptable in the greater library world. I desperately wish were had had a computer networking/basic IT class.
- I was in first fully online cohort through Maryland's iSchool (2011-2013). We had no electives - all classes were assigned, so it was a very general MLS. I would've tailored it more to management, marketing, advocacy, UX, and web/IT if I could have.
- Florida State University gave me a well rounded education and prepared me well for the Library world. The class Leadership using the textbook ""Level Three Leadership: Getting Below the Surface by James Clawson really allowed me to answer highly on many of this survey's questions (did my LIS education allow me to use the competency). Taking this survey confirmed that FSU is indeed an excellent facility in which to receive a well-rounded MLIS education.
- I did not have any classes on young adults/children but that was by choice as I knew I was not interested in that field of study. Our program did offer those competencies.
- There should be a section w/ questions about the kinds of classes we took in school. I answered negatively (#1) that my school did not prepare me to deal with children & YA, because I was an archive concentrator and took no classes for public library/children/youth services. Simmons has excellent classes for those, but I didn't take any. It would have made the survey stronger and helped you better understand the participant's answers. :-)
- This survey makes me wonder what I really learned in library school. Most of these things I learned on the job when I worked for a public library. Now that I have a more
tech-related job within a library, which library school assisted in preparing me for, the other learning material seems irrelevant.

- While I graduated from an accredited university and received my MLIS degree the MAJORITY of learning was from "on the job" training! I had worked in a public library for years before pursuing my advanced degree.....my supervisors provided excellent on the job training as well as observing my former director - I learned what to do AND what not to do!

- Most of my skillset comes from being curious, a quality I found absent in many of my SLIS cohort.

- I learned much of what I do everyday on the job.

- Every day I wonder what library school was preparing me for--certainly not public libraries

- Only a part-time reference librarian

- I think you should ask the year we graduated as that makes a difference especially with regard to technology. I learned a lot from a practicum while in library school and consider that part of my library school education.

- Many of the computer competencies were assumed to be mastered in my program before enrollment. That may have an impact on why they were not covered in the coursework.

- Very little of my library degree is of any practical use. I do appreciate having a founding in library theory and the wider picture of library services that the degree provides, but it in no way replaces the value that was lost by the lack of practically applicable content. Especially, I would have liked ot have more classes on the reference interview process and reader's advisory services, safety and legalities, customer service training of any sort, training in basic IT troubleshooting, and basic business practices including administrative and supervisory skills.

- Nope.

- Some of the questions addressed classes that the program offered, but I didn't take, so I gave a 1 score.

- I am a non management librarian in a large system so many of the ?s are not part of my position

- many of the questions I answered that my LIS program did not prepare me--that's becuase I already knew those skills before entering (for example, word processing). I also have a very non-traditional position now and so many of the questions didn't really apply.

- expectations and opportunities are reduced for part-time staff like me

- prior to LIS - I worked in in a library, both in reference services and as a circulation supervisor. Library school provided me the theoretical underpinnings to library service, leadership, and literacy. Additionally, my focus in LIS was more towards public library administration and I did not pursue heavily technology based course work.

- As a library system director, I have found that a MBA/MPA is far more pratical and applicable to my job than a MLIS.
• I tailored my degree to library management and administration; I did not avail myself to all of the available technology courses and plan to do so in the future to enhance my knowledge and skills in this area.

• This really confirms what I suspected all along: library school did not prepare me for much of anything.

• Great risk statement, I enjoyed that :)

• The School of Library and Information Science program did not provide enough practical application in the theories being taught. I think that an MLIS program should have much more practicum than theory. More work in cataloging/technical services should be the foundation for every MLIS student. And most especially, instructors who actually know how to teach should be hired rather than those that meet gender, race, ethnic and political correctness of university (government) human resource requirements.

• After filling out this survey I realize that many of the things learned at grad school perhaps may not related to what I do now, interesting.

• A person's graduate school experience depends largely on the courses taken...sure there were maybe 2 courses I would like to have taken, but either I didn't have time or it wasn't offered at a time that it could fit into my schedule. (I completed my MLIS at a distance.) Also, I feel that Library School focuses more on theory, etc., than the skills needed for the day-to-day hands-on operation of a library. I wish more "'real-life"' issues were addressed in library school as perhaps a special topics course. Many of the skills named in the first section (e-mail, calendar, task mgmt), most folks get before Library School or have learned to live without them...making written, prioritized to-do lists or using a physical calendar at one's desk. Interesting survey!

• Most of my preparation for my job came from on the job experience

• I think that library programs should add more core courses on management, marketing, and outreach, as well as a course on the practical realities of working in libraries. Further instruction on technology would also be great.

• For the most part, I had one 15 minute conversation in class about weeding, a vast amount of the survey I felt like this. Most of library school was project based and did not focus on the process of getting from point A to point B, just point B. I excel at my job because I am driven and believe in my job and libraries.

• I chose to take certain classes over others. So my answers in regard to whether my MLIS program prepared me for various competencies is more based on whether I took a class pertaining to that issue than whether they had actually offered the opportunity to become more competent in that area.

• Technology hadn't quite jumped when I got my degree (mobile wasn't pervasive), but I feel like most of my useable education has been on the job, including workshops and conferences. I have always felt that Library Science should be an undergraduate degree with multiple practical studies, like education degrees.
• Having worked at two library systems and having been very surprised by the extent to which they are different, I don't think a degree can completely prepare students for work. So much of what I have learned about this profession has been learned on the job.
• My experience working with excellent librarians in a public library as I was completing my degree was the greatest education of all to prepare me for my current job as a YA librarian.
• My answers are a little odd as this is a second career for me. I have answered based on whether or not it was a skill I brought with me. If school influences my actions than I marked the level as to how much it sways my decision.
• I answered a number of areas as "Not at all" to whether or not my LIS program helped me with competency in those areas, because instruction in certain areas would have come from classes I did not take.
• No
• They can tell you and teach you about the perfect library in school. The problem comes when you have a job in a library that is managed badly but still manages to limp along - because no one has dared to do anything different. And patrons do not demand anything different. So theory is good. Reality makes it hard for theory to work. I always was more comfortable with teachers who had "'been in the trenches"' for awhile. The further away they were - the realization was that they had no clue what the reality of the library workplace was any more. We used to astound our library management teacher with stories of crappy current managers. And depending what job you get after library school - it might take awhile before you can be in a place to implement good changes.
• I feel that in large part, my LIS program was thorough on theory, but light on the practical side of librarianship. So much of what I use every day are things I’ve learned on the job in the last 10 years (I'm a 2005 graduate).
• I specialized in Youth Services but am now a manager. In library school I never took any leadership or management courses.
• Many of the skills listed I learned through working in a library, while pursuing my degree. I hope that LIS programs continue to adapt to the changing environment with a greater emphasis on technology and project management.
• I work in a system with centralized collection management. This alters a lot of what a branch manager does as opposed to someone working in a central position.
• My library is in a for-profit college environment, so I am administration, and everything else. My experiences are likely different than those of people that aren't solo librarians.
• My classes were predominantly online; I felt that the one class I took that was in a classroom setting was actually the most instructive of them all.
• I don't see any way that library schools can adequately prepare students for everything they need on the job. There is so much practical and technical and location/context-specific stuff that would be a nightmare to try to teach out of context. I think what instead needs to happen is that the MLIS degree is paired with a paid internship in a setting
where the students can get real experience. This should be required, not optional. And also systems should just expect to train new librarians when they are hired out of school, and even if they are not just out of school.

- While my MLS studies touched on a lot of these competencies, most of my true learning has been gained "on the job." I would imagine the same is true of any profession, and doubt it speaks to a lack of focus in the study program itself.

- My MLS was valuable, but a vast amount of knowledge in the field I gained from volunteering, practicum work, and on the job once I was hired.

- Go Hornets!

- So basically, the things I do every day were never mentioned in library school, and the things I never do were covered in depth! But then again, I am in a completely different area of LIS than I planned for.

- I graduated in 2006 and mobile devices weren't as prevalent as they are now.

- My library school dealt with a lot of theory, not a lot of practice. We learned the history of cataloging, but not how to catalog.

- the school I attended made almost no effort to teach towards public librarianship, either practically or ideologically.

- Many of these are applied skills/competencies and things an LIS program SHOULD NOT be responsible for teaching. Some should be learned in other places, particularly in work place staff development programs. Please be careful in your recommendations about what an LIS program ought to teach. I certainly would not expect my LIS program to have taught me many of these competencies (the theory behind them, on the hand, was definitely there!).

- I really feel that library school did very little to prepare me to be a library director. This job is, essentially, to run a business and there were no business offerings that would have been helpful. For those with a mind toward running a public library someday, accounting, personnel management, and working with a board should be mandatory coursework.

- When I graduated in 2006, the focus was still on paper resources rather than electronic. E-books were a ""futuristic"" thing. But, in all areas, I feel I learned more from working in a library while I was in school than I did from my MLS program itself. I have my degree because I needed that sheepskin in order to move upwards in the library world.

- It is difficult for there to be a competency about cataloging when it was not (and is not to my knowledge) required to be taken by students.

- Prior to getting my MLS I worked in two other service fields: retail and meeting planning. My experience in these fields has helped me move ahead an innovate than most of what I learned in my MLS program. Would have liked more practical experience in grant writing, statistics, practical management, etc.

- Yes! My answers for the last two parts - Children's and YA services - are a bit skewed because I have the educational background for these fields (the first part of the question)
and worked in them for several years, but have recently changed jobs so I no longer do them (the first part of the question).

- Some of these competencies, particularly the technology competencies, should be prerequisites to the degree rather than taught as part of it.
- I graduate in 2007. Technology changes too quickly.
- IU Bloomington was a terrible school for public librarians. I had 20 years of library experience and have to say that the only reason I got my MLS was because of the state requirement certification law.
- No.
- Ultimately (and I've said this quite a lot since graduating), I don't think my degree did much for me except give me the credential. My retail experience prepared me better for a job as a public librarian, and anything extra could be on-the-job training.
- The graduate program at SCSU lost its ALA accreditation a couple of years after I graduated. I was surprised that it did, but in my experience the quality of some of its course offerings, particularly Reference, was low and its sources outdated. I was not prepared at all to deal with rapidly changing technology, but I have learned (and continue to learn) on the job.
- I had previous library experience so was aware of the challenges I would face working with the public etc. Was really surprised how little real world experience this would give me. I did learn about some good resources that I do still currently use in my job field.
- Library school was not very relevant to current library world
- This is a very thorough survey. I hope it leads to great success.
- Many of these competencies were not relevant to my specialization; My library school offered many courses on these subjects, but I did not choose to take them. In some cases in core courses I received instruction on topics that was relevant to some of my classmates, but not to someone going into youth services. Library school seemed very biased toward academic libraries and those who deal more heavily with technology than we do in youth services. We use technology, just in a different way.
- Not in management, so many competencies are not part of my daily job duties. :
- I don't actually do much of any real library work, because I am on the desk so often. I feel like a glorified bartender.
- Here's the thing: I really would not have wanted an LIS program to give me more instruction on word processing or basic computer operations. You should already know that before you start an LIS program. And there's lots of stuff that just makes more sense to learn on the job than learn formally. I think the reluctance of libraries to train new employees is a bigger issue than LIS programs not sufficiently preparing graduate students. Also, there are more genders than just male and female.
- As with every respondent, my program focused on my areas of interest and thus has left me less prepared in some areas than others.
• Some of the questions were odd for what a university could teach us. Leadership is not really something you learn in school, but is something that is tended when in a job setting. Some of the questions just seemed more relevant to what you would learn on the job.

• Many of the competencies that I rated the school low on are more due to the electives I chose to take than the performance of the school. Also, I worked in libraries for 6 years before beginning grad school so many competencies I picked up through work experience and not my grad school studies. That is not a reflection on the program. The two biggest weakness that came out of my grad school were marketing and advocacy. I do not feel there was enough of a focus on those two aspects of library service.

• The one thing I most wish I'd learned about in school is marketing on the cheap, and for individual programs rather than big campaigns.

• I graduated August 2015 but have worked in circulation for 9 years.

• Many of the early questions (in regards to basic computer knowledge and time management) I rated my LIS program lower. This is not because I was not prepared, but more because I learned these skills much earlier on in my schooling. I don't think anyone gets to grad school without understanding microsoft office and email.

• As manager of a small library, I feel that most of my time is spent spinning my wheels going from one interaction to the next, from one program to the next without completing everything I need to which is probably more a lack of organizational/managerial skills than any lack of preparation through study for my MLIS. My degree was through an online program and completed in 2 years because I was older when I finished my Bachelors and moved toward obtaining a MLIS so it seems to me that I might have benefited more if I had taken 4 years instead of 2 and spent more time in a physical environment with fellow students. In addition, management skills, including interactions with employees, was not addressed at the extent I would have liked. I understand the benefit of lifetime learning, but find myself pulled in so many directions that trying to "keep up" creates a great deal of frustration. There should be more time spent on teaching librarians how to prioritize in library school.

• I wish there had been more hands on instruction for book repairs. I am a manager but with the state of public libraries' budgets many in professional positions are expected to perform previously recognized duties of paraprofessionals.

• Budgeting and the finance side of the library is something that my LIS program failed miserably at. I have a BA in Business Management. I can't imagine how lost other Director's are that don't have a business background.

• I graduated in 2005, so was in school 2004 & 2005, so I want to point out that some of the digital questions didn't really apply at the time. I also found it very difficult to know how to respond in how often I use a skill in my job, as I have been a professional in the field for 10 years and have multiple jobs, not all in the same area. While my current job does not involve working with children, for example, that is something I did for 5 years.
after completing my MLIS, so it was hard to know how to respond. I feel like my overall MLIS education was valuable, but I do not feel like there is enough of the practical and day-to-day concerns of a library (and working with the public) addressed in both my program and in most of the programs out there.

- Technology has changed quite a bit since library school. Even though it has been less than 10 years, I have seen a lot of changes.
- I felt 100% ready to work in my sub-field (technology), but not ready to be a leader or manager upon graduation. I needed much training in finance, contracts, and governmental process that I never was exposed to in school. Overall my program was fantastic for skill building and exposure to different library areas, but finance should be compulsory education.
- no
- No.
- The MLIS program at SJSU had a great deal of emphasis on working well within teams. At the time, I thought it was a bit over the top. Now, as a director, I very much appreciate it!
- I've been out of grad school for almost 9 years and I feel like the field and libraries themselves have changed so radically that my grad program might have been the last dinosaur that didn't foresee the coming change.
- I found the opportunity to do a field experience in a public library to be probably my most valuable learning experience during grad school.
- My position involves working in circ, teens, and children's.
- Many of the subject related courses (archives, rare books, children's services, etc.) were electives. The core library competencies were required by all students but our knowledge on subject related fields is wholly due to the electives we chose to take depending on our interest and the field in which we wanted to work.
- I have worked in a variety of library positions before receiving an LIS degree. It was in these positions that I learned many of the skills that I use.
- Questions 53 and 54 appear to be the same question
- no
- I wish I had taken a class on project management.
- Regarding some of the earlier questions: I really don't think it's the responsibility of LIS programs to teach graduate students basic skills such as how to use email or calendaring systems. And, I suspect that many of them do not because it is a skill that students are expected to have as they enter their programs. I'm curious as to how the data will be interpreted in this area, since many of these things are skills students are expected to have already.
- I wish you had given us a "not applicable category"
- I feel that my level of preparation for many of these competencies depends on the courses I chose or was able to take at my university.
• Overall I think my degree prepared me for the work force, but I also had prior experience in libraries before library school and sought out great internships and field experiences, which enhanced my experience. This is a key component to library education.

• Position is spent 50% in Adult Services and 50% Teen Services

• I just started working as a professional Children's Librarian and the education I received from Kent State University was very high quality. I would recommend this school to anyone looking for a Library Science degree.

• The survey should have a "what the beejeezus does that competency mean" option! I think that in many ways, my LIS degree was invaluable (I can't imagine a more successful method of communicating the history, theory, development, and purpose of the library profession), but it was (by necessity) limited by the scope of academia. I learned most of the practical stuff at the two part time jobs I had while earning my degree.

• No

• I came into Libraries with a doctorate and graduate level teaching experience for research and statistics. What passes for library research skills and methods courses is nothing less than frightening. Librarians are doing bad, inaccurate research and it is being accepted. It's a major problem.

• Weaknesses in my knowledge and skills were largely due to self selection of courses and focuses rather than in the program itself.

• Ultimately I feel like I got a very broad education about the library field, which was great! However, some of the more practical, everyday type things were not covered. I don't feel that this is necessarily a bad thing, though, because some of these types of things should be learned at a job - each library does things differently and therefore some on-the-job training should be expected.

• I think my school- or the classes i chose prepared me very well in some areas and not in others. I did get the certificate at my school in children's and young adult services. My profs were from NYPL and NYC and were excellent. Cataloging and Reference classes excellent and the archival classes-especially preservation which taught grant writing and evaluation and planning were incredible. I actually took 3 extra credits to get both certificates. Day to day and many of the many of the computer training aspects I learned on the job. Good luck! Great questions!
Appendix C: U.S. States and Territories Represented in Population

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<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
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