

**Exemplary online information literacy courses
at selected four-year colleges and universities**

by

Gloria Creed-Dikeogu

B.Bibl., University of Cape Town, South Africa, 1986
H.D.E: PG (Sec.), University of Cape Town, South Africa, 1988
M.L.S., Emporia State University, 1999
MAHR, Ottawa University, Kansas City, 2006
M.B.A., Ottawa University, Kansas City, 2008

AN ABSTRACT OF A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

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College of Education

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Abstract

Twenty three in-depth qualitative telephone interviews were conducted in this multiple case study with instruction librarians at eight four-year colleges and universities. Snowball sampling was used to select instruction librarian, information literacy department head and administration participants employed at institutions recognized by Association of College and Research Libraries for exemplary information literacy best practices: information programs. The questions researched in this dissertation were: How are selected four-year colleges implementing exemplary information literacy courses? How do exemplary four-year college library information literacy courses implement the Association of College and Research Libraries Framework for Information Literacy in Higher Education (2016)? How do exemplary four-year colleges and universities implement digital literacy and the six frames of the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016)?

The Association of College and Research Libraries Standards (2000) and the Framework for information literacy for higher education (2016) were used as a foundation for this study. A conceptual framework was built in this study around information literacy historical underpinnings and five major national educational reports that were submitted to Congress between 1983 and 1989. These reports accelerated the information literacy agenda in institutions. The major study findings suggested that information literacy programs in institutions were most successful when the library's program was supported by the institution's administration. Successful information literacy course and program implementation in all eight institutional settings were dependent on the collaborative arrangements made between the instructional librarians and the faculty. Online information literacy courses were not common at the eight institutions. Information literacy instruction was blended and information literacy tutorials provided to students had online-components. Instruction librarians were using best practices in six areas that directly related to the development and design of the information literacy course: in their reference interactions with

students, in choosing information literacy and teaching and learning models that would fit their institution's programs, in the development of information literacy curriculum, in curriculum and program administration procedures and in assessing their information literacy courses and programs. Findings also indicated that although there was a great deal of anecdotal evidence that instructors provided that their students were information literate when they graduated, and that they were lifelong learners, no institutions had implemented tests for seniors that determined whether they were graduating information literate.

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Approved by:

Major Professor
Dr. Debbie Mercer

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Dedication

I dedicate this dissertation to my family, my husband, Nathaniel Dikeogu and my son, Chijike Dikeogu. I acknowledge that this ten-year feat of study would not have been possible without your caring and support of my endeavors, and the hours of time you spent fixing my laptop computer when it was not working correctly. May God richly bless you both!

Prologue

When this dissertation was begun, the researcher had worked as a library director in an academic library for seven years. She had started work in an academic library setting after spending her early professional years as a high school English teacher and school librarian, and a public librarian.

Teaching in a smaller academic college as a member of the faculty, and being actively involved in the creation of a blended information literacy course at her College, the researcher was determined to conduct research on an information literacy research topic that would provide useful information to aid and bolster a fledgling information literacy program. The researcher went through several information literacy topic scenarios, all of which were not the right topics for a dissertation.

Choosing to research how exemplary information literacy programs had developed and designed their programs was a topic that was suggested to the researcher, thus she cannot claim that she was the originator of this idea or the one who made the final decision about what the actual dissertation topic would be. She had considered and offered several topic suggestions, but these had all been rejected. Initially, exploring this topic, it did appear that it could be viable. Exploring in depth, the topic began to resonate with the researcher because she had many questions about information literacy programs at other colleges and universities and how these were being conducted. She was particularly interested in the universities that had participated in the American College and Research Libraries Best Practices Program, where they had become exemplary programs that were somewhat celebrated in the field. After winning high acclaim for the example they had set for other college information literacy programs, librarians at these colleges literally reached celebrity status amongst their colleagues, being invited to present about their information literacy successes to librarian-audiences across the country and publish a multitude of articles about their information literacy pursuits in the literature.

At first, the researcher asked what a smaller academic library would need to do as it changed tactics, first teaching face-to-face, blended information literacy courses to designing and developing courses online. Would the study be able to provide answers to that question? Then she thought of how outcomes had been created for the course she was teaching and how important it was to understand how other colleges and universities were interpreting those and assessing their own outcomes in their courses. She wondered how the assessment procedures she and the information literacy librarian had chosen would work out. Would students become information literate after they had taken the library's course? Or would they need more.

When she had the opportunity to craft the three main questions which were posed in the study, she took it with both hands and then crafted about forty questions of her own which cut be asked of participants in interviews. These questions were tempered down by three expert information literacy specialists and in the end twelve questions remained.

Then, as luck would have it, the information literacy librarian hired to work with her designing the information literacy program at her college, created a completely online information literacy course in Blackboard, and now the researcher's questions began to change. She had not checked on this as being a fact, but she was convinced that all the large, exemplary universities had to have online programs. If she had them at her small university library, then all of them, if they were exemplary, had to have them and all she had to do now, was gather information in this study about these online programs and transfer it to her own program. As a result the College she worked at became *The Site* in the study. *The Site* remained the center of the study, until the researcher came to realize that small and large universities functioned at very different academic levels. Large institutions were organized differently, had very different administrative and staffing structures and very different agendas from small colleges and universities. Transferability and generalization was ludicrous. To simply compare or apply what she had learned from large colleges and universities was impractical. Changing the guard, and

finally making positive advances in the right direction toward finishing her research, *The Site* was removed from the study.

The study that remains and that has been conducted and analyzed is timely, because it has caught academic librarians at exemplary colleges on the cusp of experiencing a phenomenal change in their professional lives, but more specifically in the information literacy field like nothing ever seen before. It was definitely study-worthy because this is a study that cannot be replicated because circumstances and situations affecting librarians, around the outgoing Association of College and Research Libraries Standards (2000) and then their rescinding, and the encroaching presence of the Framework (2016) will never be the same. It is disappointing, though, that it was not possible as part of this study, to interview students from exemplary colleges and universities at that time during this study. Would it have been possible to determine whether the librarian experience at the time had any effect on their learning? It is not possible to say, and it would be too late now, but it would have been fascinating to discover the impact that attendance in the integrated information literacy classes offered at exemplary universities in the study were having on the learning experiences of students. Were these learning experiences similar, or very different across colleges relating to the uniqueness of the programs they attended? The best way to find out would be to study the many erudite studies that have been authored by librarians from each of the universities in the study, around the time that these interviews were conducted a year ago. But then even considering this as a possible study, would be impossible, since each college emphasizes what is important to them in their research. But that could certainly be the beginning of a new study to conduct in the future.

Chapter 1 - Information Literacy

Chapter Overview

This chapter includes the following topics of discussion: the history of information literacy, the development and growth of information literacy courses in colleges and universities, information literacy instruction changes, literacy implementation in information literacy courses, the information literacy course, the online information literacy course, exemplary information literacy courses, and the role of the Association of College and Research Libraries best practices program in their development. This chapter includes a description of the role of higher education accreditation in the information literacy course implementation process, the purpose of the study, research questions posed, significance, and delimitations of the study.

Background of the Issues: Why do this project?

The researcher had developed a new information literacy librarian position because there was a real need for the creation of an information literacy course at the university. Undergraduate students had to complete a group core research project in their senior year, and librarians were aware that students struggled a great deal when working in their groups to write their senior core papers. A student information literacy assessment was conducted at the university that included a random sample of students enrolled as freshman, sophomores, juniors and seniors. The findings included extremely

low information literacy scores and further that these might be connected to student struggles with writing their research papers. The researcher worked with an information literacy librarian to facilitate the design of an information literacy for-credit course that would be taught to undergraduate students.

The researcher was a member of the Association of College and Research Libraries and had heard about the Association's exemplary information literacy program. It made sense to investigate how libraries were applying the new Framework (2016) that had just been developed and filed by the Association of College and Research Libraries Board on February 2, 2015. During the process of writing this dissertation, on January 11, 2016, the Framework (2016) was adopted by the Association of College and Research Libraries as an improvement on the Standards (2000) and it was then professionally vetted (Association of College and Research Libraries, Framework for Information Literacy for Higher Education, 2016).

Background of the Issues: Why attempt this research?

This research project was conducted because the researcher wanted a better understanding of information literacy as it was taught at larger universities, but more specifically in those institutions that were deemed exemplary by information literacy instructors in the profession, specifically those who were members of the Association of College and Research Libraries. Questions were in relation to why and how information literacy was being taught at larger institutions, how the ACRL Standards (2000) and the ACRL Framework (2016) were viewed and used in those institutions and what the similarities and differences between larger and smaller institutions were in terms of

information literacy course and program structures. What had contributed to these significant similarities and differences between institutions of different sizes when teaching information literacy and why? Was it that smaller colleges claimed that they were teaching information literacy as a means of writing remediation while larger institutions were not? Instead, the larger universities emphasized teaching their students to become student scholars and used information literacy instruction during orientation. They then integrated information literacy into the disciplines to further develop the student scholar and strengthen their students' knowledge in relation to using scholarly resources and understanding research.

Information in the Global Knowledge Economy

Samia Melhem (2014) described the global information society as one of “the big ideas” of our time and defined it further as “connecting the world through information and communication technologies (ICT’s)” thereby having “contributed to globalization” that had then “shaped economies, transformed society and changed the history” of our world (Melhem, 2014, Para.12).

At the World Summit for Information Society in Geneva, Switzerland in 2014, the United Nations leadership identified eleven *Millennium Development Goals* which were information and communication technologies targets, that were being worked on around the world in United Nations and World Bank information and communication technologies projects and that when met, would contribute to transforming our world into an information society. The eleven targets are listed in Figure 1.1 below.

Leaders at the World Summit (2014) also identified four needs for improvements to the information and communication technologies operations in the poorest countries, if the information society were to be brought to the entire world. The first need identified was that of creating better leadership mobilization in countries with United Nations information and communication technologies projects, where local experts, governments and technology leaders were asked to better collaborate and partner with information and communication technologies leaders so that these projects would be more effective and run more smoothly where they had been implemented. The second need was for the inclusion of women in the information and communication technologies process, which was still not happening because of the educational and entrepreneurship barriers women still faced in many countries of the world. The third need was the requirement for all countries to comply with international standards in the area of computer systems and data. Finally, the fourth was that countries needed to be open to the enforcement of cybersecurity policies, which would in turn protect the information and communication technologies infrastructure “critical to building the skills for governments and society,” though United Nations information and communication technologies projects in these countries (Melhem, 2014, Para. 12).

Figure 1.1
United Nations Millennium Development Goal

Goal 1: Connect all villages with ICTs and establish community access points;
Goal 2: Connect all secondary schools and primary schools with ICTs;
Goal 3: Connect all scientific and research centers with ICTs;
Goal 4: Connect all public libraries, museums, post offices and national archives with ICTs;
Goal 5: Connect all health centers and hospitals with ICTs;
Goal 6: Connect all central government departments and establish websites;
Goal 7: Adapt all primary and secondary school curricula to meet the challenges of the information society, taking into account national circumstances;
Goal 8: Ensure that all of the world's population has access to television and radio services;
Goal 9: Encourage the development of content and put in place technical conditions in order to facilitate the presence and use of all world languages on the Internet;
Goal 10: Ensure that more than half the world's inhabitants have access to ICTs within their reach and use them for personal and community development; and
Goal 11: Connect all businesses with ICTs.

Note: Adapted from Melhem, S. (2014). A global information society, are we there yet? *The World Bank. Information and Communications for Development (IC4D) Blog*. Retrieved from <http://blogs.worldbank.org/ic4d/global-information-society-are-we-there-yet>

The concepts underlying the information and communication technologies projects driving the development of the global society, included knowledge management, a concept that was developed in the 1990's, alongside the knowledge management movement which had started to emerge because of the global economy. "Knowledge" management was defined by Koenig (2012) as "the process of capturing, distributing, and effectively using knowledge." It "was a discipline that" promoted an integrated approach

to “identifying, capturing, evaluating, retrieving, and sharing all of an enterprise's information assets” (Koenig, 2012, Para.4), both online and on paper, that “included databases, documents, policies, procedures, and previously un-captured expertise and experience in individual workers” (Para.4). The knowledge management model described by Koenig (2012) had *concepts search strategy and browsing* and exploration topics that were allied to the *tool literacies and search strategies* that were taught to students by instructors in information literacy classes. In the model described by Koenig (2012) *browsing and harvesting resources* was important while harnessing resources and collections and *making connections* were also considered to be important to knowledge managers.

Rowley (2000), a professor at the School of Management and Social Science at Edge Hill University College in the United Kingdom explained that organizations that will succeed in the global information society were those that could identify value, create and evolve their knowledge systems. Higher education institutions are identified as being in the knowledge management business, since they were involved with the creation of their knowledge assets, and need to be aware of their role in the community and to be able to recognize their own intellectual capital. Universities participated in the dissemination of information and knowledge, which were ever-changing, with facilities like libraries contributing to both. Rowley (2000) suggested that it was important that as knowledge management organizations, higher education institutions take appropriate steps to develop, store, use and curate their knowledge systems, manage them as assets within the organization and make them accessible through publishing, embedding, knowledge transfer and participation in interdisciplinary decision-making processes to

the global community. Furthermore, Rowley (2000) stated that universities were encouraged to network and share knowledge across international borders and that they should also stay at the forefront of creating “converged library and information systems” where systems driven structures could become more knowledge driven. “Knowledge management for higher education in the global economy” required “strategic alliances on the international arena and the creation of global knowledge repositories” (Rowley, 2000, p.332) thereby, providing competitive advantage to these higher education institutions that could share scholarly resources access with a myriad of national and international stakeholders.

Bundy (2002) identified information literacy as a “whole-of-society and global education issue” (p.126) that was directly connected to both the development of a global society and to the management of knowledge in organizations such as higher education institutions. Information literacy instructors working with students in these institutions had the chance to prepare them to use technology in many ways to interact with and work within the global society. Bundy (2002) also suggested that it was important to promote information literacy because the free flow of ideas was a necessity in thriving democratic nations and global economies. Bundy (2002) viewed information literacy as it was then defined by the Australian Library and Information Association, as a prerequisite for participative citizenship, social inclusion, the creation of new knowledge, personal empowerment and lifelong learning (p.130).

Kutner & Armstrong (2012), information literacy librarians from the University of Vermont believed information literacy librarians had “a unique role to play producing information literate students equipped to be successful in a complex, twenty-first century

global society” (p. 24). According to Kutner & Armstrong (2012) information literacy librarians must rethink what it means to prepare their students for the global society of the 21st century. Thus, information literacy librarians are tasked with the presentation of large-scale conversations to their students that include and are focused on the topics such as internationalization and global learning. Information literacy in the global society was about much more than just tool literacy and the development of college writing skills in student learners. Information literacy librarians needed to address the intersection between global literacy and information literacy by teaching holistic information literacy, critical information literacy, a “deep information literacy” which encompassed “additional context-based engagement with social, cultural, political and economic contexts of information access, retrieval, use and creation” (Kutner & Armstrong, 2012, p.25). Critical or holistic information literacy was defined as the type of information literacy that incorporated not just the recurrent common information literacy themes, but that also encompassed teaching students to be lifelong learners, and that empowered them to be active in addressing cultural, racial and social inequities, redressing disadvantage and in promoting social inclusion and well-being in the global information context. Kutner & Armstrong (2012) also suggested that problem-based, interdisciplinary, experiential and service-based learning were conducive to student learning and engagement especially with complex global issues, and that instruction librarians should endeavor to design curricula for their students along those lines that allowed them to develop an “understanding of the greater societal and global contexts of information in all its constructs” (p. 27).

Growth of Online Courses in Higher Education

The rise in online learning has led to the development and consideration of online library instruction. The *Online Learning at Private Colleges and Universities Council of Independent Colleges: A Survey of Chief Academic Officers Report* (Clinefelter & Magda, 2013) was an online learning benchmarking survey of Chief Academic Officers from Private Academic Colleges and University members of the Council of Independent Colleges (CIC). The survey included Chief Academic Officers from small (fewer than 750 students); medium (750-1,499 students); large (1,500-2,250 students) to very large (more than 2,250 students) private colleges, with 65% from non-profit and 35% from for-profit institutions. Ten percent of colleges and universities interviewed had no online programs and had no plans to develop any such program. The colleges and universities with online programs were categorized as extensive (having five or more fully online programs), intermediate (having one to four fully online programs) and limited (no fully online programs but planning to implement them). Fifteen percent of CIC colleges offered extensive programs, 37% of CIC colleges offered intermediate programs and 48% of CIC colleges offered limited programs. The study compared these findings with American Association of State Colleges and Universities (AASCU) where 48% offered extensive programs, 37% offered intermediate programs and 48% offered limited programs. Colleges were also categorized according to the numbers of students they allowed to take online courses. Colleges categorized as “open”, allowed 85% or more of their student population to take online classes, while “non-selective” colleges allowed 76-85% of their student population admittance to online programs, “selective” colleges allowed 50-75% of their student population admittance to online programs and “very

selective” colleges allowed less than 50% of their student population admittance to their online programs.

According to Clinefelter & Magda’s (2013) *Online learning at private colleges and universities the Council of Independent Colleges: A survey of Chief Academic Officers* report both CIC and AASCU colleges and universities were proud of their instructional design and faculty development and self-identified these services as “exemplary” because they were “focused on providing students with a high-quality learning experience” (p. 10). Key findings from the study were that online faculty and staff working at CIC Colleges, became centralized to “more easily coordinate the development and operation of these new programs” (Clinefelter & Magda, 2013, p. 5), with the traditional campuses of these colleges being responsible for marketing, advising and enrollment. Table 1.1 describes the institutional online teaching models that were implemented at institutions with online programs.

Table 1.1*Institutional online teaching models*

<i>Institutional Online teaching model</i>	<i>Institutional implementation</i>
Decentralized Model (Hybrid offerings)	78%
Separate Online Unit Model (dependent on own revenues)	18%
Standalone Unit Model (interdependent)	2%
Consortium Model	2%
Outsourced Model	1%

(Adapted from the work of *Clinefelter & Magda, 2013*)

According to Clinefelter & Magda (2013) the most common courses being offered online by CIC colleges in the study were in the fields of business, healthcare, psychology and counseling, criminal justice and paralegal studies and education. Fifty percent of colleges and universities in the study marketed their online courses nationally, but only 10% of these colleges marketed their online courses internationally. This means that there would be smaller numbers of online international students attending CIC colleges and universities than students from the United States. One-third of colleges and universities in the study charged a lower tuition for online courses. Online programs also had a challenge with tracking revenues made from offering online courses. Seventy percent of the colleges in the study offering online courses and programs stated that their full-time faculty taught online courses as overload, teaching courses both online and face-to-face (in comparison only 30% of faculty teaching at American Association of State Colleges and Universities (AASCU) taught online and face-to-face at their universities). Two-thirds of the colleges and universities in the study that offered online programs compensated their faculty additionally for developing online courses and programs and also for teaching them. Sixty-seven percent of colleges and universities offering online courses and programs in the study compensated their faculty for developing online courses while 33% did not. Twenty-nine percent of colleges and universities offering online courses and programs in the study compensated their faculty for teaching online courses while 71% did not. This means that many faculty at CIC colleges were expected to teach both online and face-to-face for no additional pay, but instead were mandated to do so by their yearly teaching contract. When reporting on the student challenges and

barriers to online teaching and learning that were encountered by CIC colleges and universities, the survey findings as stated in Table 1.2.

Table 1.2*Online Courses and Barriers Experienced by Faculty Academic Institutions*

<i>% Chief Academic Officer response</i>	<i>Barrier Identified</i>	<i>% Faculty Experiencing Barrier</i>	<i>% Faculty Overcoming Barrier</i>	<i>% Faculty Not Experiencing Barrier</i>
86%	Greater time & effort needed to teach online	59%	27%	14%
86%	Lack of online course acceptance	58%	28%	15%
80%	Students need more discipline to succeed in online course	69%	11%	20%
77%	Problems with ownership & intellectual property issues	69%	38%	43%
71%	Online courses cost more to develop	28%	29%	29%
46%	Online courses cost more to deliver	27%	19%	54%

Note: Adapted from Clinefelter & Magda's (2013) *Online learning at private colleges and universities the Council of Independent Colleges: A survey of Chief Academic Officers*.

The survey also investigated variations in course length as described in Table 1.3, surveyors found that the most frequent lengths of online courses were eight to nine week courses (offered by 37% of institutions), 13-15 week courses (offered by 29% of institutions), eight week or fewer classes (offered by 21% of institutions), 10-12 week courses (offered by five percent of institutions) and 16 week courses (offered by four percent of institutions), while four percent of the institutions surveyed did not respond. Additional findings suggested that 33% of students preferred six through eight week courses and the same percentage preferred 9-12 week courses, while 19% preferred online courses offered for 13 weeks or more and 14% of students preferred courses of five weeks or less.

Table 1.3*Course length, institutional offerings and student preferences*

<i>Online course Length</i>	<i>Institutional Offerings</i>	<i>Student Preference</i>
Less than 8 weeks	21%	5%
8-9 weeks	37%	33%
10-12 weeks	5%	Unavailable
13-15 weeks	29%	19%
16 weeks	4%	Unavailable

Adapted from Clinefelter & Magda's (2013).

Clinefelter & Magda's (2013) found that according to the chief academic officers surveyed in the study, the ten greatest challenges that faculty faced in serving students were as follows: training and recruiting online faculty, the demands from online students for off-hours services, verifying student identity, measuring course outcomes, retaining students, maintaining a learning management system and related technology, providing access to campus services e.g. library services, identifying students with special needs and detecting plagiarism. According to the survey, half of extensive universities and colleges had the greatest problems with student retention and providing off-hours services; while a quarter of the intermediate and limited colleges and universities were challenged by the need for services at off-hours. The biggest challenge for all colleges and universities offering online courses was recruiting and training faculty to create content for online courses and teach online courses.

Of major importance, was the finding that blended and hybrid courses at CIC institutions had been "able to increase student access, enrollment, and revenue," since students seemed to be "expressing more interest" in these courses than in the fully online courses. Meanwhile these courses were not "having an impact on faculty" but instead the creation of these courses had led to "increased faculty enrollment and retention, enhanced alumni outreach and increased strategic partnerships with other organizations" (p. 15). Ninety percent of extensive institutions had hybrid/blended learning courses, where face-to-face pedagogies had been upgraded to include online components. Sixty-five percent of the CIC colleges with online courses and programs reported that their revenues had increased when online components had been added to their face-to-face courses. Presenting information from the survey with chief academic officers about

hybrid/blended courses, Table 1.4 lists ranked percentages of outcomes in order of their importance at CIC colleges and universities because of the creation of hybrid/blended courses.

Table 1.4*Outcomes from Online and Hybrid/Blended Learning*

<i>Outcome</i>	<i>% Ranked</i>	<i>Outcome</i>	<i>% Ranked</i>
	<i>Outcome</i>		<i>Outcome</i>
Increased academic success	74	Increased diversity of the student body	18
Increased enrollment	60	Reduced and contained costs	17
Increased revenues	59	Increased rate of degree completion	16
Attracted students from outside the traditional service area	57	Improved enrollment management responsiveness	13
Growth continuing and/or professional education	49	Increased student retention	12
Provided pedagogic improvements	46	Optimized physical plant utilization	11
Enhanced value of the university brand	40	Increased strategic partnerships with other institutions	9
Strengthening academic continuity in case of disaster	22	Enhanced donor and alumni outreach	6
Shifted enrollment from on ground to online	20	Increased faculty recruitment and retention	4

Note: Adapted from Clinefelter & Magda. (2013). *Online learning at private colleges and universities the Council of Independent Colleges.*

Based on the analysis of their results, Clinefelter & Magda (2013), offered several recommendations offered to the CIC colleges offering online courses and programs, specifically they should:

- Use accounting and budgeting practices to better track their online course revenues
- Expand their online course offerings, use their marketing money to develop niche programs and offer improved training programs and incentives to online faculty and staff teaching in these programs
- Revise their college policies and procedures to be more accommodating to faculty and staff teaching online
- Accept legitimate credits, invest in the creation of online course outcomes
- Invest in the creation of online course outcomes; and
- “Synthesize” their “online and on the ground processes” so that they provided “a consistent student experience” (p. 6).

For *Online College Students: Comprehensive Data on Demands and Preferences Report*, Learninghouse (2015) conducted a survey that solicited input from 1,500 students over 18 years of age nationwide, taking online courses or programs. Respondents were from 49 states. Forty-three point nine percent of respondents were from institutions accredited by the Northcentral Accreditation Agency, 25.5% from the Southern Association of Colleges and Universities, 17.3% from the Middle States, Commission on Higher Education, seven percent from the Western Association of Colleges and Universities, five percent from the New England Association of Schools and Colleges and one percent from the Northwest Commission on Colleges and Universities. The Learninghouse (2015) findings suggested that approximately half of the Council for Independent Colleges (CIC) member institutions surveyed offered at least one fully online program, and 90% offered at least one online or hybrid class to their students in 2014. In contrast, more than 80% of AASCU members offering at least one fully online

program and nearly half offered five or more fully online programs in 2014. Forty-eight percent of AASCU colleges offered five or more online programs, 34% offered one to four online programs and 18% offered no online programs in 2014. In comparison CIC colleges offered only 15% of colleges offered five or more fully online programs, 37% offered one to four online programs and 48% offered no online programs at all in 2014.

The Learninghouse (2015) study findings indicated that online degrees have continued “to gain acceptance amongst prospective students and higher education leadership” with more colleges and universities initiating and offering “online programs in greater numbers of subject areas and across multiple degree levels” (Para.1). Based on 2014 marketing information gathered, the top five areas of undergraduate and graduate student study were business, nursing, computer science, engineering and information technology. Marketing information suggested that for students enrolling in colleges and universities in online programs, timing was critical. The report stated that “online learning has become mainstream” and estimated that approximately 3.4 million college students were engaged in fully online programs in 2014 – representing almost 17 percent of all college students” (Para. 1). The top reason students enroll in online courses is because affordable tuition is a critical decision-making factor for them, with approximately 45% choosing the most inexpensive institution to attend and 55% chose a more expensive option. Approximately 65% of all students enrolled in online education lived within 50 miles of their online institution. The study found that “a significant number of online students expressed interest in learning online but having on-campus opportunities, such as internships” available to them as well. It was suggested that in the

future “this new model would “be a good way to expand the online student population” (Para. 3) that resided within 50 miles of their institution’s ground campus.

Enrollment in online courses, for the schools surveyed that offered online programs 64% offered undergraduate online programs, while 63% offered online graduate programs. The vast majority of respondents said the greatest barrier to online program success that they have yet to overcome was the student discipline required to complete online courses. Approximately one-third of Council of Independent Colleges (CIC) institutions charged less for online courses than residential courses that represents a significant influencer. Two-thirds of CIC institutions offered additional faculty compensation for the development of online courses, but less than one-third did this for teaching online classes. Here Learninghouse’s (2015) findings mirror those of Clinefelder & Magda (2013).

Grade Change: Tracking Online Education in the United States (Allen & Seaman, 2014) gathered information from chief academic officers at 4,726 academic institutions, and 60% of the sample universe and data were then merged with surveys conducted in 2002-2012. Allen & Seaman (2014) reported that there were four types of educational course delivery systems that were offered at higher education institutions in the United States as described in Table 1.5.

Table 1.5*Course Delivery Methods in United States Colleges and Universities*

<i>Proportion of Content Delivered Online</i>	<i>Type of Course</i>	<i>Typical Description</i>
0%	<i>Traditional</i>	Course where no online technology used—content is delivered in writing or orally.
1 to 29%	<i>Web Facilitated</i>	Course that uses web-based technology to facilitate what is essentially a face-to-face course. May use a course management system (CMS) or web-pages to post the syllabus and assignments.
30 to 79%	<i>Blended/Hybrid</i>	Course that blends online and face-to-face delivery. Substantial proportion of the course is delivered online, typically uses online discussions and typically has a reduced number of face to face meetings
80+%	<i>Online</i>	A course where all or most of the content is delivered online. Typically have no face-to-face meetings.

Note: Adapted from Allen, I.E. & Seaman, J. (2014, January). *Grade Change: Tracking online education in the United States*. Babson Survey Group and Quahog Research Group LLC.

According to Table 1.5 above, the first delivery mode was traditional education, where students continued to attend a face-to-face class with no components of online education. The second was a web-facilitated course, where the students attended a face-to-face class, but students also made use of the college learning management system for up to 29% of the content by reading assignments and completing homework or tests (Allen & Seaman, 2014). The third mode of delivery was the hybrid or blended course where the students participated in both face-to-face and online classes; with 30-79% of the class content consisting of student discussion-board participation, and participating in taking tests, or downloading readings from a learning management system such as Blackboard (Allen & Seaman, 2014). The fourth mode of delivery was online education, wherein 80-100% of the content in the class was offered to students online in a course or learning management system, such as Blackboard. In this case students participated in a completely online course offering.

According to Allen & Seaman (2014), the number of students taking at least one online course in college between 2002 and 2012 increased from 1,602,970 or 10% to 7,126,549 or 34% (Table 1.6). Allen & Seaman (2014) reported that their sample included 1,731 public institutions that offered online courses and 20 did not. Of the institutions that offered online courses, 1,430 non-profit private academic institutions offered online courses to their students and 315 did not. The report found that more than double the number of colleges offered online associate's degrees, compared to the number offering online bachelor's degree programs.

Table 1.6

*Total Online Enrollment in Degree Granting Post-Secondary Institutions,
Fall 2002-Fall 2012*

<i>Semester/ Year</i>	<i>Total Enrollment</i>	<i>Annual Growth Rate Total Enrollment</i>	<i>Students Taking At Least One Online Course</i>	<i>Online Enrollmen t Increase Over Previous Year</i>	<i>Annual Growth Rate Online Enrollment</i>	<i>Online Enrollment as a Percent of Total Enrollment</i>
Fall 2002	16,611,710	NA	1,602,970	NA	NA	9.6%
Fall 2003	16,911,481	1.8%	1,971,397	368,427	23%	11.7%
Fall 2004	17,272,043	2.1%	2,329,783	358,386	18.2%	13.5%
Fall 2005	17,487,481	1.2%	3,180,050	850,267	36.5%	18.2%
Fall 2006	17,758,872	1.6%	3,488,381	308,331	9.7%	19.6%
Fall 2007	18,248,133	2.8%	3,938,111	449,730	12.9%	21.6%
Fall 2008	19,102,811	4.7%	4,606,353	668,242	16.9%	24.1%
Fall 2009	20,427,711	6.9%	5,579,022	972,699	21.1%	27.3%
Fall 2010	21,016,126	2.1%	6,142,280	563,258	10.1%	29.2%
Fall 2011	20,944,113	-0.1%	6,714,792	572,513	9.3%	32%
Fall 2012	21,253,086	1.2%	7,126,549	411,575	6.1%	33.5%

Note: Adapted from Allen, I.E. & Seaman, J. (2014, January). *Grade Change: Tracking online education in the United States*. Babson Survey Group and Quahog Research Group LLC.

In 2011, the annual growth rate of total enrollment in online courses slowed to - 0.1%, with the annual growth rate of online enrollment at nine percent, lower than the lowest enrollment for online courses in Fall of 2006. Despite this low enrollment in courses during the Fall of 2011, the total enrollment for online courses overall had increased by three percent since Fall of 2010. Online course enrollment numbers at colleges and universities rallied in Fall 2012 to an annual growth rate of one percent, by one percent with the annual enrollment growth rate still sluggish at six percent.

Table 1.7
Online Offerings by Institutional Control in 2013

<i>Types of University</i>	<i>Have online courses</i>	<i>No online courses</i>
Private for-profit	532	304
Private nonprofit	1430	315
Public	1731	20

Note: Adapted from Allen, I.E. & Seaman, J. (2014, January). *Grade Change: Tracking online education in the United States*. Babson Survey Group and Quahog Research Group LLC.

Allen & Seaman (2014) reported, as shown in Table 1.7, that in 2013, 98.8% of public universities surveyed offered their students online courses, whereas only slightly over one percent of public colleges had no online courses to offer their students.

Table 1.8
Online Offerings by Carnegie Classifications: 2013

<i>Type of University</i>	<i>Have Online</i>	<i>No Online</i>
Specialized	671	91
Associates	1504	181
Baccalaureate	458	160
Masters	607	21
Doctoral/Research	270	5

Note: Adapted from Allen, I.E. & Seaman, J. (2014, January). *Grade Change: Tracking online education in the United States*. Babson Survey Group and Quahog Research Group LLC.

Table 1.8 shows in comparison only 81.9% of private colleges offered their students online courses while 18.1% of private colleges still did not offer their students online courses. When considering Carnegie classifications, more community colleges with associate’s degrees (89.2%) were offering online courses to their students when compared with four-year universities and colleges offering bachelor’s degrees, only 74.1% of those surveyed provided online courses for their students to take.

Allen & Seaman (2014) also reported that chief academic officers completing the survey between 2003 and 2012 considered the learning outcomes in online courses to be inferior to those created for face-to-face courses. While their opinions had improved slightly in 2006, they continued to indicate a concern in 2013.

Sorensen (2014) conducted a study relating class size to instructor performance. Sorensen (2014) suggested that if an online class was too large, online instructors might not have the time to provide quality instruction to all the students. It took time to mark student work and discussion boards, so instructors had less one-on-one time in the online class and thus provided less quality education for a portion of the students in the class. Sorensen (2014) suggested that an optimum online class size of 11-19 students would allow the online instructor to establish much more effective relationships with their students. That would also allow instructors to “challenge student thinking, encourage students to elaborate on their thoughts, help students to make connections between course content and the real world and share their own experiences” (Sorensen, 2014, p. 573) with other students in the online class. Allen & Seaman (2014) reported that chief academic officers also had concerns that students taking courses online were often not academically ready or not mature enough to take an online course; and would need much more support from teachers than if they were to take the same course face-to-face.

When chief academic officers were asked if students in online courses would need more discipline to be successful in an online course, Table 1.9 compares the responses in 2005 and 2013.

Table 1.9
Students Need More Discipline to Succeed in an Online Course than in a Face-to-Face Course

<i>Year</i>	<i>Specialized</i>	<i>Associates</i>	<i>Baccalaureate</i>	<i>Masters</i>	<i>Doctoral/ Research</i>
2005	57.7%	79.7%	51.8%	57.3%	41%
2013	66.6%	77.3%	56.6%	71%	59.1%

Note: Adapted from Allen, I.E. & Seaman, J. (2014, January). *Grade Change: Tracking online education in the United States*. Babson Survey Group and Quahog Research Group LLC.

Sixty-six percent of chief academic officers surveyed in 2013, compared with 57% surveyed in 2005, said that students would need more discipline in order to be successful when taking a specialized online course at their institutions. More than half of the participants agreed that students taking courses toward their bachelor's degree would need to be more disciplined if they wanted to succeed when taking online courses as compared with taking face-to-face courses. When asked about discipline needed for the successful completion of online courses in comparison to face-to-face courses, 70% of participants in 2005 and slightly more participants, 70.7% in 2013 were convinced that students needed more discipline to complete online courses than they did with face-to-face classes, if they wanted to be successful.

Burkhardt, Kinnie & Cournoyer (2008) conducted a study to determine if online or face-to-face students would do better in sections of an information literacy for-credit course. Their survey found that students who self-selected an online course performed better than students forced to take an online course. This was often because they were more confident and often self-selected the online course because they were technology savvy.

According Allen & Seaman (2014) as reported in Table 1.10, the chief academic officers participating in the survey were very concerned about student retention.

Table 1.10

Student Retention Issues in Online Courses: 2004, 2009 and 2013.

<i>Year</i>	<i>Percentage of respondents extremely concerned about retention</i>
2004	27.2%
2009	28.4%
2013	40.6%

Note: Adapted from Allen, I.E. & Seaman, J. (2014, January). *Grade Change: Tracking online education in the United States*. Babson Survey Group and Quahog Research Group LLC.

In 2013, compared with 2004 and 2009, a significantly higher percentage of chief academic officers were extremely concerned about the problem of retaining the students enrolled in their online courses, when compared with students enrolled in face-to-face courses.

Relationships at the college or university that added meaning to students' learning and encouraged them to persist in their academic life were least likely to develop when students took courses online or at a distance (Bell, 2008). Often, the nature of the online course affected students leading them to feel isolated, those students who failed to engage with peers, faculty and others were "at the highest risk of dropping out" (Bell, p.1).

Clearly, online information literacy courses need to be rigorously developed using good instructional methods in order to retain online students. Retention is particularly important to Higher Learning Commission (HLC) accreditation (Higher Learning Commission, 2016).

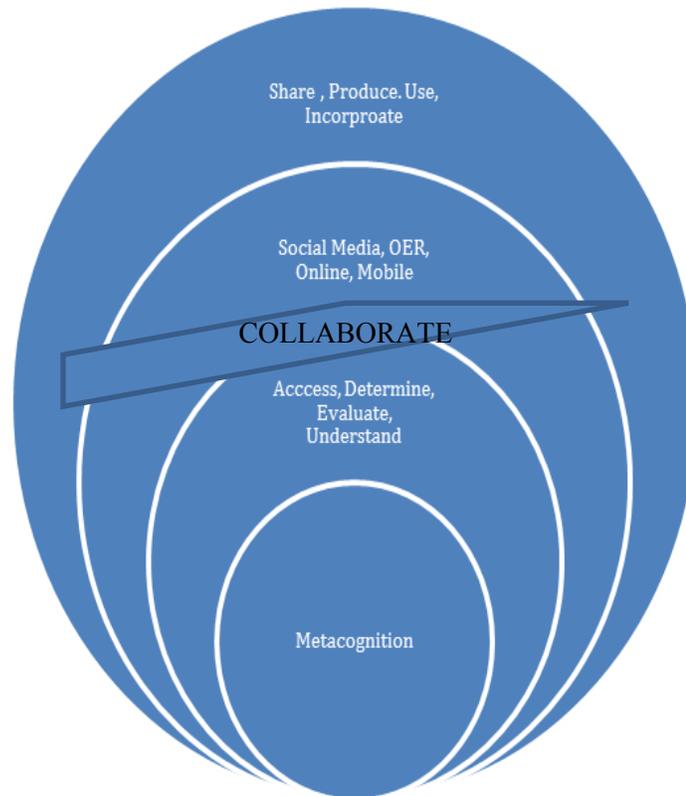
Relating Metaliteracy to Information Literacy

Mackey and Jacobsen (2011) and introduced in the *Broadening of Information Literacy* is a major element of the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016). In the metaliteracy model, information is viewed as a non-static object that is not just retrieved but it is “a dynamic entity that is produced and shared collaboratively with...innovative Web 2.0 technologies” taking many formats that are produced and refined through multimodal online modalities (Mackey & Jacobsen, 2011). Information literacy models and more specifically, the Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000) developed prior to the social media revolution of the 21st century did not address the fluidity of information transfer in the online environment and must therefore be expanded and improved allowing for this inclusion.

According to Mackey & Jacobson’s metaliteracy model (State University of New York, 2015), information seekers utilize their cognitive skills in order to use, share, incorporate and then produce the information they have gathered in various ways. To do this they used different media such as social media, mobile devices, open education resources online and were enabled to become learners, authors or creators of information, thereby, sharing the learning process with others through these assorted media. All the media that the information seeker, author and producer used were collaborative, needing responses and interaction from their peers. For example, the scholarly environment information could be shared by author-creators developing open textbooks online or using these open textbooks for their classes so that their students can continue the

learning process. The licenses available for the scholar to download the textbook were also collaborative because they provided the scholar with free access to a book, and in some cases there was even the option for scholars to provide the author with feedback about the learning process when using their online textbook in a class. The metaliteracy model created by Mackey and Jacobson (2011), expanded information literacy theory to incorporate the emerging technologies within it, which were explored through open education learning and collaboration. Metaliteracy went beyond traditional information literacy to embrace emerging technologies such as digital, media and visual literacy. Learners were empowered to collaborate with others in the social interactive environment and find, use, share and produce information and also creatively and innovatively use information, as shown in Figure 1.2.

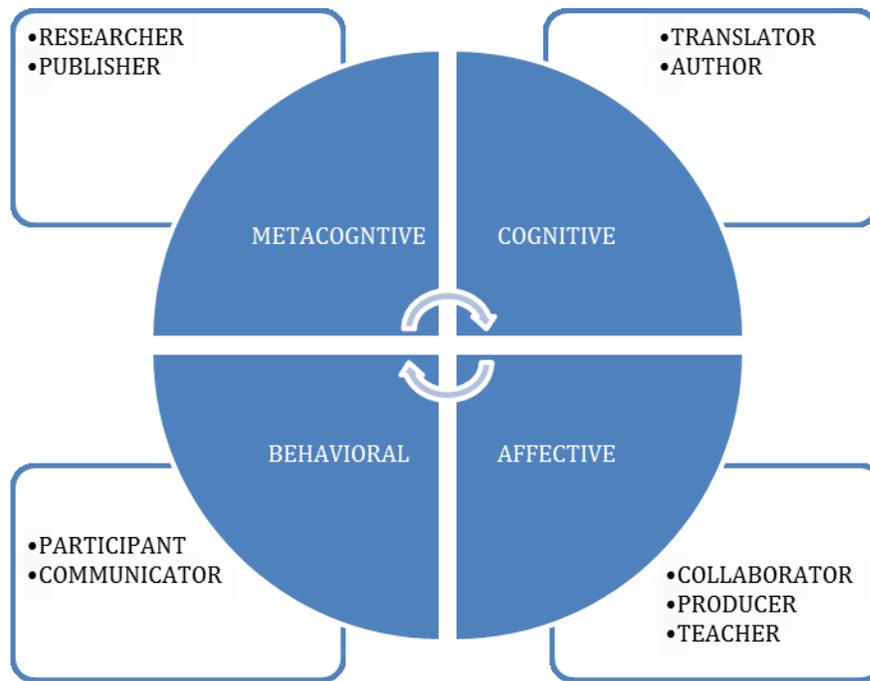
Figure 1.2
Metaliteracy Model



Note: Adapted from State University of New York, Empire State College. (2015). *Metaliteracy MOOC*. Adapted from the work of Mackey & Jacobson.

Within this information literacy model, the learner had many roles over time in the social interactive environment as an individual or as a team member, using and gathering information through interaction with others at a local or global level and acting within any of the information user roles (learner, creator, teacher, producer, author, collaborator, translator, researcher or participant) as shown in Figure 1.3.

Figure 1.3
The Metaliterate Learner Model



Note: Adapted from State University of New York, Empire State College, (2015). *Metaliteracy MOOC*. Adapted from the work of Mackey & Jacobson.

“Metaliteracy included a central metacognitive component that promoted reflective learning and ‘thinking about thinking’ related to individual’s learning goals and objectives. This metacognitive dimension provided users with valuable insights about their own literacy development and prepared them to gain a critical thinking perspective in dynamic new media and open learning environments” (State University of New York, 2015).

Livingston (1997) stated that metacognition allowed the learner to be a successful higher order thinker which involved “active control over the cognitive processes engaged in learning” and “activities such as planning how to approach a given learning task, monitoring comprehension, and evaluating progress toward the completion of a task are

metacognitive in nature” (Para.1). Livingston (1997) explained that theory of metacognition originated from the work of Flavell (1979, 1987) and was described as consisting of metacognitive knowledge (general knowledge, tasks) and metacognitive regulation (understanding, planning and monitoring tasks) and experiences. Cognition was defined as the ability for the individual to develop self-regulation and thinking skills and processes that allowed for the enhancement of learning; with both metacognition and cognition being linked to intelligence (Livingston, 1997). Higher order thinking skills that were included in the metacognitive and cognitive domains and that were developed by learners were skills such as information comprehension, application, analysis, evaluation, synthesis and creation.

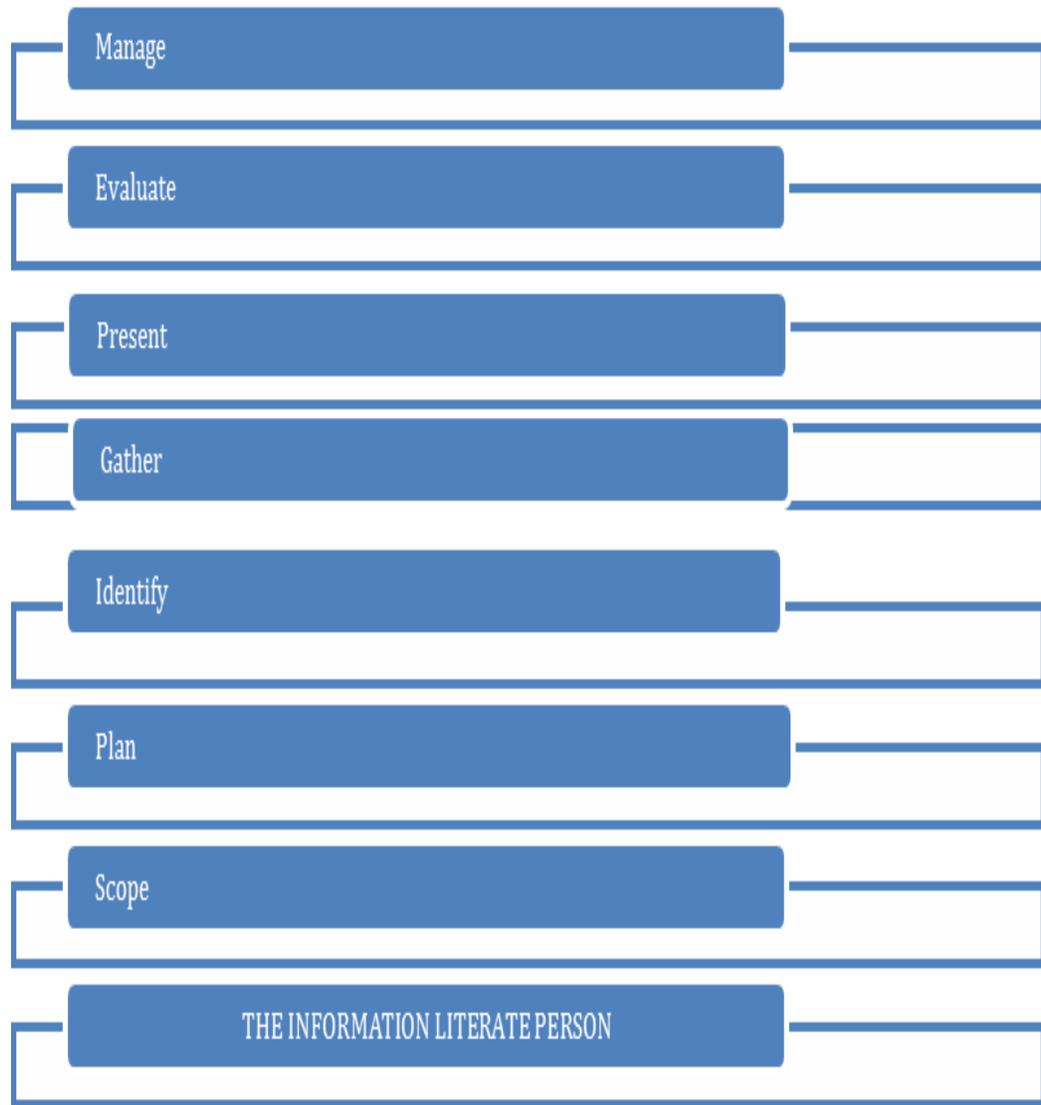
There were two more domains of learning that were included in the metaliteracy model (Mackey & Jacobson, 2011) when describing metacognitive learners. These were the affective and behavioral learning domains. The affective domain theory related back to the affective learning theories of Krathwohl, Bloom & Masia (1973). The behavioral domain related to the psychomotor domain learning theories of Harrow (1972). The affective domain involved the learner’s feelings and emotions, as described in Kuhlthau’s (1991) information search process (ISP) theory where the learner’s emotions were described at every stage of the information search process. In considering Krathwohl, Bloom & Masia’s (1972) theories, learners received information and experience awareness and stimulation in its receipt. They then could or could not respond to the information received and how the information was valued depended on the learner’s attitudes and their value and belief system. The information was then internalized; but how the information was organized was based on the individual learner’s practices,

values and beliefs. The behavioral or kinesthetic domain was responsible for the learner's physical functions, reflexive actions and their interpretative movements. When using Harrow's Taxonomy (1972) six psychomotor controls were important in aiding the learner in the learning process. The behavioral domain controlled the learner's fundamental movements e.g. walking, running, standing; reflex movements e.g. eye movements; brain function, muscular contractions; perceptual abilities e.g. visual, auditory, tactile abilities; non-discursive communication e.g. facial posture, facial expression and physical abilities e.g. agility, strength; skilled movements e.g. sports, dance.

Mackey & Jacobson's (2011) metaliteracy theory expanded information literacy both in definition and practice because the Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000) fell short of addressing the information seeker's needs within the new online environments. Instead, to better understand information searching in the online environment, Mackey & Jacobson (2011) pointed out that the Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000) must embrace models such as the *Seven Pillars Model for Information Literacy*. This model, shown in Figure 1.4 was created by *The Society of College, National and University Libraries (SCONUL)* in the United Kingdom in 1999, and was revised in 2011, in order to align with newer information literacy models for application in new information environments. The SCONUL *Seven Pillars Model for Information Literacy* (Society of College, National and University Libraries, 2011) included skills such as "the ability to construct strategies for locating information and "the ability to build upon existing information,

contributing to the creation of knowledge” (Mackey & Jacobson, 2011, p.63). It was emphasized that searchers could only reach the levels of synthesis and information creation, as experts which were not included in the Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000). Since 1999, the SCONUL model (Society of College, National and University Libraries, 2011), shown in Figure 1.4 have been improved to expand on the Seven Pillars and include “examples that acknowledge the changing information environment e.g. RSS feeds” were “listed as a way to update information searches while emphasizing the importance of understanding the source of information and the need to evaluate it carefully” (p.64).

Figure 1.4
The Seven Pillars of Information Literacy Model



Note: Adapted from SCONUL Working Group on Information Literacy. (2011, April). *The SCONUL Seven Pillars of Information Literacy Core Model for Higher Education*, p.4. Retrieved from coremodel.pdf

In reframing information literacy, Mackey & Jacobson (2011) stated that information literacy frameworks were developed to focus on the cutting-edge of emerging technologies so that they did not lag behind the innovations of Web 2.0 and social media. As a result several information literacy frameworks were developed that explained and described the different literacy types in the digital age, that shared similar skills and connections to information literacy, with some literacy types not having been included in the information literacy definition as defined by the Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000). The literacy types adherent to the digital age listed by Mackey & Jacobson (2011) include: media literacy, visual literacy, digital literacy, cyberliteracy, and information fluency. These types were not all inclusive of the literacies described in the library and education literature. Table 1.11 below includes the literacy types described by Mackey & Jacobson (2011) that were directly related to information literacy.

Table 1.11
Most Common Literacy Types

<i>Type of Literacy</i>	<i>The user/information-seeker masters</i>
<i>Library Instruction</i>	<ul style="list-style-type: none"> the ability to understand how to find, locate and use print and electronic resources through tool literacy e.g. how to use the library catalog and the online databases.
<i>Critical Information Literacy</i>	<ul style="list-style-type: none"> the ability to develop critical thinking skills and critical consciousness allowing them to take control of their own lives and their own learning and be empowered to help with solving problems that matter in the world.
<i>Media Literacy</i>	<ul style="list-style-type: none"> the ability to access, analyze, evaluate, create and participate using messages in a variety of formats, thereby building an understanding of the role of the media in society and communicating the knowledge through a variety of digital formats.
<i>Traditional Literacy</i>	<ul style="list-style-type: none"> the ability to develop reading, writing, listening and speaking skills; but more specifically developing the ability to read the written word and gain both understanding and meaning from it
<i>Computer/Cyberliteracy Literacy</i>	<ul style="list-style-type: none"> the ability to actively utilize technology, use the Internet to express creative, political and artistic viewpoints and understand social and ethical issues related to technology use; have an awareness of issues relating to privacy, copyright, diversity and accessibility to the Internet and online communications.
<i>Information Fluency</i>	<ul style="list-style-type: none"> the ability to move beyond basic technology skills toward lifelong learning; developing intellectual, conceptual and contemporary skill sets related to technology
<i>Visual Literacy</i>	<ul style="list-style-type: none"> the ability to sort, interpret, design, use, evaluate, amend and create visual actions and symbols and communicate them in a variety of digital formats
<i>Numerical Literacy</i>	<ul style="list-style-type: none"> the ability to develop basic numeracy skills and use, apply and understand mathematical language structures and calculations.
<i>Financial Literacy</i>	<ul style="list-style-type: none"> the ability to use knowledge and skills to manage financial resources effectively e.g. understanding how money works
<i>Digital Literacy</i>	<ul style="list-style-type: none"> The ability to read, interpret, reproduced, manipulate media messages and evaluate and apply new knowledge gained from digital environments
<i>Transliteracy</i>	<ul style="list-style-type: none"> the ability to read, write and interact across a range of tools, platforms and media.

Note: Adapted from Mackey & Jacobson, 2011.

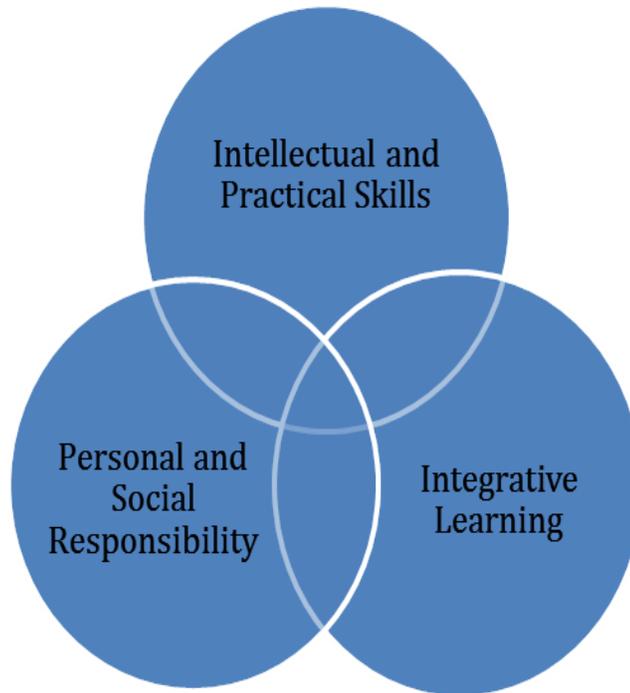
American Association of College and Universities Rubrics

Assessment is essential to the information literacy course. The American Association of College and Universities (AAC&U) Value (Valid Assessment of Learning in Undergraduate Education) project is an ongoing campus-based assessment initiative, released in Fall 2009 and sponsored by AAC&U as part of its Liberal Education and America's Promise (LEAP) initiative. The VALUE rubrics are scoring guides that were created to provide teaching faculty with tools to assess authentic student work, produced across a diverse array of learning progressions and institutions in the United States. Teams then identified key criteria that were "broadly shared regarding critical dimensions of achievement for each student proficiency" (AAC& U, 2016). Frequently Asked Questions, Para 2). The VALUE Rubrics were used by faculty to determine how well their students had met graduation level achievements in learning outcomes essential to the college programs in which they studied. The rubrics, consisting of sixteen essential learning outcomes, were created by faculty teams from institutions of different sizes from across the United States. "As of December 2015, the rubrics have been accessed by more than 42,000 individuals from more than 4,200 unique institutions, including more than 2,800 colleges and universities. The VALUE rubrics have also been approved for use in meeting national standards for accountability established by the Voluntary System of Accountability (VSA)" (AAC&U: Value, 2016, Para.3). The sixteen value rubrics were organized into three categories of overlapping skills as shown below in the diagram in Fig. 1.2. The first category is Intellectual and Practical Skills that consists of the following rubrics: Inquiry and Analysis, Critical Thinking, Creative Thinking, Written Communication, Oral Communication, Quantitative Literacy, Information Literacy, Reading, Teamwork, and Problem Solving. The second category is Personal and Social

Responsibility that includes Civic Knowledge and Engagement – Local and Global, Intercultural Knowledge and Competence, Ethical Reasoning and Action, Global Learning, and Foundations and Skills for Lifelong Learning. Finally the Integrative Learning category stands alone. Each of the VALUE Rubrics is preceded by a definition of the competency is provided, including framing language in which to view the competencies, and a glossary. The rubric values are assigned in terms of benchmarking, and milestone and capstone values in association with the major competencies that have been identified.

The three VALUE Rubrics categories in Fig. 1.5 were considered to be most important to faculty in information literacy programs. The information literacy, creative and critical thinking rubrics were calibrated for use to assess student performance on information literacy course outcomes.

Figure 1.5
Three AAC&U VALUE Rubrics Categories



Note: Adapted from the *American Association of College and Universities' VALUE Rubrics* (2016).

The Link Between Information Literacy and Academic Writing Skills

Bowles-Terry, Davis & Holliday (2008) suggested that librarians and writing instructors have much in common because “information literacy theory has a reciprocal influence on composition pedagogy” (p.225) as a result of the paradigm shift in writing instruction which has opened up “possibilities for teaching a more situated, process-oriented and inquiry-driven rhetoric” (p. 225). In this study, Utah State University librarians and writing instructors were actively involved in “a process of writing

information literacy” (p. 226). Librarians aligned the goals of freshmen and sophomore composition classes with their information literacy course. In 2005, five Utah State University writing instructors were invited to serve as Information Literacy Fellows during the summer and work with librarians to develop new lesson plans, to create new instructional approaches that would better align and integrate information literacy into freshmen and sophomore writing classes. Problem-based learning was used in order to provide students in the freshman and sophomore English classes with skills to solve authentic research problems. As a result, four common goals were developed for Utah State University’s freshman and sophomore English classes, first asking students to define their information literacy needs and then helping them to “focus, shape and organize their ideas and writing” in the class. Students explored their topics with a variety of sources and were taught to understand different information types, how to evaluate information, develop their critical thinking skills and recognize their own research and writing problems “in order to get assistance and further develop their writing and information literacy skills” (Bowles-Terry, Davis & Holliday, 2008, p. 227).

In freshman English students were organized in groups and they participated in a *Save Our Schools* project that focused on identifying and solving problems relating to the United States education system. Librarian interaction with students was divided into three sessions. In the first session librarians visited the class for 20 minutes presenting a relevant education myths and new resource information. In the second session the instructor and the librarian worked together so that students could participate in a brainstorming session. In the third session, the class worked as a group in the computer lab and they focused on what they already knew about the problem and then worked

through worksheets and instructions on how to use the library resources to find articles and also find additional source tools for the project. In the sophomore class, a question was chosen and students approached it from different angles and also explored different discourse communities and how information to answer their question could be gathered. Student final papers were evaluated by the teachers and the librarians and students were asked to reflect on what they had learned.

Bowles-Terry, Davis & Holliday (2008) found that librarians needed to provide students with more coaching and non-traditional scaffolding opportunities that allowed them to interact with the librarians in order to obtain help with finding research resources. Students needed to be encouraged to work with their peers, share information with them and spend more of their time on reflection and peer discussion. The latter allowed students to better organize evaluate and synthesize information before they started the process of writing. Bowles-Terry, Davis & Holliday (2008) stated in integrating information literacy into the English program at the Utah State University, the librarians and writing teachers “had a constitutive influence” on their “intertwined practice” and in exploring writing and information literacy theory and practice, it was discovered that “that writing information literacy was certainly possible given the parallels between information literacy and composition theory.” Bowles-Terry, Davis & Holliday (2008) suggested further that the problem that remained, despite these parallels was getting students to ask meaningful questions and apply, synthesize and use the information they had gathered effectively, rather than to just focus solely on completing their assignment and not thinking any further about it.

Cook (2014) conducted a longitudinal study (1999-2007) at the University of West Georgia to determine how the library contributed to student academic writing skills and student retention. It also studied the extent to which there was a connection between students graduating from college in less than four years and their completion of a 15-week, two-hour for-credit information literacy course as undergraduates.

The purpose was to assess the impact of earlier institutional decisions. In 1998, the University System of Georgia's Board of Regents directed every college in the system to adopt a fifteen-week, standard core curriculum. The University of West Georgia adopted this core curriculum and declared its college "priorities to be communication, critical thinking and twenty-first century technology" (p.173). As a result, the Ingram Library expanded a former one-credit hour, nine-week academic research course into a two-credit hour, fifteen-week course, LIBR 1101. The LIBR 1101 course was offered to freshmen as part of the core curriculum at the university and was one of several options that students could take to fulfill their core requirements. By 2001 the course was offered completely online. In 2007, the library brought the course objectives in-line with the American College and Research Libraries Information Competency Standards for Higher Education (2000).

The study participants were restricted to 15,012 full-time freshmen that had attended the university between 1999 to the summer of 2007. Two cohorts were created including a cohort of students that had taken the library course sometime during their college career and a cohort of students that did not take the library course at all. The library used statistical testing to ascertain whether there was a relationship existing between library instruction and student success rates. The grade point average (GPA)

and graduation rates of students in each cohort in the study were taken from the university database. Cook (2014) found that students who had graduated from college in four years were positively associated with those students who had taken the library course for seven out of the nine years of the study. In 2005-2007, students who took the course did graduate at higher rates than those who had not taken the course. Although four-year graduation rates did not show that taking the library course had an effect on their GPA's, it was found that students who had taken the course and who graduated after five or six years at the university, still had higher GPA's overall than those students in the cohort who had not taken the library course. Cook (2014) found that 56% of students who took the LIBR 1101 course graduated before the summer of 2011, while only 30% of the students in the cohort who had not taken the course actually graduated at all.

The results of this study suggested that students taking the information literacy class had higher retention rates than the students who did not take the class. It can also be posited that students who take an information literacy for-credit course had more confidence, knowledge, and motivation to continue learning due to enhanced academic skills acquired in the information literacy course.

Booth, Lowe, Tagge & Stone (2015) conducted a mixed-methods rubric assessment study. Claremont Colleges were a consortium of seven private colleges with an enrollment of 7,000 undergraduate students across five liberal arts colleges and two graduate universities. Librarians at the common college library provided students at each college with library instruction for twenty years; but each college's professors had more than 100 separate and unique arrangements with the library in terms of how library instruction was offered to their students.

The study was conducted in Pitzer College's First Year Seminar program to determine the student learning effects of differentiated levels of information literacy course engagements and instruction effectiveness and if instructor performance was correlated with student learning self-perception and performance. The study evaluated student work using surveys and rubrics indicating increased librarian intervention in their writing projects. Statistics was used to determine whether or not there was a positive impact on student performance that was research writing based. The methodology of the study included "a rubric-based analysis of student research papers" and "a comparative evaluation" (Booth, Lowe, Tagge & Stone, 2015, p. 627) of librarian teaching effectiveness. Ninety-nine student written paper samples were evaluated using two scales, (1) a "librarian instruction engagement level" scale that had four levels and ranged from no librarian collaboration with students to high collaboration and (2) a "syllabus assignment design collaboration level" (p. 627) scale that consisted of levels ranging from the librarian receiving the class syllabus from the instructor to having integrated information literacy into the course being taught at the college. These levels were further critiqued by librarians working at Pitzer College with students in the First Year Seminar program. The rubric had four writing levels that ranged from *initial to emerging, developed and highly developed*. During the rubric analysis of the student papers that focused on the thesis statement, 50% of the papers scored at the developed level, 43% scored at the emerging level and only seven percent scored at the highly developed level. During the rubric analysis of the evaluation of sources and also the analysis of communication, four percent of the papers were scored at the *initial* level, 38% at the *emerging* level, 52% of the papers were scored at the developed level and six percent at

the *highly developed* level. During the rubric analysis of how students used attribution and citation formats, students scored the lowest with 12% at the initial level, 48% at the *emerging* level, 36% at the *developed* level and only four percent at the highly developed level.

The study findings suggested that there was no correlation between student and faculty evaluations and the perceived and actual gains in student performance that had improved as a result of increased information literacy intervention at Pitzer College. However, further findings suggested that there were high levels of student and faculty interaction with the instruction librarians and that student performance had improved dramatically in the first year seminar class because of the quality of librarian classroom support and interaction, which “correlated to the quality of student learning” (p. 636). Booth, Lowe, Tagge & Stone (2015) also found that even though the one-shot model which provided minimal faculty engagement encouraged “information literacy concept retention at Pitzer College...a course integrated model with multiple diverse pedagogical interventions at the syllabus and classroom level consistently achieved greater” student “performance gains” (p. 636).

Online Information Literacy Course Growth in Colleges and Universities

Primary Research Group Inc. (2008) conducted a survey of 112 colleges and universities in the United States (90% of responding institutions) and Canada (10% of responding institutions) that benchmarked information literacy efforts between 2006 and 2007. Despite an expressed concern for student gains in information literacy, relevant course development grew very slowly. Between 2006-2007, according to the Primary

Research Group Inc. (2008) survey--as illustrated in Tables 1.12 through Table 1.14. Seventy-six percent of United States colleges and universities taught information literacy classes in computer instruction labs or learning centers, specifically designed for information literacy instruction.

At the time that the survey was conducted, 26% percent of United States colleges and universities in the sample were already offering online and distance learning information literacy courses, with the public colleges offering eight percent more information literacy online course offerings to students than the private colleges. These online courses were taught by librarians with faculty status in 30% of the cases, while 13% of librarians in the sample did not have faculty status and 57% were taught by librarians with no faculty status at all (Primary Research Group Inc., 2008). Faculty status was important in regard to information literacy because these faculty librarians would be well-positioned to serve on curriculum committees to vet curriculum in their general education programs alongside fellow faculty, to help to integrate their information literacy courses into the majors at their colleges and universities.

Table 1.12

Colleges that offer any online or distance learning information literacy courses, broken out by public and private (2006-2007)

<i>Public or Private University Status</i>	<i>Yes</i>	<i>No</i>
Public College	27.27%	72.7% (.3% no response)
Private College	19.05%	80.95%

Note: Adapted from Primary Research Group Inc. (2008)

Table 1.12 showed that in 2006-2007, according to the Primary Research Group Inc. (2008) survey, that public United States institutions were offered more online and distance information literacy courses than private colleges did to their students. (Primary Research Group Inc., 2008).

Table 1.13

Colleges that offer any online or distance learning information literacy courses broken out by Carnegie class (2006-2007)

<i>Carnegie Class</i>	<i>Yes</i>	<i>No</i>
Bachelors Colleges	11.11%	88.89%
MA & PhD Colleges	22.22%	77.78%
Research Universities	26.67%	73.33%

Note: Adapted from Primary Research Group Inc. (2008)

Based on the Primary Research Group Inc. (2008) survey as explained in Table 1.13, only 11.1% of bachelor's degree colleges were offering online and distance information literacy courses to their students, compared with 22.2% of Master's degree and Ph.D. granting colleges and 26.7% of research universities. Table 1.13 explains

survey findings further by clarifying that faculty librarians were teaching these information literacy classes 30% of the time at their institutions, while these courses were taught only 13.2% of these courses were taught by non-faculty and staff at the institutions surveyed.

Table 1.14
College status in 2006-2007

<i>Do librarians teaching online courses have faculty status?</i>	<i>Yes</i>	<i>No</i>
Faculty	30.00%	70.00%
Non-Faculty/Staff	13.16%	86.84%

Note: Adapted from Primary Research Group Inc. (2008)

In 2006-2007 it was common for information literacy to be taught using interactive online information literacy tutorials, with a mean of three tutorials being made available to students in each of the responding United States colleges and universities. Librarians created video information literacy tutorials using Flash, Camtasia, and Viewlet and Captivate software. They also taught students how to use software packages such as the Microsoft Suite and Adobe and also how to use “html” to build websites in their Information Literacy classes. However, these tutorials were generally not for-credit information literacy classes. This meant that students in information literacy class were being taught basic library search skills along with some computer literacy skills, but the classes offered by librarians in 2006-7 were not offered as for- credit courses and were

thus not fully integrated into student' academic experiences as high-stakes graded courses (Primary Research Group Inc. 2008).

The survey also explored libraries' social media presence (through pages or blogs on Facebook or other platforms, as well as and its importance to information literacy tutorials linked to those platforms) and the importance of this presence to information literacy. In 2006-2007, only 25% of the colleges and universities surveyed had a presence on Facebook. Eleven percent of colleges and universities surveyed had a presence on Myspace, seven percent on Second Life, nine percent on listservs, and 53% on course management systems such as Blackboard, while 20% did not respond regarding the use of social media at their colleges. Meanwhile, the study also reported that 25% of colleges and universities did have blogs where they included library links and tutorials for their students to access. It was not known what the other 75% of colleges and universities were using to provide student access to library materials. Results of the survey indicated that the library Facebook presence was growing; but libraries appeared to create an equivalently strong presence in their university's course management system, since this was where they were starting to build their future information literacy courses and it made sense for students to access additional library resources there (Primary Research Group Inc., 2008).

According to the Primary Research Group Inc. (2008) survey findings, only 27% of participating United States colleges and universities said that librarians had surveyed their college faculty to assess faculty satisfaction with library support at their schools during the year. None had surveyed faculty about their perceptions of information literacy. Instead, the faculty were surveyed about the library's direct services to them e.g.

interlibrary loan, reference services, one-shot bibliographic instruction sessions and how these were being utilized at these universities rather than about their reaction to information literacy. Based on the survey in 2006-2007 academic librarians was not yet viewing information literacy to be as important as all the other services that the library was providing to faculty.

2014 Information Literacy Surveys

Primary Research Group Inc. (2014) designed surveys that were conducted with 51 community colleges, 30 public and 21 private institutions in the United States and Canada. Fifteen were four-year institutions, 19 were community colleges, 12 were graduate colleges and five were research universities in the United States that benchmarked information literacy efforts during 2012-13. Sixteen institutions had student populations of less than 2,500 students while all the other institutions had student populations of 2,500 and more.

According to the Primary Research Group (2014) survey, 13.64% of the information literacy instructors surveyed said that they required that the library create variable one to three credit hour courses at their institutions. This is an extremely small number of institutions considering the push by professional organizations such as Association of College and Research Libraries and AAC&U to encourage librarians to develop for credit courses and programs. Association of College and Research Libraries and AAC&U invited them yearly, to participate in information literacy professional development programs such as the Immersion Program (Association of College and Research Libraries Immersion Program, 2016). The latter was created to prepare

librarians to teach information literacy to their students by developing relevant information literacy courses or integrations.

According to the Primary Research Group (2014) survey 63.6% of the institutions stated that some kind of information literacy training was a graduation requirement. Fifty percent of those instructors surveyed said that their institutions had information literacy training requirements in place for their students, but that it was not formalized and thus did not require their librarians to create for credit information literacy courses of any kind. Fifty-seven percent of institutions stated that formalization was possible in the next three years, while 25% stated that information literacy formalization was highly unlikely at their institutions. Sixty-six percent of four-year colleges surveyed offered one or more computer labs to participating libraries for the purpose of information literacy instruction compared with 63% of community colleges in the sample who did the same. Institutional recognition that information literacy was important enough to be a course requirement most often occurred in the general education programs of these colleges. Even if an entire course was not required, students had to receive one-shot presentations from librarians during their four-year stay at the university. Many would be exposed to flipped classroom experiences where they were required to complete online tutorials, or view online videos on information literacy topics that prepared them for their library visits and interactions with the library tools.

According to the Primary Research Group Survey (2014), 90% of the institutions that had larger enrollments had their librarians serving on curriculum committees. This was very important because information literacy librarians with some power to vet curriculum would be in a better position to help institutions' libraries to set the

information literacy collaborations in motion, particularly for working with faculty to develop the information literacy program for freshmen and also for the integration of information literacy into the majors and embedding librarians into courses where they would be interacting with students in the disciplines.

Participants were asked to respond to questions regarding how English Departments at their institutions handled information literacy. Almost fifty-one percent of the participants had responses split between “they seem to try, but they could do better” and “they do well enough,” with 19.6 stating that “it is a high priority.” Thirteen point seven percent said that in their situation “it is an excellent collaboration and we jointly accomplish our information literacy goals” while 11.8% said “they are somewhat of a laggard.” According to the Primary Research Group (2014) just a little more than half of the information literacy instructors participating in the survey, 52.4%, stated that they used student evaluation in the information literacy classes to assess their student information literacy skills, while 47.6% of instructors participating in the survey did not assess their student’s information literacy skills. Participant responses were very important because it was very common for information literacy librarians to collaborate with composition instructors, more specifically in the library in large colleges e.g. four-year colleges and universities, where librarians wanted to be able to participate in and provide students with information literacy in high enrollment, high impact classes where they made contact with the most students enrolled at the university. They were able to teach the largest number of incoming freshmen and transfer students research skills that would prepare them to be successful when writing research papers in college.

According to the Primary Research Group (2014) only 29.4% of all institutions in the study offered online or distance learning information literacy courses. According to the study only six percent of four-year colleges and 42.1% of community colleges offered online or distance information literacy courses to their students. The study found that as the tuition at a college decreased, the likelihood that distance and online courses that cost more in terms of college tuition would be offered also decreased at that institution (p.54). Compared with online and distance courses, the Primary Research Group (2014) study found that more libraries were using online components in their course offerings to students. These statistics are not surprising considering the very largest research intensive institutions appeared to only be at the cusp of developing online and distance programs and had very few information literacy course offerings to provide to their students at a distance or online. The largest institutions were instead focusing on the creation of online tutorials and online interactive tutorials to teach library information tool literacy to their students on-site, at a distance and online.

According to the Primary Research Group (2014) survey, 50% of the participants stated that their libraries offered interactive tutorials to their students. Private participant institutions offered a mean of seven and a median of four point five interactive tutorials to their students while participants from public institutions offered their students a mean of four point eight and a median of two point five interactive tutorials teaching information literacy to their students. “Four-year colleges offered nearly twice as many, with “a mean of eight point eight as the next closest type of college” (p.57). Almost fifty-nine percent of all survey participants stated that they offered video tutorials on information literacy topics to their students. When compared with community colleges,

where 47.3% of the participant libraries created information literacy video tutorials, 53.3% of the four-year colleges in the sample provided video tutorials to their students on information literacy topics.

The Online Information Literacy Course

According to Kasowitz-Scheer & Pasqualoni (2002), researchers from Syracuse University, “information literacy instruction required a shift in focus from teaching specific information resources to a set of critical thinking skills involving the use of information” (p.3), a change that was not reflected until fourteen years later, in the Association of College and Research Libraries Framework (2016).

Information literacy instruction includes “a variety of instructional approaches” (p. 3), such as course-related instruction, course-integrated instruction, online modules and tutorials, and standalone courses. Information literacy was taught as face-to-face instruction courses, blended instruction courses, online courses, and any delivery option could be for-credit courses or non-credit courses.

Kasowitz-Scheer & Pasqualoni (2002) posited that colleges and universities should choose the information literacy course approach that best suited their mission, purpose, student needs, student outcomes, budget, staffing, facilities, and faculty time constraints. Collaboration was necessary between the library, faculty, and student services. This collaboration could often lead to the creation of student surveys to determine their needs (Breivik, 1998). However, only two examples of this type of collaboration could be found in Hrycaj (2006) & Elrod and Wallace & Sirigos’ (2012)

analyses regarding the development of information literacy curriculum and syllabi for this purpose.

The Higher Learning Commission Accreditation

All accreditation processes include an institutional self-evaluation in which an institution of higher education evaluates how well it has met its goals and objectives, as well as the accreditation agency's criteria. There are five regional higher education accreditation agencies in the United States that were recognized by the Council for Higher Education Accreditation: the Higher Learning Commission (HLC), Middle States Commission on Higher Learning, the New England Association of Schools and Colleges Commission on Institutes of Higher Education (NEASC-CIHE), the Southern Association of Colleges and Schools Commission on Colleges (SACS) and WASC Senior College and University Commission (WASC). The Higher Learning Commission oversaw eighteen states, including Kansas.

The Higher Learning Commission offered three program options or pathways that higher education institutions could follow toward accreditation. There was the AQUIP, Open, or Standard Pathways, from which the institution could select a program. Institutions undergoing accreditation responded to five criteria in their self-study as described in Table 1.15 below.

Table 1.15

Higher Learning Commission Accreditation Criteria Descriptions

<i>Accreditation Criterion</i>	<i>Description</i>
Criterion One: Mission	The institution's mission is clear and articulated publicly; it guides the institution's operations.
Criterion Two: Integrity: Ethical and Responsible Conduct	The institution acts with integrity; its conduct is ethical and responsible.
Criterion Three: Teaching and Learning: Quality Resources and Support	The institution provides high quality education, wherever and however its offerings are delivered.
Criterion Four: Teaching and Learning: Evaluation and Improvement	The institution demonstrates responsibility for the quality of its educational courses, learning environments, and support services, and it evaluates their effectiveness for student learning through processes designed to promote continuous improvement.
Criterion Five: Resources, Planning and Institutional Effectiveness	The institution's resources, structures, and processes are sufficient to fulfill its mission, improve the quality of its educational offerings, and respond to future challenges and opportunities. The institution plans for the future.

Note: Adapted from Higher Learning Commission. (2015). *The criteria for accreditation and core components*. Retrieved from <https://www.ncahlc.org/Criteria-Eligibility-and-Candidacy/criteria-and-core-components.html>

Higher Learning Commission and the Library: Criterion 3

The criterion of importance to the university library is Criterion 3, 'Teaching and Learning: Quality Services and Support.' The Higher Learning Commission specified that, to address Criterion 3, "the institution" must demonstrate that it "provides high quality education, wherever and however its offerings are delivered" (Higher Learning Commission, 2015).

According to the Higher Learning Commission, libraries had to employ sufficient staff to maintain library resources, such as books, e-resources, online databases, and interlibrary loan services. They also had to "train students in their use" (Saunders, 2007, p.323). Librarians had an implied "responsibility for user education" though that was not directly stated (Saunders, 2007, p. 323) by the Higher Learning Commission. The Higher Learning Commission's criteria did not specify the inclusion of information literacy in the college library setting.

Since Criterion 3 focused merely on the provision of quality library resources to library users, the university's report to the Higher Learning Commission included the library's information in its responses to Criterion 3. It included all the information literacy course changes made in Criterion 3, even though these were unnecessary. The course changes provided much more than what was required for academic libraries under Higher Learning Commission control. Criterion 4 'Teaching and Learning: Evaluation and Improvement' was only to be used for subject description, analysis, and assessment, without the inclusion of information literacy.

Statement of the Problem

Four-year colleges have increasingly instituted information literacy courses in order to bolster remedial student academic skills, including student library research skills related to writing academic papers. The framework for student academic skill enhancement is most often the information literacy course. Understanding what constitutes an exemplary information literacy course is important to retention and accreditation. Knowing what guides exemplary information literacy courses, and the theoretical frameworks needed to ready information literate students for the 21st century workforce, will help in understanding the complexities of designing exemplary information literacy courses for colleges and universities.

Research Questions

The research questions relating to the development of information literacy courses in exemplary colleges and universities in the United States are as follows:

1. How are selected four-year colleges implementing exemplary information literacy courses?
2. How do exemplary four-year college library information literacy courses implement the Association of College and Research Libraries Framework for Information Literacy in Higher Education (2016)?

3. How do exemplary four-year colleges and universities implement digital literacy and the six frames of the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016)?

Purpose of the Study

The purpose of this qualitative study is to learn how selected four-year colleges offer exemplary information literacy courses to support enhanced academic skills. It will also provide information on how these institutions have applied the Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000) and the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016) to these exemplary courses. Additionally, information gathered on how these exemplary courses have implemented digital literacy elucidated how best to incorporate the Framework for Literacy in Higher Education (2015) in these courses.

Significance of the Study

A void in the literature currently exists on exemplary college and university information literacy courses, since researchers are more focused on implementing the new Association of College and University Libraries Framework (2016). This dissertation will explore how these exemplary information literacy courses are conducted in selected four-year college and university academic libraries in the United States, and how the Association of College and Research Libraries Standards (2000), the new

Framework for Information Literacy for Higher Education (2016), and digital literacy outcomes have been implemented in these courses.

The research findings will contribute to information literacy course research, to the development of the knowledge base for college and university information literacy course development and to a better understanding of how these courses aid in enhancing student academic skills.

This study will expand the knowledge base in several ways. First, the results of the study will be shared with the major stakeholders at the researcher's institution so that improvements can be implemented in the institution's information literacy courses. Second, the findings of this study will help information literacy instructors understand and improve information literacy course development models and best practices in identifying strengths and gaps in the course offered to improve student academic skills. Third, the results have the potential to directly influence administrators, program directors, faculty and other decision-makers in four-year colleges and universities to develop information literacy courses for student academic skills enhancement purposes.

Delimitations of the Study

The delimitations of this study are related to the population from which these qualitative responses will be collected, coded, and analyzed:

1. The study will be limited to understanding information literacy best practices by analyzing the courses in eight exemplary information literacy programs at four-year colleges and universities using a small, well-defined population that consisted of

librarians, faculty and administrators associated with these colleges and university programs.

2. This study does not include students, since they do not take part curriculum decisions in these universities and colleges in the study. This study will examine faculty, administrators and library instructors who teach at eight United States colleges and universities offering exemplary information literacy programs unique to their institutions. For this reason, the research findings will have limited transferability to other institutions.

Chapter Summary

Topics discussed in this chapter included: the implementation of information literacy in colleges and universities, how the teaching of information literacy has grown over the past seven years based on two major statistical studies that have been done in the field, the barriers to information literacy and the impetus for information literacy courses in colleges and universities in the United States. Those discussions were followed by a description of what an information literacy course was like, how an exemplary information literacy program was defined and how the American College and Research Libraries Instruction Section Best Practices Committee's guidelines were developed to vet exemplary programs so that other colleges and universities can learn from their attempts at information literacy best practices and their librarians' experiences. This discussion was followed by describing online learning in a theoretical context. The chapter concluded with a description of the online course and why the Higher Learning Commission Criterion 3 was considered important to university libraries. This is followed by the research questions, purpose, significance and delimitations of the study

Chapter 2 - Literature Review

Chapter Overview

This chapter is divided into four sections. The first section provides a theoretical framework for the study, a description of the development of the concept of information literacy and describes the history of information literacy. The remaining sections explain the theories surrounding information literacy, information literacy and higher education, and information literacy and the university library. First, information literacy is defined and various reports that were written to spark information literacy implementation are discussed. Following the reports, information literacy as a conceptual framework is discussed along with the historical placement of information literacy and how changes in information literacy instruction have fostered the creation of exemplary information literacy programs in academia. In the section on information literacy and higher education, the American College and Research Libraries Standards (2000), American Association of School Librarians' Standards (2007) and the process for a revised American College and Research Libraries Standards are reviewed in detail. The information literacy and higher education section explains how and why information literacy was introduced into general education programs in colleges and universities and discusses several issues that challenge librarians and educators in information literacy instruction, such as lifelong learning, teaching formats, theoretical approaches and information literacy assessment. In the information literacy and the university library section, the library stakeholder is defined, as well as the role of library stakeholders in

information literacy course integration into the university curriculum. The digital literacy section defines the concept of digital literacy and its relation to information literacy and is followed by a description of research that was conducted in relation to digital literacy courses that have been developed.

Conceptual Framework: Information Literacy

“Information Literacy” is a term that was first coined by Paul Zurkowski (1974) when, as president Information Industry Association, he presented a report to the *National Commission on Libraries and Information Science* stating that “Information Literacy is not knowledge; it is concepts or ideas that enter the person’s field of perception, are evaluated and assimilated reinforcing or changing the individual’s concept of reality and/or the ability to act” (Zurkowski, 1974, p. 1). Zurkowski was saying that information, when molded into knowledge, was a powerful tool that could be purposefully used to change how people understand our world it was also capable of changing people’s actions in the world. Zurkowski (1974) emphasized the importance of teaching people to become literate through measuring the value of information. They would then be able to mold information to their own needs (Zurkowski, 1974). Librarians in the 1970’s were of the understanding that information literacy was essential to society and that a new set of skills was required to utilize information more effectively. However, they were not yet able to articulate the new skills that would be needed in information literacy, despite understanding that new skill sets were required (Zurkowski, 1974; Behrens, 1994).

As librarians began to define information literacy and explore the future role of librarians and libraries in the new information society, Zurkowski's concepts and ideas also took momentum, driving the "information literacy movement" (Breivik & Ford, 1993, p. 98) that grew out of the need for educational reform and the technological change movements of the 1980's. As a result, library user education programs were merged with or were replaced by new information literacy programs, because librarians realized that the "new technologies of the decade" were "to be recognized as an important feature" of information literacy (Behrens, 1994, p. 311). Library users needed to master the new technologies, along with "new intellectual skills," if they were to attain the computer and functional literacy skills that allowed them to easily use and manipulate information essential for completing their everyday tasks (Behrens, 1994, p. 312).

Development of the Concept of Information Literacy

In the late 19th century, due to major changes and developments in United States colleges and universities, the college or university libraries that were established were centralized and hierarchical, containing standardized collections purchased from the Wilson Catalog and lists. Bibliographic instruction, which was defined by Shaw (2003) as a model used to teach the research process to students using a one-shot approach, by teaching them the basics about how to use the library and locate library resources, was the forerunner of information literacy instruction. During the 19th century, bibliographic instruction was first taught in academic libraries such as Oberlin College, Harvard University, Bowdoin College, Georgetown University, the University of Rochester and the University of Michigan as courses that combined the history of books and libraries,

basic library research strategies and the critical evaluation of materials. By the early 20th century, these courses lacked quality and were in decline. Between the years 1920-1960, one important scholarly activity and three scholarly papers on bibliographic instruction were delivered to the academic community that had lasting effects on the discipline of librarianship and the teaching of bibliographic instruction in academia. The first was the establishment of the bibliographic instruction program by B. Lamar Johnson at Stephens College between the years of 1931-1950 (Gilton, n.d.).

Following in its wake, in 1935, a series of articles was published specifically for high school and college students by Louis Shore entitled, *How to Use your Library*. Following the bibliographic instruction articles, Shore published the book *Origins of the American College Library*, which suggested that college professors should be teacher-librarians and that students would learn best about the research process, through independent study at the library. In 1940, the publication of *Teaching with Books* by Harvie Bascomb further influenced librarians in their bibliographic pursuits. From 1960-1962, Patricia Knapp at Wayne State University, implemented the Monteith Experiment, which attempted to integrate bibliographic instruction into the curriculum, but it failed. The failure of this experiment was due to student and faculty resistance to the program. Despite this failure at Wayne State University, in the late 1960's, Evan Farber at Earlham College in Indiana was inspired to implement a bibliographic instruction program that was managed by student, faculty and administration consensus, which proved to be extremely successful (Gilton, n.d.).

The success of Johnson, Shore and Farber's bibliographic instruction programs initiated the bibliographic instruction movement of the 1970's that offered library

orientations and instruction about basic reference tools. This movement also emphasized point-of-use, individualized and course-related bibliographic instruction sessions to college students. During the 1970's the bibliographic instruction movement was a grassroots movement led by young academics who were affected by library transformation, increasing library complexity and additional factors in education, such as educational democratization, curriculum change and generational issues. They were able to teach students how to navigate the new disciplines that were starting to emerge in academia such as e.g. Ethnic Studies and African-American Literature. The bibliographic instruction movement was bolstered significantly in the 1970's by the creation of new local and national library organizations, such as the American College and Research Libraries and its Instruction Section (IS) and Library Instruction Round Table (LIRT), and a variety of books, periodicals, workshops and conferences such as Library Orientation Exchange (LOEX) which was a conference supporting research and interaction amongst instruction librarians. With the paradigm shift that occurred in libraries due to library automation and the advent of the Internet, bibliographic instruction which had originally been focused on teaching students how to locate printed information became obsolete. Although it is still common for librarians to present bibliographic instruction sessions, or one-shots, in college and university library settings, many college and university libraries have transitioned or are attempting to transition away from this. Instead they have attempted to either present one-shot information literacy sessions that integrate information literacy components into courses, develop bibliographic instruction online tutorials uploaded on the library website or to develop

standalone information literacy courses or to ultimately present a combination e.g. one-shots and a one-credit hour information literacy course (Gilton, n.d.; Behrens, 1994).

History of “Information Literacy”

According to Grafstein (2002), the concept of *information literacy* first came into use in 1974 by Paul Zurkowski, who coined the term "information literacy" in a much-cited paper, written as President of the Information Industry Association. This was long before the World Wide Web. The appearance of the term, “information literacy” came into being in 1989 in the final report on information literacy by the American Library Association.

However, the most common library instruction format at the time of Zurkowski’s paper was the one-shot bibliographic instruction session, which was to undergo radical transformation into what is termed *information literacy* today. Bibliographic instruction was then the traditional format of print-based library instruction focused on tool literacy that taught students how to use the library catalog, the library databases, and print reference sources and abstracts. Bibliographic instruction and information literacy are not the same type of instruction. Information literacy instruction is a broad concept that developed in response to the expansion of information formats and research tools in the digital age.

This *Presidential Committee on Information Literacy's Final Report* was chaired by Patricia Breivik (Breivik & Gee, 1989) who helped to re-conceptualize the concepts and goals of library instruction as the term now accepted as information literacy. The

Final Report established the core definition of information literacy as the ability “to effectively locate, evaluate, and use information” (American Library Association, 1989).

These various report recommendations, in addition to the *Presidential Committee on Information Literacy Final Report* (1989), fueled the funding of information literacy courses and professional organizations focused on developing an information literacy agenda to implement adjustments in the American educational system. In addition, international reports on lifelong learning, such as the *Candy Report* (1994), contributed to college and university faculty worldwide using information literacy concepts to better ensure that their graduates became lifelong learners and entered the workforce with the skills required for their success. For some colleges and universities, the work of producing skilled lifelong learners included explicit instruction in information literacy skills.

This agenda led to a broadening of the definition and theory surrounding the new concept of information literacy through its inclusion into higher education by the Association of College and Research Libraries Standards for Libraries in Higher Education (2000). This definition was expanded to include a more specific and applied definition that involved the use of technology. The Association of College and Research Libraries (ACRL) defined information literacy as a set of abilities requiring individuals to "recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information” (2000, p. 2). These standards were later endorsed by the Council of Independent Colleges (February 2004).

Major Educational Reports Of The 1980's Influencing Development of Information Literacy Concepts

There were several major educational reports written in the 1980's whose findings aided in shaping school and academic educational systems that emphasized the importance of information literacy and the need for information literacy programs to implemented it in classroom settings. Four of these major reports are discussed in the paragraphs that follow: *A Nation at Risk* (1983), *Newman's Education Commission of the States* (1985), *Libraries and the Search for Academic Excellence* (1987) and *The Presidential Committee on Information Literacy Final Report* (1989).

A Nation at Risk (1983)

According to *A Nation at Risk (1983)*, a report prepared by the National Commission on Excellence and created by the then Secretary of Education, widespread public perception held that something was seriously amiss with education system in the United States. The National Commission on Excellence (1983) found that the educational foundations of American society were being eroded and threatened by mediocrity and that educational institutions appeared to have lost sight of the basic purposes of schooling.

The Commission found there to be high functional illiteracy rates, lowered SAT scores, a decline in science achievement scores and low performance on higher order intellectual skills amongst high school seniors entering colleges, universities and the workforce. When comparing high school students in the United States to their peers in economically advanced countries across the world, the students in the United States spent

less time in the classroom and doing homework than their international peers. They also had poor study skills compared with their peers in these advanced countries (National Commission on Excellence, 1983).

The National Commission on Excellence (1983)

The National Commission on Excellence (1983) pointed out that knowledge, learning, information and skilled intelligence were the new raw materials of international commerce. If these raw materials were combined with the resources of a variety of educational organizations, such as colleges, universities, technical schools, libraries, museums, cultural institutions and businesses across the United States, there was the distinct possibility to create a learning society. The learning society created would be able to provide students and the public with the tools to handle the scientific and technological changes in occupations that were being transformed by new technology. As a result, workers needed corporate training, retraining and lifelong learning to be successful in the work environment.

The National Commission on Excellence (1983) recommended that teachers focus on the educational process on improving student mastery of taught content, and on developing rigorous curricula for educational programs that required their students to spend time studying. Further recommendations included a review and synthesis of scholarly literature on improving learning and teaching quality in the classroom and on understanding major events. It was further recommended that problems and barriers to attaining academic excellence be defined and that United States curricula be compared with that in economically advanced countries to see where improvements could be made to the school and college curricula in the United States. College admission standards were

sampled in an attempt to identify standards that enhanced and promoted educational excellence. Expert advice was sought regarding efforts to foster high levels of quality and academic excellence in schools and in higher education. This was vital at the time and also applies to the situation for students in higher education today, because it was found that “attainment rates for young adults in the United States have remained relatively stagnant at around 40% in the recent past, while college completion among its greatest competitors has been rapidly increasing” (Advising Committee on Student Financial Assistance, 2012, p.1). It was suggested that once the *National Commission on Excellence* (1983) had completed its research, recommendations would be made to educators, politicians, governing bodies and public officials about how to improve the education system in the United States as a whole, so that quality education and academic excellence in achievement could be better promoted.

Higher Education and the American Resurgence (1985)

Newman’s *Higher Education and the American Resurgence* (1985) report was funded by the Carnegie Foundation for the Advancement of Teaching. Newman (1985) stated that colleges and universities played a major role in aiding the United States in entering the emerging competition between nations, thereby providing their students with a quality education as well as moral leadership to help in shaping a better world. Colleges and universities needed to meet the needs of the American student a decade ahead, preparing them to be active learners involved in service to their communities.

Newman (1985) stated further that students had to take responsibility for their own education, become committed citizens, debaters, and researchers who could make necessary decisions and find acceptable solutions to solve the complex problems of the

community and world. Newman's (1985) report also went on to say that in receiving a liberal education, students also had to be prepared for civic responsibility and for the development of a much needed entrepreneurial spirit, which would be important in the competitive world outside the classroom.

Although the suggestions and recommendations that the *A Nation at Risk* report (1983) and Newman's *Higher Education and the American Resurgence* (1985) report made were vitally important for teachers and those in higher education to consider, neither report addressed "the instruction potential of libraries...the suggestion that not all learning need take place in classrooms," or the "direct relationship between libraries and quality education" (Gee & Breivik, 1987, p. 2).

Libraries and the Search for Academic Excellence (1987)

In their 'Libraries and Learning' presentation prepared for *A National Symposium: Libraries and the Search for Academic Excellence*, Gee & Breivik (1987) pointed out that university and college libraries in many educational institutions were not viewed as a "vital part of the undergraduate experience" (p. 3). Thus, there was still a large gap between the classroom and the library. Merely being able to develop computer literacy skills was not enough for the college graduate entering the new information society, to be successful. Instead, educators had to be compelled to teach their students the skills that were required for their students to become independent learners and problem-solvers, such as locating, accessing, retrieving, evaluating and effectively using information. Being able to apply every one of these skills was essential in the new information society.

According to Gee & Breivik (1987), it was important that academic librarians work to expand the role of the college and university library on their campuses and aid in developing a campus climate that encouraged college and university faculty to move beyond the “reserve-lecture-textbook approach” in the classroom and integrate information literacy into the curriculum. The faculty had to be encouraged to support an integrated type of learning that was structured around the information resources that were available to students even after graduation. The faculty also had to be encouraged to help their students become lifelong learners by facilitating discovery learning inside and outside the classroom, thereby allowing their students to develop an awareness of the information resources available in their specific fields of study and beyond. In this way students then developed a much more “sophisticated understanding of the library” and its information resources, and were able to “make use of the wide range of materials available in and through” their campus libraries (Gee & Breivik, 2007, p. 11). Breivik (1987) stated that academic libraries needed to fully integrate with the learning process as they worked for overall improvement of undergraduate education. Breivik (1987) also pointed out that all college students should be prepared for lifelong learning. Information Literacy included teaching students the processes of information acquisition, evaluation and storage. Being able to articulate the public policy issues related to information literacy was considered to be central to this process and also to transforming and improving higher education (Breivik, 1987).

The Presidential Committee on Information Literacy Final Report (1989)

In 1989, the American Library Association president, Margaret Chrisholm, then chair of the American Library Association, Association of College and Research

Libraries Section, presented a report to Congress *The Presidential Committee on Information Literacy Final Report* (1989), which stated that “information literacy is a survival skill in the information age” (Association of College and Research Libraries, 1989, Para. 19). The committee found that it was necessary to make information literacy a part of cultural literacy because it supported democracy. Information Literacy was viewed as “a means of personal empowerment” that prepared “independent seekers” not only to become capable searchers and knowledge seekers, but also to become lifelong learners (Association of College and Research Libraries, 1989, Para. 6).

The committee found that there was a dire need to develop a new learning model in education that was no longer focused on lectures and textbooks. The suggested education model would instead be developed to foster self-initiated, active and interactive real-world information resource-based learning amongst students. The education model had to be restructured, to include critical thinking and lifelong learning skills. Students would learn to become effective inquirers, problem-solvers “information consumers, analyzers, interpreters, evaluators and communicators of ideas” (Para. 32). By applying this new educational model, students would not only learn information exploration, connection and evaluation techniques, but would also learn the intricacies involved in academic research.

The report suggested that a national agenda be developed and implemented that addressed several significant issues through research. These areas of research included: the social effects of reading on the populace, how electronic media fit into the print resources, information resource characteristics, disciplinary information use, access

amongst citizen action groups, the effect of information management skills on student performance, and retention and minority advancement.

In order to accomplish these goals, the report urged educators to incorporate “the spirit and intent” (*The Presidential Committee on Information Literacy Final Report*, 1989, Para. 39) of information literacy into college curricula. They were further encouraged to establish and teach information literacy programs, develop information literacy competencies in the classroom emphasizing problem-solving within the disciplines, while assessing their students’ information literacy skills both at the state level and the college level. Professional and in-service teacher training organizations were encouraged to train teachers to become learning facilitators, in order to implement information literacy techniques in the classroom.

There were several recommendations for citizens, educators and businesses across the nation to be able to “reap the benefits” of information literacy in the future. The report proposed finding ways to restructure institutional, community, and business information access. It also advised the establishment of a Coalition for Information Literacy to raise public awareness and fundraise for coordinating and promoting information literacy ventures. Another recommendation was that a national information literacy research agenda be developed, requiring state institutions to teach information literacy to students at all educational levels.

The information literacy recommendations were approved by the American Library Association and the Association of College and Research Libraries Section. The information literacy skills that were emphasized in the *Presidential Committee on Information Literacy Final Report* (1989) later became the core of the Association of

College and Research Information Literacy Competency Standards for Higher Education developed in 2000.

Theoretical Framework – Information Literacy

Characteristics of Information Literate People

According to the *Presidential Committee on Information Literacy Final Report* (1989), it was important that the quality of a college be measured by the resources for learning available to students on the campus and also by the extent to which students became independent, self-directed learners. The authors of *A Nation at Risk* (1983) emphasized the dire need to revitalize American education, asserting that there was a widespread public perception that something was seriously amiss with the education system in the United States. Thus, it was reiterated that the gap between the classroom and the library continued to exist, since undergraduates spend little or no time in the library during a normal week, with 65% using the library for only four hours or less each week. According to *The Presidential Committee on Information Literacy Final Report* (1989) it was important that “the first step in reducing this gap” was “making sure that the issue of information literacy” became “an integral part of current efforts at cultural literacy, the development of critical thinking abilities, and school restructuring” (Para. 23). Thus, it was necessary to define the character of the information literate person. In describing the characteristics of the information literate person, *The Presidential Committee on Information Literacy Final Report* (1989) states that “it must be clear that teaching facts is a poor substitute for teaching people how to learn, i.e., giving them the skills to be able to locate, evaluate, and effectively use information for any given need.

What was then called for was not a new information studies curriculum but, rather, for the restructuring of the learning process at schools, colleges and universities throughout the United States. The Report stated that information literacy character development consisted of actively teaching students to develop skills allowing them to:

- Know when they had a need for information
- Identify the information they needed to address a given problem or issue
- Find the needed information and evaluate the information gathered
- Organize the information they gathered and use the information organized and gathered to “effectively to address the problem or issue at hand (*The Presidential Committee on Information Literacy Final Report*, 1989, Para. 27).

These changes would restructure the learning process to enhance the critical thinking skills of students, their empowerment for lifelong learning and their “effective performance of professional and civic responsibilities” (*The Presidential Committee on Information Literacy Final Report*, 1989, Para. 27). Ultimately, as information literate students would develop into a scholars and researchers who are competent to conduct research in a technology-rich, ever-changing environment, inside and outside the university setting.

Christine Bruce (1995) stated that information literacy should be viewed as a theoretical framework for higher education because it was one of four elements essential to undergraduate education. Bruce (1995) defined information literacy as “the ability to access, evaluate and use information from a variety of sources” (p.159) and stated further that the theoretical information literacy framework tied and addressed three important elements together within the information literacy agenda that were of primary concern to educators. The first element was developing the outcomes of information literacy courses to be taught and the outlining the characteristics of information literate people. The second element was considering the actual nature of information literacy education and

how it was provided to the student. The third element was understanding the roles of stakeholders in education and the best ways that they could work together to help students to become information literate (Bruce, 1995).

According to Bruce (1995), information literate people were those who had learned how to learn. They were self-directed, lifelong learners who took responsibility for their own learning and used information technology systems and resources to facilitate information retrieval. They knew how information was organized, where and how to access it and used appropriate search strategies to find information, and knew how to organize it to fulfill their specific information needs in such a way, that others could learn from them. Information literate people were able to recognize their information need, and also understand what source types and formats they needed at specific times. They were critical thinkers, information evaluators, information synthesizers and problem-solvers, able to use the information effectively for whatever project or paper they were working on and create new knowledge as needed. Information literate people were people that had attitudes “such as persistence, attention to detail and skepticism” and the “appreciation of the value and power of information” (Bruce, 1995, p. 161). Bruce (1995) also suggested that in order for students to become information literate, it was important that faculty collaborate with one another to integrate information literacy into the curriculum, so that it is possible to “evaluate it along with other aspects of the curriculum” (p.165).

Information Literacy in Higher Education

Spitzer, Eisenberg & Lowe (1998) described the milestones in the development of information literacy in the United States by explaining that information literacy was shaped by the democratic ideals of the 1970's, the growth and acceleration of computer networks in the 1980's and the creation of watchdog organizations such as the National Forum on Information Literacy in 1989 and the Institute for Information Literacy in 1998. The definition of information literacy was formalized by the American Library Association in 1989 when the Presidential Committee on Information Literacy defined an information literate person as a student-scholar and researcher who was competent to conduct research in a technology-rich, ever-changing environment, inside and outside the university setting and laid down the foundation on which the Association of College and Research Libraries Standards (2000) was built.

According to Orr, Appleton & Wallin (2001) information literacy was cross-curricular, connected to the curriculum and to every subject taught by an institution and to the process of continuous or lifelong learning. Information literacy was defined as “a way of thinking and reasoning about subject matter” (p. 457). Information literacy courses should be structured so that inquiry was the norm, so that the focus becomes learning how to problem-solve and critical thinking is a part of the process of the course, ultimately allowing students to then become engaged in their own self-directed learning, and the expansion of their knowledge and sharpen their questioning skills.

Johnston & Webber (2003) pointed out that over the last thirty years the international profile of information literacy had grown, becoming “an appropriate vehicle for integrating responses to the information society from the library, computer and pedagogical societies” (p.340). As a result, information literacy had moved beyond the

mere “search and find skills and IT fluency characterizations” and now required an “integration into the curriculum structure of higher education” (p.340), where application in the classroom was a necessity. Although information literacy has come a long way since the creation of the Association of College and Research Libraries (2000), and its underlying concepts were refined, redefined and reorganized countless times so that information literacy models could be created and a substantial section of the higher education community had embraced these concepts, students were still struggling to apply their information literacy to their daily lives.

Project Information Literacy (PIL) (2013) in collaboration with the University of Washington I-school, conducted a large-scale, multi-year study about the research habits of young adults. During this study six information literacy-related investigations were conducted between 2008 and 2012, surveying and interviewing more than 11,000 students from 57 colleges and universities. Their findings indicated that very little was known about how college students put their information literacy competencies to work in practice outside the classroom. It was clear that most college graduates were not information literate, since the findings indicated that students who had been surveyed and interviewed while enrolled in college continued to experience challenges after college.

Noteworthy findings included (Project Information Literacy, 2013):

:

- Eighty percent of college students had great difficulty determining the nature and scope of their research assignments and starting them;
- Fifty percent of college students were uncertain when concluding and assessing their research assignments;
- Students used tried and true solutions when conducting research and used Google as opposed to the library databases (used by only 11% of students), with only 78% of college students valuing the databases as credible content that could be used for research;

- Eighty percent of respondents did not turn to librarians for help with defining their research topics or with course-related assignments; 49% of students turned to their instructors for help and the rest turned to friends and family when they were considering or researching personal topics; and
- Eighty-five percent of students were “light” technology users, since they only used one to two devices that helped them with their complete their assignments, with 40% of the devices used being a cell-phone and a laptop computer

PIL demonstrated that there was still a great deal of work to be done by librarians in the classroom as they developed information literacy courses and programs in order to prepare their students to graduate with a skillset useful in the workplace. Their ongoing work was aimed at improving their students’ information literacy skills so that they were information literate enough to complete their college work and graduate.

Stakeholder Roles in Information Literacy Development

A stakeholder is defined by the Merriam-Webster Dictionary Online (2016) as an individual “that had a stake in an enterprise” and also someone “that was ultimately involved in and affected by a specific course of action.” Christine Bruce, originator of the model the *Seven Faces of Information Literacy*, described the roles played by stakeholders in the information literacy program (Bruce, 1994). The information literacy program stakeholders at a university were those who were directly affected by the program, from its conception to its implementation and assessment, and suggested, as did Breivik (1991) that they had “pedagogical expertise, subject expertise and expertise in information organization and technology” (p.13). Bruce (1994) described the stakeholder roles of administrators, faculty, staff developers, learning counselors and information services professionals in the information literacy program in some depth in *Information Literacy Blueprint*. Bruce (1994) suggested that it was important for librarians to develop collaborative strategic relationships with stakeholders in administration such as deans,

provosts or members of different university boards and committees. They were responsible for fostering a university climate that promoted collaboration and oversaw university budgets and policy creation. They also created the university infrastructure for teaching and learning, necessary for the development of the information literacy course, course staffing and the policies related to it. Librarians were also at an advantage when establishing strategic partnerships and collaborations with subject faculty, since they had a stake in the development of an information literacy course, or in the integration of information literacy into their disciplines because they could work with librarians to develop appropriate teaching content and assessments that would be complementary to their disciplines. Librarians also had the opportunity in some cases to co-teach an information literacy course that was discipline specific or if the information literacy was integrated and the discipline-specific courses were online, to embed information literacy into these courses. Bruce (1994) also suggested that university staff were also stakeholders and that their role, in terms of the information literacy course, was to raise consciousness about information literacy among the university staff to establish the need for learning more about information literacy through on-campus forums or presentations. Student learning counselors also needed to be made aware of information literacy course offerings and how information literacy had been integrated into the courses at the university, so that they were able to counsel students about information literacy requirements. Bruce (2004) suggested that these counselors could intervene at any level of the teaching and learning process, since they were able to help students who were transferring into a college from another and needed a bridging course that included

information literacy, or they were able to provide students with whatever learning support was needed.

Information services staff, such as instructional technologists, were also important stakeholders in information literacy because the librarians often needed to work with a course designer or an instructional designer in order to create course content when new information literacy courses were designed, or a course was revised, or when a librarian was embedded into a course where information literacy was being taught. Students were also stakeholders because they took the courses where they were exposed to information literacy, and participated in the information literacy learning process at different levels of their college experience. As a result, they provided the information literacy librarian and instructor with assessment data and vital information about what changes and improvements to make to the course or program in the future. According to Bruce (2004) information literacy education was impossible without the development of collaborations and partnerships in the educational setting. It was considered the responsibility of the information literacy librarian/instructor to develop strategic partnerships that operated at various levels in the educational setting. Fostering these strategic partnerships with faculty and staff stakeholders involved curriculum design, policy development, staff development, and research and classroom teaching since these areas were all necessary for the viability of the information literacy program.

Saunders (2012) conducted a study about faculty perspectives of information literacy as a learning outcome. The study was conducted because the American Association of Colleges & Universities Liberal Education (AAC&U) and America's Promise (LEAP) supporting documents, standards and rubrics, "demonstrated that

stakeholders recognize information literacy as an important learning outcome essential to a broad education” (p.226). Nevertheless, findings in the literature had suggested that undergraduate students at large universities where information literacy had become a stated learning outcome, whether in the general education, or integrated into the disciplines, lacked the competencies associated with information literacy, because little progress had been made beyond the one-shot information literacy class. As a result, Saunders (2012) attempted to better understand and analyze this problem, by interviewing disciplinary faculty stakeholders who had direct oversight and responsibility for the curriculum and how information literacy was taught, to ascertain their awareness of information literacy. The survey which was followed up with a six-question interview contained questions about faculty awareness of information literacy standards, the competencies and skills taught by information literacy, the appropriateness of these skills and competencies for addressing their students’ needs and assignment of responsibility for teaching information literacy to their students within their discipline. The survey was followed by a random sampling of 50 colleges and universities with undergraduate majors in six fields: (1) Anthropology, (2) Science, (3) Technology, (4) Psychology, (5) English Literature and (6) Political Science. This part of the study was conducted because the Association of College and Research Libraries taskforces had created five sets of discipline specific information literacy standards for those six disciplines in 2011. Eight hundred and thirty-four surveys were sent out and only 278 responses were received with the largest number of responses being received from psychology (33.6%) and biology (32.4%) faculty and the smallest from technology (10.4%) faculty. The total survey response rate was 33.3%. The study findings indicated that when rating student abilities

and competencies between 100-110 participants said that they considered the largest areas of student gains to be in identifying scholarly materials, identifying authoritative reliable sources, finding relevant materials for papers and citing sources appropriately and correctly. When responding to the question about who was responsible for teaching information literacy in the disciplines 185 participants strongly agreed that the responsibility was that of the teaching faculty and not librarians, but they also agreed that it was a shared responsibility which needed to be taught to students in different ways and in different places.

Faculty stakeholders who understood the ACRL Standards (2000) and were more willing to work with librarians to implement information literacy content in their courses often did not include information literacy in their classes because of large class sizes and time constraints, and did not assign research papers in their classes. Consequently, information literacy was not included in the course content. The faculty was willing to collaborate with librarians when necessary to integrate information literacy into their disciplines, but they did not see librarians as teaching or instruction partners, even though they were willing to work with them to create course content. Saunders (2012) also found that the unwillingness of faculty to partner with librarians in creating information literacy course content was less about lack of respect, as it was about having much more to do with their not knowing how to contribute to and support the information literacy instruction. Faculty stakeholders were very aware that although information literacy did consist of a set of baseline competencies that were transferable or cross-disciplinary, these competencies differed within the disciplines; thus faculty suggested “that a more systematic and developmental approach to teaching information literacy” (p.231) be

required within their discipline. Saunders (2012) concluded that librarians still had opportunities to collaborate with faculty in order to create information literacy opportunities for students and also that librarians still had not found “systematic ways to integrate” information literacy “into the curriculum” (p.232). When information literacy integration did happen, there was often less opportunity for students to learn information literacy skills, when one-shots were common at their universities. These limited librarian interaction with students and also the amount of information literacy instruction that could be provided when librarians saw students infrequently and often for less than 30 minutes, once or twice a year.

Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016) and the Information Literacy Course

The theoretical underpinnings of the new Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016) have been a concern for librarians since the first draft of the new Framework was released. This was because Mackey & Jacobsen (2011) chose Meyer & Land’s (2003) threshold concepts to explain why instructors should shift their roles and practices when teaching information literacy to their students in the classroom. These threshold concepts are not derived from the discipline of library science, in fact, as Beilin (2015) so aptly explains, librarians are critical of “applying the threshold concepts because they” reflect “theory imported from other disciplines into library practice” and “into LIS scholarship. Beilin (2015) points out that-- even though the theoretical jargon comes from other disciplines where studies have been conducted around the threshold concepts such as English Literature, Sociology and Education into Library Science, information literacy instructors should not be averse to adopting and adapting these “novel concepts and ideas, reflected in new vocabulary” into

the field and that they instead “should engage...in order “to test their foundations as well as their usefulness” (Beilin, 2015, Para 8).

According to the Association of College and Research Libraries Framework for Information Literacy for Higher Education website (2015), the Framework (2016) itself grew “out of a belief that information literacy as an educational reform movement” would “realize its potential only through a richer, more complex set of core ideas” (Association of College and Research Libraries Framework for Information Literacy for Higher Education Website, 2015, Para.1). Because of “the rapidly changing higher education environment” and “the dynamic and often uncertain information ecosystem in which all of us work and live...new attention” had to be “focused on foundational ideas about that ecosystem” that were provided by the Framework (2016) (Association of College and Research Libraries Framework for Information Literacy for Higher Education Website, Para. 1). There was also a need for instructors and students to take on roles as new knowledge creators, who fostered an “understanding” of “the contours and the changing dynamics of the world of information” and scholarly processes. It was therefore important to continue to develop this new Framework since library practitioners were entering a new paradigm where they had greater responsibility in “designing curricula and assignments that” fostered and “enhanced engagement with the core ideas about information and scholarship within their disciplines“ that would extend students learning by “creating a new cohesive curriculum for information literacy, and in collaborating more extensively with faculty” (Association of College and Research Libraries Framework for Information Literacy for Higher Education Website, Para. 1).

The new Framework (2016) was marketed by Mackey & Jacobsen (2011) as a model that helped instructors transition from the print-based culture to the Web-based culture, by moving away from merely teaching students how to use the library's resources and databases, and moving towards developing the students' problem-solving and critical literacy abilities and resourcefulness and in the process, taking their dispositions into account.

Information Literacy Development in Colleges and Universities

This expanded definition seems straightforward, yet it mapped a new course for libraries, allowing them to operate in the higher education landscape under the auspices of a discipline. This definition expanded the parameters of what counted as "information" and altered the way student learning was assessed and valued. It has also resulted in a codification and distribution of learning through designated courses in information literacy. This definition also allowed librarians to contribute to the teaching of student academic writing skills in colleges and universities.

Lilli Li (2007) found that information literacy skill requirements, focused primarily on developing a student's reading and writing abilities had to be hugely expanded with the advent of the digital age, to encompass a dauntingly comprehensive range of knowledge management and technology skills in order to achieve these enhanced academic writing abilities. As a result, the importance of the information literacy agenda and its application in colleges and universities was discussed and hotly debated, in both the education and Library Science literature in higher education. However, government reports and funded research projects continued to focus on

improvements in the United States public educational system and promoting information literacy in the public school classroom, starting in the 1980's.

Changes in Information Literacy Instruction

William Badke (2008) stated that although the information literacy movement had grown substantially since the development of the Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000), there have been many problems with the implementation of information literacy at colleges and universities in the United States.

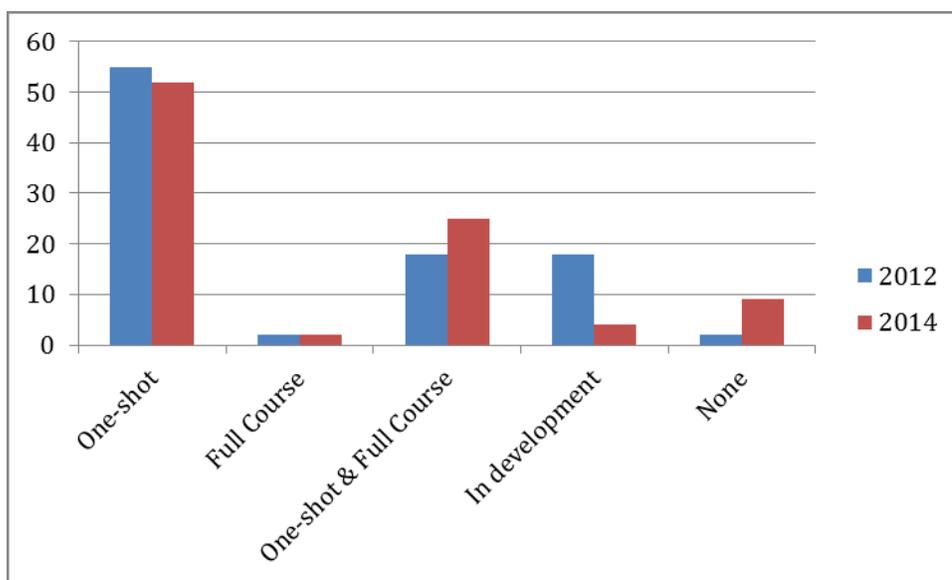
Image Easy Solutions and EasyBib.com (2014), a citation creator and a library vendor, conducted a joint survey on information literacy trends in academia. The survey yielded 10,471 responses, (see Table 1.6). The survey found that 60% of librarian survey respondents said that their students preferred to use Google and the open web in comparison to the academic library's resources and authoritative journals when searching for resources for their papers. Librarians' perspectives were confirmed by student responses when asked whether they preferred to use the open web in comparison to the academic library's resources, 58.7% of students agreed that they preferred using Google and the open web, instead of their academic library's authoritative resources when searching for resources to use in their academic papers. When asked about the frequencies of student struggles on the Image Easy Solutions Survey (2014) with direct quotes and paraphrasing when writing their academic papers, 35% of students admitted that they struggled moderately with direct quotes and paraphrasing, while only five percent admitted that they struggled very often with direct quotes and paraphrasing, while

55% claimed that they rarely struggled with quotes and paraphrasing when writing their papers. In comparison, when librarians were asked about how students struggled with direct quotes and paraphrasing in their academic papers, they stated that only three percent of their students rarely struggled with these tasks, while 52% struggled moderately with these tasks and 45% struggled very often with these tasks (Image Easy Solutions, 2014). The Image Easy Solutions Survey (2014) asked students in 2012 and 2014 how important librarian roles were in developing student research and critical thinking skills. In 2012, 97% of students stated that librarian critical thinking and research roles were extremely important. In 2014 student opinions regarding librarian research and critical thinking roles had changed significantly in favor of depending on their subject professors who were faculty, instead of academic librarians for guidance with research and critical thinking. According to the Image Easy Solutions Survey (2014), 53% of students (a drop of 44%) stated that librarian critical thinking and research roles were extremely important, 43% stated (a drop of 41%) that these librarian roles were “pretty important, but faculty has influence” and four percent of students stated (a gain of three percent) that these library roles were not important.

Image Easy Solutions Survey (2014) findings, as described in Table 2.1 were that the “one-shot” (one presentation) instruction method has remained the most popular instruction method in all types of schools. However, between 2012 and 2014 there was a decrease in the one-shot method of instruction by two percent, and an increase of nearly eight percent in schools offering students a combination of one-shot and full information literacy course options. There was also a seven percent increase in schools that did not offer any type of information literacy instruction. When compared with 2014, the number

of information literacy courses in development had decreased from 18% in 2012 to five percent, and the number of schools that did not offer any information literacy courses at all had increased to ten percent, largely because of library budget and job cuts synonymous with a poor economy.

Table 2.1
Information Literacy Courses in United States' Institutions



Note: Adapted from Image Easy Solutions, EasyBib.com. (2014). *Trends in information literacy: a comparative view*. Retrieved from InfoLitReport.pdf

A new approach to information literacy was developed as a response to the twin competing forces of decreased budgets and increased need for information literacy instruction to increase student academic writing skills – the Framework for Information Literacy for Higher Education (2016). It was created to supplement the Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000). The new philosophy and allied strategies for information literacy were developed by librarians on the Association of College and Research Libraries

Information Literacy Standards Committee (2014). It provided a new theoretical outline and mapped out methods, strategies, and applications for the incorporation of information literacy courses and curricula in colleges and universities. A decision was made to place the new Framework side-by-side with the Association of College and Research Information Literacy Competency Standards for Higher Education (2000) in order to strengthen its force.

The Exemplary Information Literacy Course

Kasowitz-Scheer & Pasqualoni (2002) introduced the Association of College and Research Libraries' "Best Practices Initiative Institute for Information Literacy" and pointed out that it offered "the most complete set of best practices characteristics" that emphasized "the importance of integrating information literacy throughout a student's entire academic career" (p. 3) and advised librarians to use multiple methods of assessment in their courses.

The new Best Practices Initiative Institute for Information Literacy was approved by the Association of College and Research Libraries Board in 2002 and revised in 2012. "The Characteristics of Programs of Information Literacy that Illustrate Best Practices: A Guideline" attempted to articulate elements of exemplary information literacy programs for undergraduate students at four- and two-year institutions (Association of College and Research Libraries, Characteristics of Programs of Information Literacy that Illustrate Best Practices, 2015). These documents have not been revised since 2012, and the exemplary program college list has remained the same and no new exemplary programs

were identified and acknowledged in the last five years because the Association of College and Research Libraries ended the program.

The original “Guidelines” were created in 2000 and was developed through a multi-phase process using a web-based Delphi poll with input from librarians and administrators from all levels of higher education. It was revised again at a 2002 invitational *Best practices in Information Literacy Conference*, in which its characteristics were redefined in order to create a final document. In the second phase, a project team from eight universities and colleges publicized and promoted the document. The document became a working document and has been continually revised since 2012 by the Association of College and Research Libraries Information Literacy Best Practices Committee.

The Committee consisted of 13 Association of College and Research Libraries members from different colleges and universities selected to serve voluntarily on the committee, these individuals also belong to the Instruction Section. Each year a call was sent out to information literacy courses that exemplified best practices to submit their course characteristics to the committee for consideration. A rubric was created for course and programs to use, to see how close each course or program measured up to the information literacy best practices characteristics.

Information literacy programs were chosen from those libraries responding to the call each year that had to be a best fit for the 10 best practices categories in the rubric. Institutions could choose more than one of the categories to fit their program. The best characteristics were divided into ten categories as described in Table 2.2. The college provided a short description of how their program fit a category; while other colleges

chose other categories described in the exemplary rubric, which was then vetted by the Committee, and is included in Appendix G.

The colleges and universities included in the study are named in Table 2.2. Each of the eight institutions was listed on the Association of College and Research Libraries Information Literacy Best Practices website and had an exemplary information literacy course or program that was recognized for information literacy best practices. The table provides the name of the university or college is provided, as well as its library, location, and the exemplary categories in which it was recognized by the Association of College and Research Libraries.

Table 2.2*Association of College and Research Libraries' Exemplary Information Literacy Courses & Programs*

<i>College or University</i>	<i>University Location</i>	<i>Exemplary Category</i>	<i>Courses Offered Online (O), Face-to-Face (F) or Blended (B)</i>	<i>Course (CS) or Program (PR)</i>
Augustana College, Thomas Tredway Library	Rock Island, Illinois	Administrative & Institutional Support Collaboration	B and O; Offer undergraduate degrees face to face and online that would include the IL integration	Integrated into the First Year Experience
California State University, San Marcos	San Marcos, California	Outreach	F and O; Face to face and online in the greater school	CS Integrated into Freshman Core
Loyola Marymount University	Los Angeles, California	Goals & Objectives Articulation within the curriculum	B and F; Offer undergraduate degrees face to face and blended would include the IL integration	PR Integrated More than one course that includes IL (IL is integrated into all disciplines)
Purdue University	West Lafayette, Indiana	Administrative and Institutional Support, Collaboration, Pedagogy, Outreach	F and B; Online Initiative; No online currently	CS IL integrated and taught in different formats face to face
University of Nevada, Las Vegas	Las Vegas, Nevada	Mission Goals Planning Pedagogy	O and F; Offer undergraduate degrees face to face and online that would include the IL integration	PR Integrated. More than one course that includes IL (integrated into 1 st year, 2 nd year seminar and Capstone)
University of North Carolina, Wilmington	Wilmington, North Carolina	Articulation within the curriculum Assessment and Evaluation	O and F; Offer undergraduate degrees online that would include the IL integration	PR Integrated into their subject courses but there are also single IL course on offer
University of Rhode Island Libraries	Kingston, Rhode Island	Goals and Objectives Articulation within the curriculum Pedagogy	O and F; Largely Face to face. One course LIB 120 is offered online	CS Number of courses offered to students
Utah State University	Logan, Utah	Pedagogy Outreach Assessment and Evaluation	O and F; Offer undergraduate degrees online and IL integration	PR; Integrated into their subject courses; also single IL course on offer

Note: Adapted from the ACRL. (2014). *Association of College and Research Libraries Information Literacy Best Practices: Exemplary programs*. Retrieved from <http://www.ala.org/acrl/aboutacrl/directoryofleadership>

These Standards defined information literacy as “a set of abilities requiring individuals to recognize when information was needed and therefore the information literate individual would have the ability to locate, evaluate, and use effectively the needed information” (Association of College and Research Libraries, 2000, Para. 3).

In the *Guidelines for Instruction Programs in Academic Libraries* (2011), librarians were advised that the Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000) were created as a “guide” to generate “campus discussion,” which allowed educators to easily “identify the big picture” (Association of College and Research Libraries, 2011, p. 3) of information literacy. It also emphasized that the *Association of College and Research Libraries Objectives* (2011) were to be used “to breakdown the overall objectives” of an information literacy program into “specific discrete measurable results” (Objectives for Information Literacy Instruction: a model statement for academic librarians, 2011, p. 2) before creation. According to the *Guidelines for Instruction Programs in Academic Libraries* (2011), academic libraries had to develop written mission statements that clearly stated the purpose and context of an information literacy program prior to its design and development. Librarians then explained how their information literacy program would address with the mission of their institution and how it would align with the Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000), once developed and implemented.

The five Association of College and Research Libraries Section Information Literacy Standards (2000) were created to be applied in every information literacy program designed by librarians and teachers in the educational setting. A student who

was “information literate” was a person who was “able to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information” (Association of College and Research Libraries, 1989, Para. 3). The information literate student:

1. Determines the nature and extent of the information needed
2. Accesses needed information effectively and efficiently
3. Evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system
4. Individually or as a member of a group, uses information effectively to accomplish a specific purpose
5. Understands many of the economic, legal and social issues surrounding the use of information and accesses and uses information ethically and legally (Association of College and Research Libraries, 1989, Para. 3).

The Association of College and Research Libraries ended the Exemplary Program because of the major changes that have taken place post-print. Suggestions were made that librarians change how information literacy is taught using the Association of College and Research Libraries Standards (2000) as a guide, and by rescinding these Standards, librarians were given no option but to transition into using the new Framework for information literacy for Higher Education (2016) as a guide for their courses. Because many institutions had already invested a great deal in applying the Association of College and Research Libraries (2000) Standards in their courses and programs, because the exemplary program guidelines had a strong connection to the Association of College and Research Libraries Standards (2000), the paradigm shift has been grudgingly accepted by some and rejected by others. There is much concern in the field about starting over with the process to get faculty to buy-in to the new Framework (2016), so that they can reconstruct courses and replace the “old” with the “new.”

National Forum on Information Literacy

In 1989, the American Library Association created the National Forum on Information Literacy as “an umbrella group of national organizations committed to turning people into effective information consumers” (Breivik, 1993, p. 48) in order to strengthen and support ALA’s information literacy initiative.

According to the mission statement on the National Forum on Information Literacy (2013) website, it “evolved into one of the pre-eminent advocacy organizations dedicated to mainstreaming information literacy philosophy and practice worldwide” (Para. 1). The National Forum on Information Literacy website (2013) documented the milestones of the information literacy initiative since its formation, stressing that several major educational organizations, such as the Association of Supervision and Curriculum Development, the Middle States Commission on Higher Education, United Nations Educational Scientific and Cultural Organization, and the National Education Association were committed to the importance of information literacy and to embedding information literacy into their learning outcomes.

A final report on Information Literacy was published, documenting ten years of implementation of the information literacy Association of College and Research Libraries Standards (2000) across the United States and, more specifically, in educational settings, such as schools, colleges and universities. *A Progress Report on Information Literacy: An update on the American Library Association Presidential Committee on Information Literacy: Final Report* (Association of College and Research Libraries, 1998) outlined the progress that had been made on the six recommendations that had been proffered in

the American Library Association-Association of College and Research Libraries (1989) Report. The report recommended that:

1. Information be organized institutionally, providing structured information access, so that there was a defined informational structure in the lives people, at home, in the community, and in the workplace. This was an ongoing process that was taking place within organizations associated with the National Forum for Information Literacy, such as the American Library Association, the Association of College and Research Libraries and the Association of Research Libraries.

2. A Coalition for Information Literacy be formed under the leadership of the American Library Association, in coordination with other national organizations and agencies, in order to promote information literacy. To date, the National Forum for Information Literacy came into existence and remains the watchdog organization for information literacy and related issues.

3. Research and demonstration projects related to information and its use be undertaken. To date, thousands of articles about a variety of topics related to information literacy exists in the Education and Library Science research literature.

4. State Departments of Education, Commissions on Higher Education and Academic Governing Boards be responsible to ensure that a climate conducive to student information literacy exist in their states and on their school, college and university campuses. Accrediting agencies have elevated the status of information literacy in higher education to some extent, however, unless colleges or universities have an agenda when meeting accreditation standards that includes information literacy in the curriculum then in that case educators placed a greater emphasis on pushing the information literacy

teaching agenda at their colleges/universities. If the agenda was less emphasized and less acceptable to administrators, then instructors had a much harder time implementing information literacy in any format at their campuses.

5. Teacher education and performance expectations should be modified to include information literacy concerns. To date, the American Association of School Librarians developed their own information literacy standards that were largely used by teachers in the school setting, but since academic librarians have used the Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000) for information literacy course development, and since many library schools do not do teacher training, per se, this is not an area that would be emphasized, except by those library schools that have developed programs of study for academic librarians, and that offer courses that emphasize learning how to teach information literacy to these student librarians.

6. An understanding of the relationship of information literacy to the themes of the White House Conference on Library and Information Services should be promoted. In October 2009, a presidential proclamation to promote information literacy in the United States was released that made October of that year, National Information Literacy Awareness Month (National Forum on Information Literacy, 2012).

The report also urged strengthening the implementation of information literacy in the United States and making educators aware of the importance of providing students with technology and resources to empower students to apply their information literacy skills. It's authors advocated for the creation of a National Forum on Information Literacy that would reach out to government, business and educational organizations to

foster further research projects into information literacy-related topics. Finally, the report suggested developing a plan for working with national teacher education programs in order to “infuse” information literacy “requirements into undergraduate and graduate programs of teacher education” (Association of College and Research Libraries, 1998, Para. 14).

Broadening Information literacy

According to Behrens (1994), there was a wider significance to the concept of information literacy that went beyond library science, where the focus was on defining the concept of *literacy*. Information literacy was therefore expanded so that it became an umbrella term that described many different types of literacies, as was expounded in the theories of Mackey & Jacobson (2011). Bawden (2001) defined ‘literacy’ as “the ability to use language in its written form, where a literate person is able to read, write and understand their native language” (Para. 14). When further defining *literacy* Bawden (2001) stated that in relation to information literacy, there were six skill-based literacies that were often mentioned synonymously with information literacy, which also widened the scope and meaning of the term. These literacies were: computer literacy, library literacy, digital literacy, media literacy, media literacy and network literacy (also often called Internet and hyper literacy).

Information literacy has broadened substantially with the development of the new Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016), because as part of it, the metaliteracy theory, which was largely developed by researchers, Mackey and Jacobson (2011), has evolved. Metaliteracy

expanded “the scope of information literacy as more than a set of discrete skills, challenging us to rethink information literacy as active knowledge production and distribution in collaborative online communities” (Mackey & Jacobsen, 2011, p.64). That way, the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016) included five types of literacy that were identified as information literacy. These include media literacy, digital literacy, cyberliteracy, visual literacy and information fluency.

Media literacy is defined by Mackey & Jacobson (2011) as “the ability of a citizen to access, analyze, and produce information for specific outcomes” (p.64) while digital literacy is defined as having “the ability to access networked computer resources and use them” (p.64). Digital literacy and cyberliteracy were related but were not the same literacy concept. According to Mackey & Jacobson (2011) cyberliteracy focused on the user developing the ability to become an active participant in the discussion about technology and the Internet, being able to think critically about issues such as Internet and more specifically, about issues such as copyright and the policies and politics affecting active Internet use. Visual literacy, in turn, was defined as the ability not only to sort and interpret visual action and visual symbols but also to evaluate and use visual sources e.g. art, graphic art. When compared with information literacy, Mackey & Jacobson (2011) stated that information fluency shared the same goals for boosting the user’s comprehension levels and engagement in computer literacy as information literacy did, but instead of focusing on critical thinking, it was defined as “a set of intellectual capabilities, conceptual knowledge, and contemporary skills associated with information technology” (p.66). In the new media environment, when conducting research, students

needed not only to “determine the extent of information needed, but also the format and delivery mode of the information itself” (p.70), making the development of courses emphasizing metaliteracy vital to every student who graduated from college.

With the development of the Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000), information literacy was broadened to include the outcomes that colleges and universities needed to develop their information literacy programs. Each of the five sections of the standards outcomes focused on specific information literacy concepts important to the information search process: articulation of information need, finding information, selection of information, information use and ethical use of information.

Applying these concepts in the classroom setting was made much simpler with the development of a number of major information literacy models. Table 2.3, below, provides some examples of the more well-known information search process models that were created and were well documented in both the library science and education literature (Lamb & Johnson, 2001).

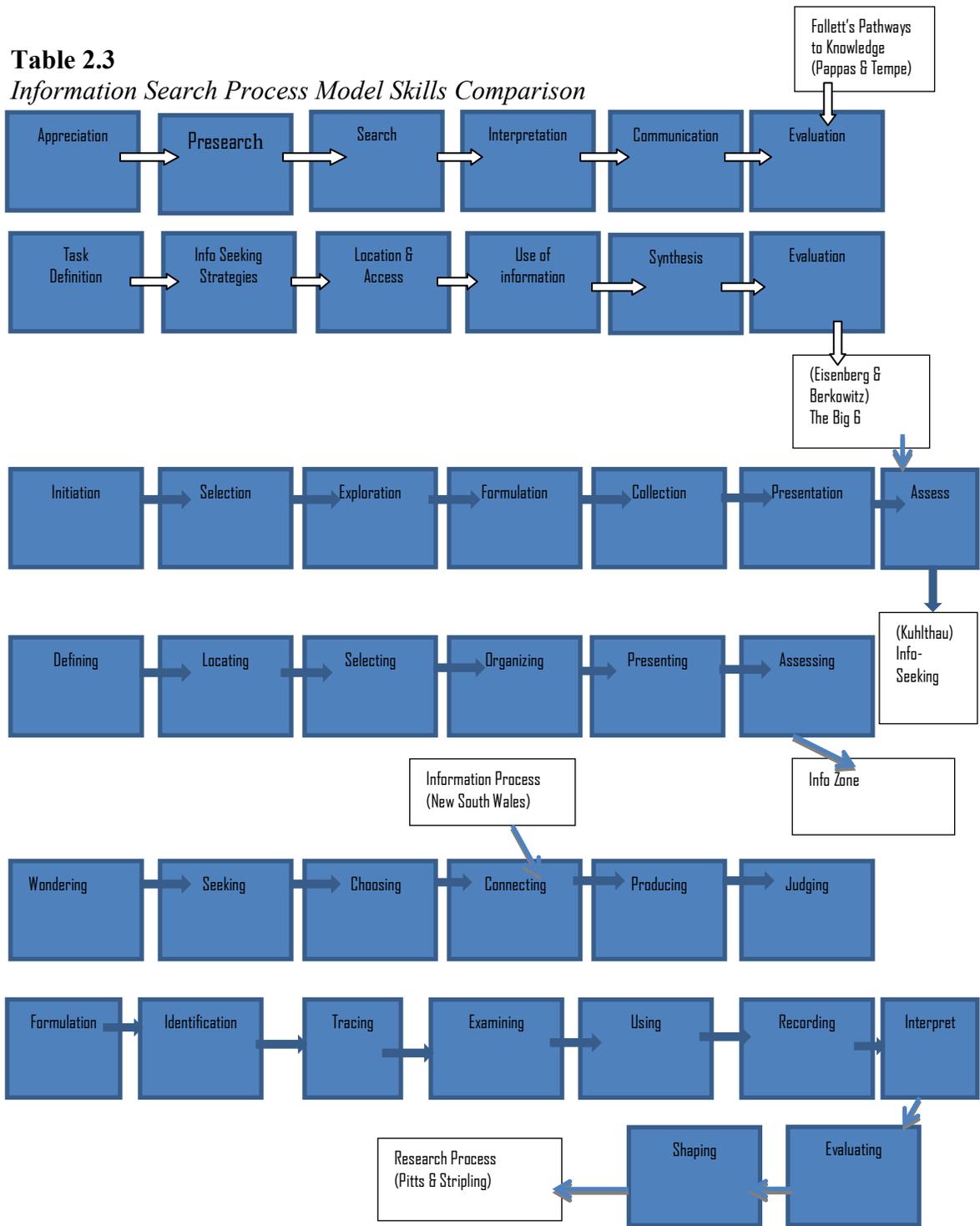
Researchers developed two model types: 1) information literacy models that explained to librarians the information search process, and 2) information literacy models that explained the process of users becoming information literate. Neither of these models were to be seen as a direct process to follow step-by-step. Instead, both the search process and the process to become information literate allowed multiple viewpoints and entry points. Students could start and stop, go back and forth as needed in order to retrace steps in any order to process through the search process, as well as to move toward becoming information literate.

Both types of models were extremely useful to librarians because they could choose one or both models from the research literature and apply them in the classroom setting when they were working with students. In fact, information literacy curriculum has often been developed around one or more of these models. These models not only helped librarians to see where in the process their students were struggling, but they also helped improve their scaffolding with students (Lamb & Johnson, 2001).

The information search process models were similar in that they described a similar process, but they often deviated substantially in theoretical approach. The Big 6 Model developed by Eisenberg (Eisenberg & Berkowitz, 1987) and Kulthau's Information Search Process (1999) model were both examples of information search process models. *The Big 6* model was developed at the University of Washington as a problem-solving model that could be applied by instructors to students of all ages (Eisenberg & Berkowitz, 1987). This model encouraged teaching collaborations between librarians and faculty and it had six stages that researchers completed to solve their problem and move through the stages from task definition all the way to evaluation. In comparison, Kulthau's (1991) information search process model had seven stages that researchers muddled through starting with initiation and ending in assessing their task.

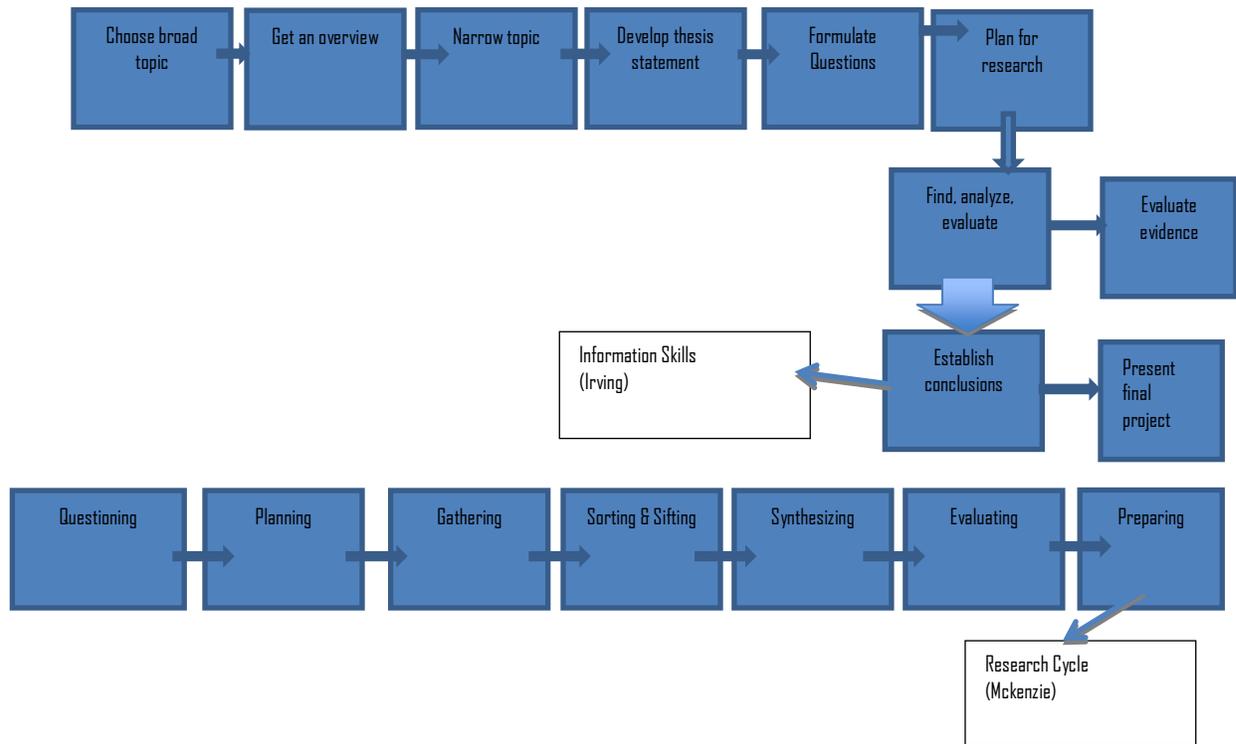
Table 2.3

Information Search Process Model Skills Comparison



Note: Adapted from Lamb, A. & Johnson, L. (2001, May). *Eduscapes*. Retrieved from <http://eduscapes.com>

Information Search Process Model Skills Comparison (Continued)



Note: Adapted from Lamb, A. & Johnson, L. (2001, May). *Eduscapes*. Retrieved from <http://eduscapes.com>

models worked and could be applied in the classroom setting to develop outcomes that guided the information literacy instructor's teaching.

Kuhlthau (1991) also attached a range of feelings to each of the stages, describing the emotional process that researchers faced when using the library to find resources and use them to do a project or write a paper. Table 2.3 used five models and walked through three information literacy components by comparing them to one another, explaining how the information literacy

This table was developed by Uribe-Tirado & Munoz (2012) to compare three of the concepts found in the Association of College Research Libraries Information Literacy

Competency Standards for Higher Education (2000) with four other information literacy models used by librarians in different countries that also applied these information literacy concepts.

Uribe-Tirado & Munoz's (2012) Table 2.4 compared the Association of College and Research Libraries Standards with the *Information Literacy Indicators* from International Federation of Library Associations/United Nations Education Scientific and Cultural Organization (2006), the Canadian model and Council of Australian Librarians (2001), the British model, Big Blue (2002) on which the current British Society of College, National and University Libraries (SCONUL) model was based and the Australian and New Zealand model, *A New Curriculum for Information Literacy* (2004). All of them were describing the process researchers went through to become information literate.

Uribe-Tirado & Munoz (2012) carried out a qualitative analysis on the three information literacy components: access, evaluation and use. They compared these components when looking at the models developed for use worldwide, where in all of these, educators were using them as information literacy training cycle models (Uribe-Tirado & Munoz, 2012). When examining the access components in the five information literacy models in Table 2.3, there were clear similarities in terms of the focusing on thinking through the information need, conceptualizing it and understanding it. In comparison to the International Federation of Library Associations/United Nations Education Scientific and Cultural Organization model, the emphasis was placed on the evaluation of information and also on the researcher's early process search for quality information (Uribe-Tirado & Munoz, 2012).

In comparing the evaluation of an information component in Table 2.4, it became clear that the Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000) was missing something important. When compared with the other models, redrafting, manipulation and storage of information were considered as an important part of the information evaluation process, whereas the Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000) did not mention these activities at all. The “information literacy use component” detailed by the American College and Research Libraries Information Literacy Competency Standards for Higher Education (2000) appeared to be rather inflexible, in that they were focused on use as being rather project specific. The Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000) never went as far as the Canadian and New Zealand models did in explaining that, in the information literacy teaching context the instructor would do well to focus on teaching students how to reframe information, work collaboratively in groups, and emphasize the importance of using and adapting their prior knowledge along with the knowledge they had gathered, to create new concepts and understandings along with developing or creating new or improved projects.

However, the Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000) did measure up to the other models in the table in terms of the emphasis on ethics in the classroom, which not only involves teaching students to counter plagiarism, but also to understand complex ethical issues related to the Internet and social media, such as music pirating or uploading lewd videos.

Table 2.4*Adapted Integration of information literacy standards: a comparison*

		<i>IFLA/UNESCO Lau, J-Catts, R.</i>	<i>ALA/ACRL 2000</i>	<i>CAUL 2001</i>	<i>ANZIL 2004</i>
<i>Elements Standard</i>	<i>Access</i>	Definition and articulation of information need/ <i>Recognize information needs</i>	Determine the nature and extent of the information needed	Recognizes the need for information; determines the nature and extent of the information needed	The information literate person recognizes the need for information and determines the nature and extent of the information needed
		Location of information/ <i>Locate and evaluate the quality of information</i>	Accesses needed effectively and efficiently	Accesses needed information effectively	The information literate person finds needed information effectively and efficiently
	<i>Evaluation</i>	Assessment of information/ <i>Locate and evaluate the quality of information</i>	Evaluates information and its sources and incorporates selected information into his/her knowledge base/ value system	Evaluates information and its sources and incorporates selected information into knowledge base/value system	The information literate person critically evaluates information and the information seeking process
		Organization of information/ <i>Store and retrieve information</i>		Classifies, stores, manipulates, redrafts information collected or generated	The information literate person manages the information collected or generated
	<i>Use</i>	Communication and ethical use of information/ <i>Make effective and ethical use of information</i>	Uses information effectively to accomplish a specific purpose Uses information ethically and legally	Expands, reframes and creates new knowledge; new understandings individually/ group	The information literate person applies prior and new information to construct new concepts or new understandings
			Understands many of the economic, legal and social issues surrounding information use and accesses	Recognizes lifelong learning and participative; Understands economic, legal, social information use issues	The information literate uses Information with understanding and Acknowledges cultural, ethical, economic, legal and social issues Surrounding information use

Note: Adapted from Uribe-Tirado, A & Munoz, W (2012). Information Literacy Competency Standards for Higher Education and their Correlation with the Cycle of Knowledge Generation. *Liber Quarterly*, 22(3). Retrieved from <http://liber.library.uu.nl/index.php/lq/article/view/8167/8568mb>

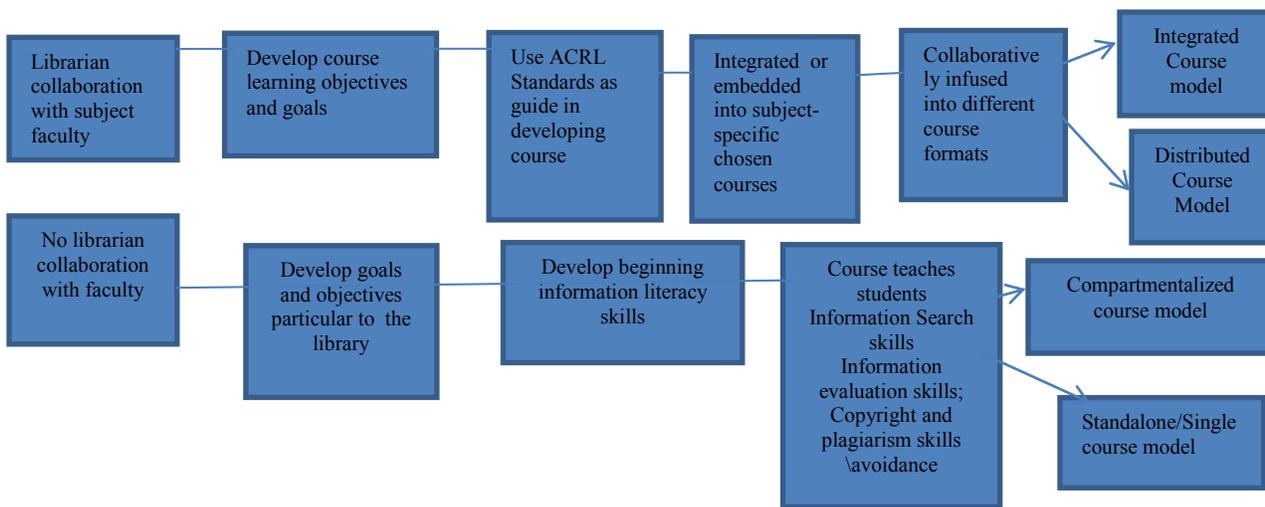
Information Literacy Course Models

According to Mbabu (2007), institutions with information literacy programs that were governed by the Middle States Commission on Higher Education implemented the Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000) when developing their undergraduate information literacy courses. Even though the outcomes were related to the Standards, all of the information literacy curricula that were developed had different learning goals and objectives. There were two major information literacy course models: the (1) separate or the “compartmentalized” (Mbabu, 2007) information literacy curriculum model and (2) the integrated or distributed curriculum model that were most commonly used in the classroom.

When considering the separate or compartmentalized curriculum as described in Figure 2.1, then the information literacy course in question could be taught as a stand-alone course. It could be offered to students taking the course in the earliest stages of their general education program in their liberal arts core program or during or after taking the first semester of coursework during their freshman year.

Figure 2.1

Understanding the Integrated/Distributed and Standalone/Compartmentalized Course Models



Note: Adapted from Trail, M.A. & Hadley, A. (September, 2010). *MERLOT Journal of Online Learning and Teaching* 6 (3). Assessing the Integration of Information Literacy into a Hybrid Course Using Screencasting, 647-654.

The stand-alone course could take the format of a one-shot course, the traditional library instruction format that was developed to help students navigate the library by accessing materials and evaluating the materials. Often, in standalone situations, the librarian created the course and offered it when specific faculty requested that the librarian visit their classroom for half the class period or the full class period to present library instruction. In such situations, the faculty member could choose to stay in the classroom or leave the classroom and let the librarian to work with students; but in the latter situation there was often limited collaboration that happened between the students and the librarian. In other standalone situations, the librarians often insisted that library instruction was necessary at the college or university and administration then allowed them to make visits to faculty classroom settings even when faculty did not want their students to participate in the one-shot session (Mbabu, 2007).

For a separate or compartmentalized curriculum, the Australian information literacy model, *A New Curriculum for Information Literacy* (Seeker & Coonan, 2011), described several additional information literacy course structures that had been adapted for teaching in Australian educational settings over the past few years. One of them, the unit or modular course, fitted the compartmentalized curriculum and consisted of ongoing standalone classes that met and developed the needs of students during their entire academic career. These courses were not one-shots, but were specific, paced information literacy modules that were dispersed and then taught at particular points throughout the undergraduate student's four-year degree. A curriculum was developed so that these holistic modules were implemented to support the student, providing not just library instruction, but information literacy at crucial times during the student's entire period of study at point of need when it was most required (Seeker & Coonan, 2011).

The integrated or distributed model involved partnerships between faculty members and academic librarians who would collaborate to integrate information literacy into the curriculum. The Middle States Commission on Higher Education (2003) described this integrated model for information literacy as one that was acceptable for schools under its direction, yet the Higher Learning Commission (2014), never specifically defined or discussed information literacy inclusion in any form in academia or how information literacy courses should be developed for the classroom in colleges under their direction. Instead, the Higher Learning Commission's *The Criteria for Accreditation and Core Concepts* stated that for institutions to be accredited they had to engage their "students in collecting, analyzing, and communicating information; in mastering modes of inquiry or creative work; and in developing skills adaptable to

changing environments” (Higher Learning Commission, 2014, 3B 3). In this way, they avoided specific mention of information literacy or curriculum model application in the universities and colleges they oversaw.

According to Mbabu (2007), information literacy courses that were developed along the lines of the integrated or distributed model were generally upper-level discipline specific courses. Often, subject-specific service-learning courses and co-curricular activities were developed with information literacy elements or concepts seamlessly interwoven into them. This model clearly had a major advantage, in that, information literacy concepts were integrated or embedded directly into disciplinary and interdisciplinary contexts. At the sophomore, junior or even senior levels, when students were more mature and had more experience in their discipline, they tended to ask many more discipline-specific questions and would be ready to take an information literacy course. At these academic levels, they were also required to devise more discipline-specific search strategies, analysis and synthesis, than in the freshman year. Knowledge creation was more apt to happen when information literacy was integrated or embedded in subject-specific courses in which students worked on both interdisciplinary and discipline-specific projects that required problem solving.

A New Curriculum for Information Literacy (Seeker & Coonan, 2011) model used the United Nations Education Scientific and Cultural Organization’s vision rather than the Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000) as a guide. It described the importance of including some specific new learning elements and assessments developed by instructors to be included into information literacy courses. It was suggested that instructors consider

implementing active and assessed curricula that contained significant elements, such as active and reflective learning, authentic and peer assessment elements, and student portfolios (Seeker & Coonan, 2011).

It was also suggested that instructors consider implementing flexible curricula, which meant improving the student's "overall school experiences and raising their attainment and achievement" (Seeker & Coonan, 2011, p. 4). The means to do this was through individualization and customization, thus meeting the student's and stakeholders needs at the local level (HM Inspectorate of Education, 2003). It was further suggested that instructors also consider implementing transformative curricula in their classroom. Transformative curricula was "grounded in a broad reading of 'information literacy' which" saw "information literacy not as a set of competencies but as a fundamental attribute of the discerning scholar, and as a crucial social and personal element in the digital age" (Seeker & Coonan, 2011, p. 4). Table 2.5 simplified and explained the different types of course structures created by instructors to teach information literacy. Larger institutions were still using one-shots because they had large sections of undergraduate students, limited time and staffing. Smaller institutions using one-shot course structures often did not have an information literacy program and presented one-shot presentations in the classroom at the request of faculty at their institutions. The modular unit was often used at institutions in the format of a tutorial that was often self-paced. Students would often be asked to complete the tutorial that would be located on the library page. These would then be scored or otherwise used as a preparation for students before they came to visit the library for the first time and were presented with a one-shot library experience. Other options that were available to instructors who had

created information literacy courses and programs were non-credit courses, one to three credit hour courses or integrated or embedded courses. Embedded librarians were often included in online course shells, where they would participate either as a personal librarian for students in the class, or otherwise they were there to monitor student discussion and interaction and answer questions that were course or subject-related.

“Embedded librarianship is a distinctive innovation that moves the librarians out of libraries and creates a new model of library and information work. It emphasizes the importance of forming a strong working relationship between the librarian and a group or team of people who need the librarian’s information expertise. As the relationship develops, the librarian’s knowledge and understanding of the group’s work and objectives grow, which leads in turn to greater alertness to the information and knowledge needs of the group. The embedded librarian becomes just as engaged in the work of the team as any other team member” (*The Embedded Librarian*, (n.d.), p.4)

Information literacy courses were also taught as part of the first-year experience or were also implemented as training courses, service learning courses or ultimately as a minor area of concentration. Information literacy minors were offered at institutions where librarians believed that one information literacy course was not enough for their students to become information literate. As a result they offered students three to six topical information literacy courses that then made up of an information literacy minor. For example, the information studies minor (18 credit hours) offered at the University of Kentucky consist of six courses: three required courses and three electives (University of Kentucky, 2016). Certificate programs in Information Literacy are also available at

institutions such as the Tarrant County College Libraries in Texas (Tarrant County College Libraries, 2017). Table 2.5 outlines 12 of the information literacy course structures and formats that are commonly found in institutions that offer online and blended information literacy courses.

Table 2.5
Information Literacy Course Structures

<i>Type of Information Literacy Course</i>	<i>Explanation</i>
<i>One-shot</i>	Single 15-60 minute library instruction session that often may not include information literacy instruction
<i>Module/Unit</i>	Single, paced information literacy courses dispersed to be provided at crucial intervals throughout the student's four-year degree program
<i>Non-credit bearing course</i>	Information literacy course that is offered irregularly by the library and is not a credit-bearing course
<i>Credit-bearing course</i>	1-3 credit-bearing information literacy course offered by information literacy instructors
<i>Embedded course</i>	Information literacy concepts integrated into a core or subject specific course. Librarians team teach being embedded into an online or blended course.
<i>Integrated course</i>	Information literacy is integrated into the General Education curriculum and the major.
<i>First-year experience course</i>	Information Literacy concepts integrated/embedded into courses required for first year student preparation
<i>Training Course</i>	Library instruction course offered once or twice a month to faculty and students interested in learning how the library databases works or some specific feature of the library.
<i>Subject-Specific Course</i>	Subject specific information literacy course that is focused on a specific academic major e.g. Business Information Literacy
<i>Service Learning Course</i>	Service learning course into which information literacy concepts have been integrated
<i>Minor</i>	Established information literacy program that offers, a core information literacy course and an additional 9-25 hours of interdisciplinary course offerings taken towards a minor
<i>Certificate</i>	Information literacy courses are offered as a certificate program.

**Information Literacy and the American Association of School Librarians’
Standards for the 21st Century Learner**

In 2007, the American Association of School Librarians redefined and updated the Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000) for implementation in the *Standards for the 21st Century Learner*. In the American Association of School Librarians *Standards for the 21st Century Learner* (2007), the student’s abilities to read and interpret information were considered foundational skills that students needed to have prior to and alongside developing their information literacy skills. Also important were independent inquiry, which included individual responsibility, student disposition and self-assessment, technology skill development and ethical behavior as described in Table 2.6. All were considered to be vital skills that needed to be taught in information literacy.

The American Association of School Librarian’s Standards for the 21st Century Learner (2007) had four strands, four standards and ten common beliefs. The four strands were: skills, disposition in action, responsibilities and self-assessment strategies. The skills were those key abilities that were needed for learning, understanding and mastering subject knowledge. The dispositions in action were those ongoing beliefs and attitudes that the student had developed that had to be used to guide their thinking and intellectual behavior and that were measured through the actions they took in every situation they were exposed to. The responsibilities were those common behaviors that were used by students when they were required to participate in research, investigation, and problem solving. The self-assessment strategies were reflections of the student’s own learning and were effective in determining learning of the first three strands.

Table 2.6

AASL 21st century learner technology skill development

<i>LEARNERS USE TOOLS AND RESOURCES TO:</i>	<i>LEARNERS DEVELOP TECHNOLOGY SKILLS:</i>
<i>1. Inquire, think critically, gain knowledge</i>	Demonstrate mastery of technology tools for accessing information and pursuing inquiry
<i>2. Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge</i>	Use technology and other information tools to analyze and organize information.
<i>3. Share knowledge and participate ethically and productively as members of our democratic society</i>	Use technology and other information tools to organize and display knowledge and understanding in ways that others can view, use, and assess
<i>4. Pursue personal and aesthetic growth</i>	Use social networks and information tools to gather and share information

Note: Adapted from *AASL Standards for the 21st Century Learner*. Retrieved from http://www.ala.org/aasl/sites/ala.org.aasl/files/content/guidelinesandstandards/learningstandards/AASL_LearningStandards.pdf

The four standards were focused on teachers and librarians developing the student's inquiry, critical thinking, and knowledge development skills and on teaching them to draw conclusions, create and apply new information, share their knowledge and interact proactively, thereby having the ability to pursue their own aesthetic and personal growth within the society. The foundation of *The American Association of School Librarian's Standards for the 21st Century Learner (2007)* standards were viewed as ten common beliefs:

- Learning occurs within a social context,
- The definition of information literacy has become more complex,
- School libraries were essential to the development of student learning skills,
- Equitable access is a key component of education,

- Reading is the window to the world,
- Developing technology skills is crucial to future employment needs,
- With the expansion of information demands, students must acquire thinking skills in order to be able to learn on their own,
- Ethical information behavior must be taught in schools and
- Inquiry provides a framework for learning.

Source: *The American Association of School Librarian's Standards for the 21st Century Learner (2007)*. Retrieved from <http://www.ala.org/aasl/standards/learning>

The *American Association of School Librarians' Standards for the 21st Century Learner (2007)* defined information literacy as a “metaliteracy” which included digital, visual, textual and technological literacies included in the one term. Metaliteracy was defined by Mackey & Jacobson (2011) as an overarching framework that integrated emerging technologies and a multitude of new literacy types. Metaliteracy types such as visual literacy, digital literacy, computer literacy were described to be constructs that supported the acquisition, production and sharing of knowledge in collaborative communities. Transliteracy in turn, was defined as “the ability to read, write and interact across a range of platforms, tools and media,” unifying “competing approaches to literacy” and is used “as an inclusive concept” which “bridges and connects modalities,” which are indicative of “a broader need to converge multiple methodologies, including analog and digital formats” (Mackey & Jacobson, 2011, p. 69). It also emphasized the necessity for students to learn how to work in teams, gather information, synthesize, create new information and share it appropriately, so that the new ideas gathered can be used to develop and create new, cutting-edge projects.

The creation of the *American Association of School Librarians' Standards for the 21st Century Learner (2007)* and the many changes in how technology was being used in the library setting fueled the conversation between college librarians about updating the

Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000), revising them by adding new information literacy theory and concepts, and taking them beyond the rules stage via simplification so that they can be used by everyone (Farmer, 2013; Schroeder & Cahoy, 2010).

Association of College and Research Libraries: Information Competency Standards Review Taskforce

In 2012, the Association of College and Research Libraries Information Literacy Competency Standards Review Taskforce was given the charge to review the Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000). They recommended that the Standards be extensively revised and improved due to significant “changes in technology, scholarly communication and the information life cycle” which had “contributed to the changing face of information literacy in higher education” (Association of College and Research Libraries, 2012, p. 2).

The taskforce recommended that the Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000) be simplified and rendered jargon-free, so that non-librarians could easily use them. Further recommendations from the committee were that the Standards (2000) revisions recognize the import of metaliteracy and transliteracy in information literacy.

The need to include affective and cognitive student learning outcomes when designing information literacy courses was considered to be important. The committee recommended that the student’s role as a content creator and curator be considered when designing information literacy courses. Finally, it recommended that the Standards (2000)

be revised to align with the American Association of School Librarians' *Standards for the 21st Century learner* (2007) which was revised in 2007. The Association of College and Research Libraries Information Literacy Competency Standards for Higher Education provided an updated view of information literacy framed in the format of American Association of School Librarians' "Learning Standards" (Association of College and Research Libraries, 2012, p. 6).

The 2016 Framework for Information Literacy for Higher Education

The Framework for Information Literacy for Higher Education was filed by the Association of College and Research Libraries Board on February 2, 2015 and adopted alongside the Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000). In the introduction it was stated that even though academic libraries had implemented the Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000) in the outcomes of their information literacy programs, the new Framework (2016) was created because of a "rapidly changing higher education environment, along with the dynamic and often uncertain information ecosystem in which all of us work and live" (Framework for Higher Education, 2015, Para. 1).

The Framework (2016) was developed because students had a greater role to play in the creation of information and in changing the dynamics of information, while "teaching faculty" had "a greater responsibility in designing curricula and assignments that foster enhanced engagement with the core ideas about information and scholarship within their disciplines" (Framework for Higher Education, 2015, Para. 1). The

Framework (2016) was “based on a cluster of interconnected core concepts” (Para. 2) that could be very flexible when implemented in a program. They also went further than a mere set of outcomes in organizing the understanding of information, research and ideas as a “coherent whole” (Para. 2) providing “threshold concepts” (Para. 2) or passageways of thinking and understanding that these could be applied within the disciplines.

There are five threshold concepts that are emphasized in the Framework. The threshold concepts are described as follows:

Transformative: causes a shift in perspective,
Irreversible: once learned it cannot be unlearned,
Integrative: unifies facts, lessons and concepts,
Bounded: defines the boundaries of a particular discipline, and
Troublesome: Counter-intuitive (Mackey & Jacobsen, 2011).

Using the threshold concepts in teaching information literacy are about overcoming student struggles or dealing with *troublesome knowledge*. For example, scaffolding occurs so that when students have difficulty understanding how to cite sources, then they can work through specially developed tutorials that aid them in understanding authority. Additionally, defining an in-text citation, why we cite sources, how it is cited, or how to create a reference list using American Psychological Association (APA) and the ethics behind these steps should be taught. The threshold concepts are concerned with how instructors help their students overcome troublesome barriers to their learning, and find new ways of thinking and practicing what they are learning so that they can overcome their biggest struggles. Starting out, the instructor works to transform the student’s perceptive in relation to “Authority is Constructed and Contextual.” Once the student learns and understands how to cite and why we cite and how “Authority” is Constructed and Contextual”, then there is a *transformation* because

they now have understood what was originally hard to grasp. Going beyond that in application, their learning is *irreversible*. The student can then *integrate* their learning into other situations and they can also become aware of the boundaries across curricula. For example, an instructor can teach Modern Language Association (MLA) style to a student compared to APA style, and explain that MLA is commonly practiced as a citation style in the discipline of English Literature while APA is commonly used to cite sources in Psychology and Business disciplines. This is *bounded* knowledge because the student is able to see that there are boundaries between disciplines and what these boundaries are, and how the disciplines are different. There are six frames that can be used to help students better understand information literacy concepts in the classroom:

- *Authority is constructed and contextual* (authority is defined, used, understood, recognized, acknowledged and connected with other authorities)
- *Information creation is a process* (an information format is created, revised, disseminated, shared and reorganized)
- *Information has value* (information is understood as a commodity along with its social and legal influences)
- *Research is inquiry* (understanding the research process, information gaps and questions to ask relating to different kinds of research)
- *Scholarship is conversation* (e.g. understanding how to read a scholarly article)
- *Searching is a strategic exploration* (using tools to find scholarly/ peer-reviewed sources and developing Boolean terms for finding research articles).

Note: Adapted from *Association of College and Research Libraries Framework for Information Literacy for Higher Education* (2016).

After 12 years of an outdated application of the Association of College and Research Libraries Information Literacy Competency Standards (2000) to student learning in academic institutions, the ACRL Board of Directors authorized the revision of the Standards. A Taskforce was created “charged with drafting a new information literacy Framework” in June 2012 (Burgess, 2015) and it began its work in March 2013. The

Framework (2015) underwent consistent revision with the aid of the ACRL membership, as three drafts were made public and addressed through online forums and meetings at the American Library Association Conferences. The Association of College and Research Libraries Board filed the final draft of the Framework on February 2, 2015. Following this final draft release, “there was the effort toward transparency” that “included many opportunities for input that will help the Framework earn a strong measure of democratic consent and broad participation” (Beilin, 2015, Para.1) Further revisions of the Framework (2015) led to its adoption by the Association of College and Research Libraries Board on January 11, 2016.

After the adoption of the new Framework (2016), the Association of College and Research Libraries Information Literacy Competency Standards (2000) was rescinded on June 25, 2016. As the ACRL Insider (2016) stated “the ACRL Board of Directors voted to rescind the *Information Literacy Competency Standards for Higher Education*”.

It is important to acknowledge the groundbreaking work embodied in the *Information Literacy Competency Standards for Higher Education*, approved by the Board in 2000, in moving the profession forward. These *Standards* were co-developed with and subsequently endorsed by the American Association for Higher Education and the Council for Independent Colleges.

ACRL recognizes the tremendous contributions of the *Information Literacy Competency Standards for Higher Education* and the transformational work of many ACRL members working with them. Those *Standards* paved the way for information literacy to become common language in many general education requirements and informed many regional and subject-oriented accreditation bodies. The Board will continue to seek input from the profession as the process moves forward (*The ACRL Insider*, June 25, 2016).

Additional documents relating to the rescinding of the Association of College and Research Libraries Standards (2000) in 2016 can be found in Appendix Q.

The revised and newly adopted Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016) will likely have a resounding and far-reaching impact on information literacy curricula and program development across the United States in the future. More specifically, librarians may need to develop new curricula and course content to respond these changes.

Information Literacy and Higher Education

According to Starkey (2010), information literacy became essential to higher education in the 1990s after “the technology boom forced the reform of university general education programs” (p. 38). As a result of the need to implement information literacy in the college setting, information literacy was transformed from a skills-based pedagogy (bibliographic instruction) into a concept-based pedagogy (Information Literacy). This transformation “encouraged learning across the curriculum,” taught critical thinking skills, “promoted the ethical use of information,” and “an appreciation for the nature of information itself and its role in lifelong learning” (Franklin, 2013, p. 12).

Cooper (2012) suggested that educators in higher education begin to realize that teaching information literacy to students was the key to developing lifelong learners in academia that it was considered to be central to the mission of higher education institutions. It soon became an important and timely topic that was explored by researchers (Breivik, 2000; Head, 2008; Gross & Latham, 2009), thereby expanding academic librarians’ exposure to information literacy in the Education and the library science literatures. Oakleaf (2006) pointed out that “academic libraries form the

cornerstone” (p. 14) of information literacy instruction. This was because information literacy focused on information problems. Academic librarians understood the need to hone student information literacy skills that allowed them to become better independent learners, researchers and problem-solvers who knew how to find, use, manipulate, repackage and create new information.

Information Literacy and Higher Education

Veach’s (2012) doctoral research was centered on rhetoric and composition, seeing information literacy from the perspective of an English teacher and not a library professional. Veach (2012) believed that information literacy was a shared goal of the English teaching professional and the librarian and attempted to understand how failed engagement with students during information literacy sessions could be improved. The study used a mixed-methods approach, with surveys, case study interviews and textual analysis to answer questions focusing on how information literacy was taught using websites, what teaching methods were employed, what successes were occurring in the classroom and what English composition teachers could learn from information literacy assessment procedures.

Veach (2012) examined 30 English department websites and conducted a 31-question survey with librarians and English composition faculty teaching information literacy classes at institutions across the United States. Eighty English faculty and 217 librarians completed surveys, with a total of 297 responses. The librarian responses came from community colleges (16%), small colleges that had under 1500 students (21%), medium-sized colleges (26%), large colleges over 4000 students (four percent), medium-sized universities up to 15,000 students (19%), and large universities (11%) and two

percent of the librarians not fitting into any of the categories. The writing instructors were from community colleges (14%), small colleges (16%), medium-sized colleges (15%), large colleges (six percent), medium-sized universities (24%), and large universities (21%), with four percent of faculty selecting “other.” When considering the librarians, there were administrators (21%), instruction or reference librarians (71%), technical services librarians (two percent), five percent choosing “other,” with 86% of the librarians having taught information literacy classes (Veach, 2012, p. 76-77) who had participated in the study.

Veach’s study (2012) found that between 79% and 91% of the librarians surveyed, believed that each of the information literacy standards should be taught in composition classes. Seventy percent of respondents said that they taught information literacy to their students during at least one class period during a semester. When taking into consideration the length of class time spent on teaching information literacy classes and presentations, 12% of respondents said that they had less than one hour to give a presentation, 11% had two hours and only six percent had three or more class hours to spend on presentations to students at any one time. Twenty percent of survey respondents teaching English classes said that they often were reinforcing or adding new information to the librarian’s presentation, but when they did, they were not covering the different Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000). According to Veach (2012)’s survey, 85% of writing instructors and 46% of librarians reported that the writing instructor “always” stayed in the classroom during a librarian’s presentation. It was interesting to note the difference in response, which was almost double on the part of writing instructors when

compared with librarians. This response was very telling, since it was common for writing teachers to leave librarians to their presentations without hearing the presentation themselves or being present to continue to emphasize the important concepts dealt with by librarians. As a result, students often did not take librarian presentations seriously because of the attitudes of writing teachers at their institutions to the librarian's presentations.

Veach (2012) stated that information literacy programs became part of college general education curriculums because they were often offered as single courses associated with the library and not a specific subject area. "Larger schools could afford more institutional and administrative support for cross-curricular programs like Information Literacy" (p. 108) and could staff these programs, while smaller colleges with limited budgets could not. Veach (2012) concluded that educators and librarians teaching information literacy were often burdened with the outcome that their critical thinking and writing classes would immediately turn students who were not good writers into "accomplished college writers" (p.108). According to the survey, one-third of respondents indicated affirmatively "that composition classes" were being asked to bear the entire burden of information literacy instruction in most institutions, since "not only were "composition instructors expected to turn out accomplished college-level writers, but it seemed that they" were "also held responsible for" producing "future college-level researchers" (Veach, 2012, p.108). This was problematic for both librarians and English faculty because most information literacy classes were not developed as classes that taught students basic writing skills. Rather, these classes taught students critical thinking skills, such as how to develop their computer literacy skills, handle the complexities

surrounding citing sources, combat plagiarism and apply writing styles to their formal written papers. Thus, when attempting to address the administrator's stance regarding information literacy, as well as teaching students writing skills, and providing them with the technical format knowledge was burdensome. Students often did not get these skills from English Composition classes, so this request was extremely problematic (Emmons & Martin, 2002).

College students entering information literacy classes tended to have very different experiences with the library and searching for online resources, using the databases or the catalog and also with writing papers and understanding writing styles. It would take more than one credit-bearing class in information literacy to change the lowest performing students into good researchers and writers overnight. However, it also must be remembered that information literacy classes should not be seen as 'catch-all' classes, since it is not the information literacy instructor's place to teach English Composition in the information literacy class, although it is appropriate to coach students on writing style formats, citing, annotated bibliographies and creating reference lists, that are in-keeping with the day-to-day library instruction given to students at the library reference desk.

Franklin (2013) also encouraged librarians and faculty in the disciplines to collaborate and work together to develop learning outcomes for information literacy courses, even when information literacy classes were limited. Faculty members in the disciplines are "the developers of curriculum in higher education" (p. 13).

Franklin (2013) explored and described how inter-professional factors impacted faculty/librarian collaboration, the collaborative learning and dialogue occurring between

faculty and librarian collaborators, and faculty and librarians' perceptions (in terms of these impacts) of their collaboration when working with students. Franklin (2013) conducted a mixed- methods study using semi-structured interviews and an online questionnaire. Additionally, a purposive, criterion-based sample of 18 librarians who met the following three criteria was chosen for the study. The three criteria were as follows: (1) the librarians had to be working at public or private two-year or four-year accredited schools (2) they had to have collaborated with a faculty member for at least one full academic quarter or semester 2006-2011 to integrate information literacy into a course, academic program, or discipline at a two-year or four-year accredited higher education institution in California and (3) they had to recommend to the researcher a faculty member with whom they had collaborated to participate in the study.

Seventeen faculty members who had collaborated with librarians were interviewed and asked to complete the online questionnaire. Fifty-one percent of the faculty and librarians participating in the study had taught for over 20 years in a college or university setting and 41% of the faculty participants were tenured. A collaborative profile of participants was created in survey format. Franklin (2013) found that 94% of the librarian participants stated that faculty and librarians were equally responsible for assessing student information literacy skills, whereas only 65% of the faculty was in agreement regarding this. For collaboration between librarians and faculty, the most common activities according to Franklin's (2013) study were co-teaching classes and co-presenting at conferences. In classroom collaboration between faculty and librarians, Franklin (2013) also found that faculty and librarians disagreed most regarding how much responsibility librarians had when integrating information literacy into the

curriculum. Franklin's (2013) survey found that 48% of the participants, believed that librarian/faculty collaboration was vital, if librarians were to get information literacy integrated into the curriculum. Collaboration was key if information literacy was to be integrated into discipline-related courses. Findings suggested that collaboration and integration was less important to faculty, since only 45% of the faculty were in agreement that information literacy should be taught at all.

The contention that faculty believed that both class assessment and course integration, were tasks that fell into the faculty as classroom teacher realm, and not into that of the librarian-instructor realm, was supported by Franklin (2013). Franklin (2013) stated that “faculty members in this study were not completely comfortable with involving librarians in the assessment process, and several saw the assessment of student work as the faculty member’s domain and responsibility” (Franklin, 2012, p.192). This was because historically, librarians presented one-shot sessions in discipline specific courses, on faculty request. Librarians wanted to move beyond the limitations of the one-shot library instruction presentation, and start to either develop single information literacy courses or attempt to integrate information literacy components into discipline specific courses, which could not be done without librarian/faculty collaboration regarding how the latter would be done in a specific course. As a result, those teaching in specific disciplines wanted to retain their control over task development and assessment processes within their course. These instructors had a difficult time allowing librarians to implement standardized or homegrown information literacy tests that measured student information literacy skills or to include information literacy topics and assignments

requiring students to apply library-related tools or models in their courses through the process of integration.

Information Literacy and Assessment in Higher Education

Saunders' (2010) qualitative multiple case study provided an accreditation overview which included an in-depth history of the six educational accrediting agencies that were responsible for regulating institutions of higher education in the United States and further described all accreditation stakeholders and how the accreditation process worked for institutions. Saunders' (2010) accreditation organization was responsible to the Middle States Commission on Higher Education (2015), which was also the leading accrediting organization when it came to the application of information literacy programs at institutions. The Middle States Commission on Higher Education (2015) was the only accreditation organization that provided for "the continued development of information literacy as a student learning outcome" (p. 32) at the institutions in its jurisdiction by creating the most detailed and comprehensive sets of standards regarding information literacy outcomes that could be used by libraries for application. These standards provided librarians with guidelines that explained how and why information literacy programs should be implemented in their institutions.

The population examined during Saunders' (2010) study was institutions accredited by the Middle States Commission, with the exclusion of community colleges, specialist and online institutions. The case study was conducted in three phases with each having its own methodology. In the first phase, a pre-test was conducted using documents drawn from institutions outside the United States, from its territories and also from self-contained colleges and universities that did not have branch campuses not included in the

final phase. A framework of categories and preselected keywords were developed for phases two and three. Saunders (2010) used content analysis to ascertain from accreditation documents how information literacy was discussed, implemented and assessed and what Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000) were used in their programs, discerning common patterns relating to information literacy. In the second phase, 279 college and university accreditation documents were examined to understand how information literacy was mentioned, defined, what outcomes were used, how programs were developed and assessed and to look for similarities and differences and understand information leadership issues.

The researcher applied the framework created for phase two, inductive category application and also tallied the preselected keywords in the documents studied using qualitative content analysis. Phase two was followed by phase three that focused on four institutions who would undergo in-depth analysis in the form of qualitative interviews. The four institutions chosen had developed information literacy programs and that had also developed a national reputation for information literacy.

Saunders (2010) found that information literacy had been included in the mission statements of 97 institutions' self-study reports. There was evidence from accreditation reports that information literacy was being integrated in the curriculum and into general education programs (59% of colleges in the sample). However, there was also evidence that these were not as strongly supported in terms of outcomes at those institutions since course outcomes were often very broad and overlapped with information literacy outcomes suggested by the Middle States Commission documents. According to

Saunders (2010) self-report analysis, 63% of colleges and universities in the Middle States Commission states provided their students with information literacy instruction in course format, with only 20% of those courses being for-credit courses taught by librarians.

Saunders (2010) also found that many institutions were still in the early stages of information literacy outcomes implementation and that the self-studies examined suggested that information literacy implementation was growing in Middle States Commission institutions, between 1999 and 2009. Information literacy was only one of many 21st century skills required by student graduates entering the workforce, but instruction librarians had to find a way to make it a priority in institutions that was important for students to acquire amongst all the competing demands on time, resources and educational practices that were identified as vital in the college and university setting. The Middle States Commission required information literacy to be addressed at all levels of the college curriculum however it was believed that this was not happening when information literacy was taught as a one-shot presentation. Saunders (2010) found that the many of the institutions were not making attempts to develop information literacy courses that were created using coordinated and systematic best practices approaches and thus courses were often created that did not include goals and outcomes that had been set and could then be effectively assessed.

Saunders (2010) also found that the institutional development, engagement and assessment of information literacy courses were very uneven among Middle States Commission institutions. Overall “the current state of information literacy in the institutions examined” in the study stood “in stark contrast to the emphasis that

stakeholders” had placed “on the concept... This inability to achieve integrated information literacy” suggested “a vacuum of leadership for information literacy in these institutions” (Saunders, 2010, p. 285-6).

According to Conner (2012), information literacy skills assessment in higher education began in the 1980s, but continued to grow as a result of social pressures on the colleges and universities that had developed information literacy programs to graduate undergraduate and graduate students that were information literate. Over the years, many information literacy skills assessment instruments were developed and standardized and utilized as pre and post-tests or as rubrics in information literacy courses. To date, there were only a handful of dissertations that dealt specifically with information literacy instrument and rubric creation, and reliability and validity testing during development.

In one such study, Critchfield (2005) created the *Information Literacy Indicator* to assess the information literacy skills of college freshmen. Critchfield’s (2005) study was conducted by developing and then administering an information literacy test to a group of 78 freshmen and then to a second group of 81 freshmen at Warner Southern College in Florida, with the primary goal of developing a reliable information literacy instrument.. The *Information Literacy Indicator* consisted of closed-ended Likert-scale items, with questions focused on the application of the five Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000) in the educational setting. During the development of the *Information Literacy Indicator*, 14 information literacy specialists who tested this assessment’s validity and reliability were interviewed; then the assessment was given to the 81 college freshmen. Following these protocols, the Information Literacy Indicator was revised and 16 items were removed

from the original 145 assessments. The Information Literacy Indicator was deemed to be a reliable instrument that could indicate information literacy levels in students across the Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000).

Related to information literacy assessment instrument development, Oakleaf's (2006) information literacy assessment study dealt with analytical rubrics. Five groups of librarians, English professors and outside raters from American Research Libraries universities were used to rate the reliability and validity of the rubric and inter-rater reliability testing was also done. Ratings from five raters with the highest validity ranks were then used to predict students' performance in the study. The rubric that was designed for use by students to evaluate a website had four criteria, which were defined as: determining authority terminology use, citing examples of indicators of authority; identifying indicators in example website and making decisions about the website's use. Oakleaf (2006) found that when using rubrics, students were empowered to understand how scoring worked and how their assignments were evaluated. Students could then assess themselves using information literacy rubrics work collaboratively with their peers using these rubrics along with their scoring rubrics, and assess and identify their own learning development in the process.

At present, three dominant information literacy instruments are currently in use in colleges and universities across the United States as pre- and post-information literacy course assessment tests. These include: James Madison University's *Information Literacy Test* (ILT), Kent State University's *Standardized Assessment of Information Literacy Skills* (Project SAILS), and the Educational Testing Service's *iSkills* test. However, the

researcher discovered that the cost-prohibitive nature of these instruments prevented many smaller colleges and universities from applying them in their information literacy programs as pre- and post-tests, a fact which encouraged the proliferation of non-standardized instruments that were developed as in-house information literacy assessment tests. In-house information literacy rubric development was also common in college and university information literacy programs.

Alongside the formal assessment tools that were applied in information literacy as discussed by Oakleaf (2006) and Critchfield (2005), there was also “authentic assessment” which was “focused on” the “practical application of tasks in real-world settings” as a “direct measure of” the student’s “acquired knowledge and tasks” (Hoffman & LeBonte, 2012, p. 71), as regularly utilized by information literacy instructors in the classroom setting. According to Oakleaf (2006) authentic assessment happens when students gain the opportunity to perform self-assessments of their information literacy skills, through hands-on approaches in the classroom setting and through project work, portfolio creation tasks which were “multilayered” views of “student performance, experience and reflections” and rubric self-assessment tools (Hoffman & LeBonte, 2012, p. 71). Portfolio assessment and self-assessment rubrics were viewed by information literacy instructors as “valid and reliable” tools “to assess information literacy” (Hoffman & LeBonte, 2012, p.72). This helped instructors to assess the student’s information literacy levels.

Conner’s (2012) study was conducted at a private Appalachian college with non-traditional students aged 25 and older that were studying at bachelors, masters and doctoral levels. There were 303 participants, 61 doctoral students, 194 master’s degree

students and 48 bachelor's degree students. Conner (2012) investigated whether or not there were significant differences between self-directed learning and information literacy skills. Conner (2012) used demographical information and two tests, the *Personal Responsibility Orientation in Self-Directed Learning Scale* (PRO-SDLS), and *Information Literacy Test* (ILT), to do an analysis and make a determination regarding the interplay between significant factors. Conner (2012) found there to be no significant difference between all the group scores on the *Self-Directed Learning Scale*, suggesting that self-directed learning based on test scores did not change based on educational attainment.

Conner (2012)'s initial hypothesis was that as students became more information literate they also became more self-directed in their learning. Instead, Conner (2012)'s finding in the study was that as students became more information literate, they actually became less self-directed. Conner (2012) suggested that possible explanations for these findings had to do with how the concepts were understood and measured in the study e.g. there were low test reliability scores, unequal participant groups and unclear questions and answers to questions posed during the study. As a result, Conner (2012), stated in relation to study findings, that information literacy had to be clearly defined at the institutional and program levels in order "to ensure" that "appropriate assignments and materials were provided to the students," since "by creating a clear definition, students could understand the specific goals and objectives" of the course "while faculty" could then "create practical assignments and discussions that" increased "both skills and preferences" (Conner, 2012, p.93). Conner (2012) suggested that if there was a disconnect between the institutional definition of information literacy, the students'

perception of it, and the librarians focus of instruction, then a confusing situation would be created for the students and they would struggle with information concepts and application in their course. Instead, Conner (2012) suggested that the institutional definition of information literacy had to relate and be connected to how it was taught at the college and university; and only then students' perceptions of information literacy courses would be more positive, because they would be much more successful.

Information Literacy and the University Library

The college or university library stakeholder's perceptions have always had an effect on the academic librarian (Hoffman & LeBonte, 2012), therefore librarians have attempted to improve library services, resources offerings, programming and instruction to these stakeholders as best they could at their locations. Faculty and administrator perceptions, in particular, pertaining to librarians have often directly affected their academic status, their ability or inability to collaborate with specific academic departments or with administration, their involvement with faculty committees and the curriculum. As Ivey (1994) points out, it was the lack of librarian communication with faculty that had often led to misconceptions regarding their role in their own departments and in academia. There was often unwillingness on the part of faculty, to collaborate with them as a direct result. Faculty-administrator perceptions also affected the librarian's ability to transition from teaching one-shot information literacy classes to implementing an information literacy course at their Campuses or integrating information literacy into their university curriculum. The Merriam-Webster Dictionary (2013) defined the stakeholder as "one who has a stake in an enterprise" and "one who is involved in or

affected by a course of action.” In the case of the college or university library, the library stakeholders that had the most to lose or gain when the library integrated a credit-bearing information literacy course into the curriculum, were students, faculty, staff, and administration at the said institution.

Seamans (2001) conducted a mixed-methods study with participants from a section of a freshman English class at Virginia Tech. Five questions were posed that focused on how students acquired, used, made sense of, utilized, were exposed to and evaluated information. The study was divided into three phases of inquiry that included a survey, electronic dialogues with students and in-depth interviews with eight students. Case study methods were used in the study. Seamans (2001) found when describing overarching themes in her study that freshman at Virginia Tech stated that they did not need information other than what faculty requested they find for their assignments. These students deemed themselves capable of finding any other information that they might need in their personal lives by using Internet search engines. They appeared to have very excellent computer skills, but “all reported little use of indexes and databases and said they found them difficult to use” (p.62). When examining information evaluation, a large number of the freshmen questioned, did not evaluate sources, but those who did were found to be “relatively sophisticated in the approaches they took” (p. 62). Seaman’s (2001) findings were backed up in the literature by Emmons & Martin (2002) who also found that “students used the Internet to do research...they saw little need for tools the library could offer...students came to the campus highly computer literate, not realizing that they were information illiterate” (Emmons & Martin, 2002, p. 545).

Stern (2002) conducted a case study at Ferris State University and Capella University to ascertain the digital information literacy competencies of incoming freshman students. During the study, 1,184 students or 50% of the student populations at both schools were given a quantitative multiple-choice survey to collect data about student Internet use patterns that informed librarians at both universities about student skill needs and information literacy policy and practice that could be applied by course designers to address the needs of these incoming students. The survey that was conducted was focused around four areas: Internet usage patterns, previous experience and information literacy competency levels, the ability to do keyword searching on the Internet and the ability to determine website reliability. When analyzing incoming student needs, Stern (2002) found that the incoming freshmen surveyed required systematic basic digital information literacy instruction. However, although the students had a diverse range of Internet use patterns, and had different information literacy skill levels, there were those too who had very limited Internet searching skills. This was because they had not used the Internet as much as their peers had done in high school for projects or homework assignments. Stern (2002) found that even though students owned a computer that did not mean that they were digitally literate. When considering higher levels of digital literacy or critical thinking, the incoming students were largely found to be information illiterate (Emmons & Martin, 2002). Stern (2002) also found that incoming students more specifically needed instruction on how to do academic research.

Moore (2005) conducted a quantitative study with a random group of 411 diverse students (302 female and 109 male students), to ascertain whether there was a significant difference in the successful completion of online courses between students who had

completed an information literacy course and those who did not; and whether or not gender and ethnicity made a difference in online course completion. Moore (2005) also wanted to ascertain whether information literacy course completers performed better and had higher success rates in subsequent and multiple online courses than did the students who did not complete an information literacy course. During the study, students were organized into experimental and control groups. Correlations were sought between the successful completion of an information literacy course and the successful completion an online course while controlling for ethnicity, multiple course enrollments and gender. Moore (2005) found that student success rates were almost identical across control and experimental groups, with one third of the male students passing the information literacy course, also being successful in the online course, while only half of the males who did not pass information literacy course passed the online course. The females were found to be 22% more likely to pass the online course than the males. Black, Asian and Hispanic students were found to have lower success rates in the information literacy course and also in passing the online courses, when compared with White students at the college. When considering multiple online courses, information literacy course completers who enrolled in seven or more courses were found to have higher success rates at passing multiple classes than those who had not taken an information literacy course.

Cosantino (2003) conducted a mixed-methods study with interviews and surveys designed by eight information experts to determine the extent to which faculty, administrators and students at a private university perceived that learning information literacy skills was important. Four hundred and eight undergraduate students and 71 faculty members participated in the study on the private university's campus.

Cosantino (2003) found that students primarily used the Internet to do their research, and did not use the library to find resources for their written papers. These students were found to have poor online searching skills, due to the fact that the faculty at the private college did not encourage students to use references in their papers and use the library to find them. Cosantino (2003) found that there was a dire need for faculty-librarian collaboration at the college, so that the faculty would be willing to direct their students to the library to find resources and use the library online databases when they had to conduct assignment research. The results of the study indicated that both students and faculty believed that information literacy skills were vital and that it was a necessity for them to be able to distinguish between the web resources and the online library databases. However, faculty wrongly assumed that students had learned these skills from librarians during library instruction. Students stated that these skills were self-taught and not learned from any form of library instruction. Ultimately, because faculty members assumed that students already had information literacy skills and were already able to use their skills in the classroom setting, faculty deemed it unnecessary to include information literacy instruction in their courses.

Dhanesar (2006) conducted a mixed-methods study at an urban minority-based Community College where English Department faculty, librarians and students were interviewed about the effects of librarian-faculty collaboration to improve student information literacy skills (Hoffman & LeBonte, 2012; Mackey & Jacobson, 2006). The students were divided into control and treatment groups and given an information literacy pretest. There were 86 students in the control group, 36 males and 50 females, with 35 of

the students enrolled for their first semester at the Community College. There were 59 students in the treatment group, 24 male and 35 female students, with 35 of the students enrolled for the first time at the Community College. The students in the treatment group received four weeks of information literacy, meeting librarians for instruction twice a week during that period of time. The control group received only one hour of information literacy. Dhanesar (2006) found that there was low librarian-faculty collaboration at the community college, with the faculty not comfortable at all with using the library databases and resources. The faculty did not see information literacy as a course that should be integrated into the curriculum at their college, and instead they saw their students' interaction with information literacy as merely a one-time experience, when they decided to bring their students to the library prior to their having to do an assignment or write a paper. It was found that those students in the information literacy treatment group were able to improve their information literacy skills, while those in the control group had information literacy skills that were sorely lacking.

McAdoo (2008) had similar findings to those of Dhanesar (2006), when a case study at the University of Pennsylvania was conducted to explore faculty perceptions of information literacy and assess aspects of the university's existing information literacy program that was offered as part of the general education program. Although the faculty at the university was initially invited via email to participate in a survey that was developed for the study, only 38% of the faculty or 166 participants completed the survey. McAdoo (2008) found that the university faculty had a very good understanding of the general education requirements that students had to complete at their university, which included information literacy course offerings. Despite that, they appeared to have

a mixed awareness and a general lack of knowledge and understanding of what information literacy was and why information literacy had to be taught to all students regardless of their discipline. There was agreement that information literacy impacted students, and there were several faculty members who believed that they should be teaching information literacy to their students. However, because the majority of the faculty lacked an understanding of information literacy, everyone was not willing to support the information literacy courses and as a result, it had not yet been fully integrated into the university curriculum.

In studies completed prior to McAdoo (2008), Owusu-Ansah (2004) and Ivey (1994) found that university and college faculty often did not support academic librarians teaching information literacy on their campuses, because many did not view librarians as academics capable of teaching information literacy to their students even when they had academic rank. Rather, they viewed them as mere library professionals who performed non-academic tasks. Ivey (2004) suggested that as a result of these faculty perceptions, it was deemed necessary for librarians to aggressively market their skills and the library's teaching and research mission to the college faculty and continue to strive for more university service opportunities, and participation on faculty committees, more specifically those that dealt with curriculum issues.

When comparing the findings of the McAdoo (2008), Dhanesar (2006) and Constantino (2003) studies, it was clear that librarians had to work tirelessly when seeking to form collaborative relationships with their faculties in order to partner with faculty members to utilize the library's physical and online resources (Emmons & Martin; Hoffman & LeBonte, 2012; Mackey & Jacobson, 2005). It was also clear that if

librarians were unable to form successful faculty-librarian partnerships that were supportive of and allowed for collaborative work to develop credit-bearing information literacy courses that could be fully integrated into the college or university curriculum, then it was extremely difficult to develop information literacy courses that were sanctioned by the administration and the faculty. It was therefore not be surprising to find that information literacy one-shots were still in existence at these libraries and that there were very limited or non-existent information literacy course opportunities available to students.

Franklin (2013) conducted a study using questionnaires and semi-structured interviews with faculty and librarians, to ascertain how collaborative learning and professional dialogue impacted the collaboration between faculty members and librarians in the context of integrating information literacy into teaching and learning.

Franklin (2013) found that formal and informal social networking on campus was critical to the collaboration between faculty and librarians as there was indeed value in establishing collaboration between colleagues. However, there were also specific factors that either facilitated or hindered colleague collaboration that needed to be considered in any collaborative situation. These factors included organizational factors such as team resources, team limitations, time constraints and organizational and departmental structures that often got in-between colleague interactions or prevented them from happening. There were also systemic factors such as social, cultural, socioeconomic factors and interactional factors such as trust, distrust and willingness to interact that also played a part in how collaborations worked or did not work out. Franklin (2013) also found that collaboration was very important when the library was attempting to put

information literacy structures into place at colleges and universities and that it was vital to collaborate with faculty and encourage them to bring or direct students to library to use library resources (DaCosta, 2010; Jacobson, 2001; Mackey & Jacobson, 2005). The information literacy librarian's role at the university was to ensure that information literacy was integrated into the curriculum, and then taught and assessed. It was often also necessary for librarians to gain a good understanding of curricular matters, how faculty built curriculum and how faculty at that specific college worked with department heads and administrators to successfully put curriculum through academic councils and structures. It was also vital that information literacy librarians found time to educate the faculty who were collaborating with, about their role of supporting the information literacy program by preparing their students for librarian interaction and expressing to them that the library was connected to the student learning process and could aid and support them in many ways, such as with improving their online search and writing style skills.

Chai's (2006) dissertation studied Bachelor of Science in Nursing (BSN) and Masters of Science in Nursing (MSN) students taking classes the University of California Dominquez Hills campus. Initially, a listserv was setup at the university that included 455 BSN and 278 MSN students, but there was no way for the researcher to ascertain which students had taken face-to-face and which students had taken online classes. Students participated in two activities through the listserv: *Learning Styles Inventory* and a *Zoomerang Survey* with four sections: demographics information, computer and information literacy, and student satisfaction and student perception of learning questions which was a combination of open-ended and rated questions. The researcher was unable

to correlate and analyze the two surveys. After rethinking, the study additional elements were added to the survey to link them. Three attempts were made via email to interest participants in participating in the researcher's surveys. Less than 50% of the students responded to the surveys. However, some findings were illustrative. Chai (2005) found that there were significant high positive correlations between computer and information literacy and the online course outcomes. Information literacy was not a skill that could be learned from text, but instead needed experience and performance to improve. However it was found that nurses, depending on the duties the administrative and research duties they performed, were more information literate than were staff nurses who did not use the online databases often. Chai (2005) suggested that there was a need for online classes to be developed wherein nursing educators and librarians collaborated in order to create classes that would improve the information literacy skills of nurses at the university.

Bulger's (2009) quantitative dissertation was concerned with the performance of 150 University of California Santa Barbara graduate and undergraduate students on a 50-minute writing and research task. This study examined the role of prior knowledge and cognitive processing in online information literacy practice, challenging the assumption that technology was all that the participants would need to complete their problem-solving task. There were 62 graduate student participants, who were teachers enrolled in Technology for Teachers. There were 88 undergraduate student participants, the undergraduate students were enrolled in a Writing 2 class and had passed the California writing proficiency exam.

Bulger (2009) used software to record participant keystrokes, url visits, and active applications during an assignment. Participants completed both a pre- and post-

questionnaire in a computer lab setting. Students also participated in an online report-writing assignment related to the types of problem-solving tasks required in their classes. Their task was to solve the problem. Bulger (2009) used Brand-Gruwel, Wopereis & Vermetten's (2005)'s product measures model to evaluate participant search strategies. The post-questionnaire had 10 questions and focused on participant learning styles, source credibility, evaluation practices, training and participation, and research and teaching in the field.

Bulger (2009) found that there were different kinds of expertise. There was a difference between how an expert would conduct a search and how a novice would conduct a search.

“In particular, three kinds of knowledge were evaluated that may be relevant to the [information searching] task:

- 1) Academic expertise: years in higher education: presumably resulting in knowledge of academic scholarship,
- 2) Domain expertise (knowledge of and participation in the field of education), and
- 3) Technical expertise: experience in using popular technology” (Bulger, p.76).

In addition, there were significant differences between how high and low proficiency searchers (operationalized as an essay score), with graduate student and undergraduate online search proficiency differences being highly significant $t(148) = -3.69, p = .000$. Expertise follows practice. “These findings indicate that access alone does not guarantee success on an academic research task, but rather, success results from the interaction between students' prior knowledge and the breadth of information afforded by the Internet” (p. 83). Differences in process and expertise contributed to efficient performance.

Bulger's (2009) findings indicated that it was not possible to gain online information literacy proficiency through participation in short information literacy sessions ("one-shots"). Instead, it was by constant exposure to information literacy concepts through continued task practice that was more useful. Factor analysis was used to confirm that the writing task was both recursive and non-linear in process. It was found that participants found the search process difficult and that increased Internet interaction improved participant writing abilities. In addition, it was found that students who used the copy-paste function of the word processor to organize materials while they searched were demonstrating an indicator of information literacy. The final finding was that online information literacy proficiency increased through continued practice.

Information Literacy Online Course

There were few information literacy online course dissertations. Of these, all except one had such low return rates, population or sample sizes that their findings could not be considered reliable or valid. Kammalocher (2009) studied the implementation of online bibliographic instruction course modules at the University of Arizona, and how these modules affected the learning experiences of General Biology and Education students. The study sample contained 111 students at all class ranks from six sections of a biology class and students from an undergraduate teacher education class. The participants accessed three course web modules: the pre-test, modules on empirical primary research articles learning and the post-test, which was made available to students through web links on their subject-specific LibGuides. Student perceptions of learning outcomes, the technology barriers they encountered, and the value and usability of modules were explored through the completion of a 25-question survey. Pre- and post-

tests given during the study were used to measure student learning about empirical research and peer-reviews and their responses were scored using a rubric. The pre- and post-test scores were rated by the researcher and also by the librarian supporting these classes with an inter-rater reliability 65% agreement.

Pre and post-tests given were used to measure student learning about empirical research and peer-reviews and their responses were scored using a rubric. The pre-and post-test scores were rated by the researcher and also by the librarian supporting these classes with an inter-rater reliability 65% agreement. Kammalocher (2009) found that there was a significant change in the General Biology and Education students' confidence levels when they identified and located empirical research and peer-reviewed articles. Additionally, both the BIO 187 and the TEL 315 students performed better on the post-test than on the pre-test, in terms of students describing peer-reviewed articles in their online learning modules. The students also had improved confidence levels for locating peer-reviewed research articles by the post-test.

While the sample size was small, the Kammalocher (2009) findings are significant because when students enter a for-credit information literacy course, they are generally expected to participate in standardized information literacy pre-and post-tests. These usually included testing their skills in relation to being able to identify peer-reviewed and scholarly articles and how these are different from the other types of published resources.

The findings show, that if students are exposed to scholarly and peer-reviewed articles, they might not have encountered these previously, it is possible that with very specific help, e.g. online library modules created to teach them how to locate scholarly

and peer-reviewed articles and on the web, they would be able to locate these much more easily and with more confidence. This information literacy process would then increase their level of proficiency from lower to higher, as both Bulger (2009) and Kammalocher (2009) indicated in their studies.

Information Literacy Course Models

According to Davis, Lundstrom & Martin (2011) there are two models that are commonly applied when information instruction is designed and developed in institutions. There is a course- integrated and a for-credit model of information literacy instruction. An additional model that is not emphasized because it is less common is the not-for credit model which might also be applied in information literacy instruction. Either model may or may not include course sequencing, meaning that courses that build upon the content of each would be developed for students throughout their college learning experience ranging from their first year through senior years. Thompson & Lathey (2013) describes what an integrated micro-model of information literacy that is based on psychological and learning theory models such as Alexanders' (2003) model of domain learning. Alexander's (2003) model "emphasizes the central importance of domain knowledge or student prior knowledge which the student uses to move from low to high domain knowledge through "interest upon information inquiry, reading comprehension, knowledge acquisition, and knowledge organization and extension" (Para.12). Alexander (2003) explains how through this model each student progresses from acclimation to competence and then to proficiency or expertise, but this is done very differently depending on the individual and information literacy journey. At the stage of acclimation, the student's prior knowledge and domain knowledge starts to fuse and new

knowledge takes root because at this stage the student is becoming acclimatized to academic inquiry and scholarship. At the stage of competence students demonstrate cohesive, foundational knowledge, as the student has now chosen a major, has a grasp of the discipline and is becoming more competent in their field of study. At the proficiency stage the students become expert problem-solvers, as they have developed a strong attachment to their field of study and are proficient in the discourse of their field and are enabled to gather and report data in their field. Thompson & Lathey (2013) therefore connects domain knowledge with information literacy, developing a new model which impacts information literacy instruction, where domain learning, active learning and strategic learning and consultation must be used together in information literacy instruction for students to become information literate. Thompson & Lathey (2013) suggests further that in using Alexander's model at each stage, instructors must introduce them to academics and immerse them in the disciplines. This can only be done if a well-structured integrated information literacy program is put in place at an institution, and subject-liaisons are employed to work with faculty in the disciplines and their students.

Badke (2005) describes a for-credit course model that was implemented where the course became a compulsory pre-requisite for a subject-specific program and because of its growth and online sections of the course were developed. The course was developed using three models: an architectural model, where students were taught tool literacy, the bibliographical model, where students were taught to develop references, cite sources and explore subject-specific sources related to their discipline and the strategies model where students were taught to understand the research process. The course was designed to be

offered to students as a for-credit course that was taught by a librarian and was designed to teach only on information literacy topics.

Davis, Lundstrom & Martin (2011) conducted a study to explore librarian perceptions and attitudes toward for-credit and course integrated library instruction. A survey was presented to librarians on three librarian listservs and 276 librarians participated, with 184 teaching only course integrated information literacy instruction, six teaching for-credit only courses and 78 teaching both types of courses. Librarians teaching for-credit courses only or course integrated library instruction only or both were presented with different questions targeting the type of instruction they were teaching and to their experience. Study findings indicated that 55.7% of institutions did not offer for-credit information literacy courses and of the 36.9% that offered it, 11.2% of the for-credit courses offered were mandatory to their students. 96.9% of participants offered course integrated information literacy instruction, with 67.9% of participants offering their students general workshops. When asked whether their students believed that for-credit information literacy course instruction was more effective instruction than course integrated information literacy instruction 58.5% of participants were neutral, 26.6% agreed and 15% agreed or strongly agreed that this was the case. When asked whether their students believed that course integrated information literacy course instruction was more effective instruction than for-credit information literacy instruction 54.2% of participants were neutral, 30% agreed and 15.8% agreed or strongly agreed that this was the case. Eighty-two percent of instructors agreed with the that the most effective format of information literacy teaching model integrated instruction throughout the students' coursework, beginning with course integrated composition classes and ending with

course integrated capstone courses. Findings suggested that instructors of both teaching models were more likely to favor for-credit courses because these courses were longer and were able to cover information literacy topics, often hands-on, that extended way beyond the immediate student assignment.

Digital Literacy in Higher Education

The term digital literacy was first introduced by Gilster (1997) and is most commonly described as “the confident and critical use of information and communication technology (ICT) for work, leisure, learning and communication” (Hall, Nix & Baker, 2012). Hall, Nix & Baker (2012) further define digital literacy as being divided into two skill sets: information literacy or the ability to find, evaluate and use information and information and communication technology (ICT) which is the ability to organize, present and share information, using computer software and social media resources when using a computer. Digital literacy is more comprehensively defined as:

“the ability to use digital technology, communication tools or networks to locate, evaluate, use and create information... the ability to understand and use information in multiple formats from a wide range of sources when it is presented via computers. A person’s ability to perform tasks effectively in a digital environment... Literacy includes the ability to read and interpret media, to reproduce data and images through digital manipulation, and to evaluate and apply new knowledge gained from digital environments“(US Digital Literacy, 2014, Para. 3).

Digital literacy is an important skill that must be fostered in educational settings because learning and preparation for entry to the workforce have become increasingly mediated and refined by technology. As a result, students through educational exposure to digital media and computer technology, must be prepared to develop capabilities that allow them to thrive in a digital world beyond their education where digital formats and digital communication is dominant and also where digital knowledge and ability is essential in order to transfer their digital capabilities from one environment to another and become immersed in digital and virtual environments. Student must be given the tools enabling them to utilize databases, search engines, subject-based tools, learning management systems and other digital technologies, because at present “every discipline and profession” has been impacted by technology change. Every discipline uses “computer-based analytical tools” in different ways, and these have changed specific practices within each discipline and also “how knowledge is generated, shared and described” (Littlejohn, Beetham & McGill, 2012) in the discipline. Littlejohn, Beetham & McGill, 2012 suggested that colleges and universities must be willing to radically change how they work with their students, and teach them to meet the challenges of digital learning head-on by focusing on teaching them the skills that they struggle with them most, such as how to evaluate research sources, develop critical research skills and problem-solve real-world problems using digital technologies.

In a study conducted by Hall, Nix & Baker (2012) freshmen and sophomore students enrolled in three social work and health and social care modules at the Open University in the United Kingdom. These students participated in a survey that included questions about student perceptions of the importance of digital literacy and information

literacy skills in their daily lives. Ninety-seven percent of student participants considered information and communication technology (ICT) skills and information literacy skills to be important if they were to enroll in future college courses, the other three percent surveyed did not reply. Ninety-two percent of students considered these skills to be vital to the employment setting, with eight percent of student respondents not replying to this question. Eighty-two percent of students surveyed considered these skills to be important when it came to personal pursuits and 18% of the students did not reply to this question. Hall, Nix & Baker (2012) suggested that it was important to teach digital literacy to students the context of the subject which they were studying, providing them with just-in-time skills when needed for assignments and projects.

Digital Literacy Research

Two dissertations were found on digital literacy in college libraries: Belshaw's (2012) (The United Kingdom) and Amicucci's (2013) (United States). The Belshaw (2012) dissertation focused on understanding digital literacy from a philosophical stance. It was a theoretical dissertation that did not include research using human subjects. In this dissertation, Belshaw (2012) explored a variety of philosophical orientations, such as critical theory post-structuralism, and decided that the best orientation for digital literacy would be pragmatism. Pragmatism is a philosophical approach that assesses the truth and the meaning of theories by attempting to apply them in practice. In this exploration of digital literacy from a philosophical angle, Belshaw (2012) also considered the meaning and truth related to information literacy and suggested that it was a way of thinking and a

liberal art, since students learned how to develop skills such as critical reflection, evaluation and problem-solving in the classroom setting. Information literacy was viewed as a matrix of critical and reflexive capabilities and a 'habit of mind' (Martin, 2008) that taught students to have an attitude or to purposefully position themselves toward finding the information that they sought. As such, information literacy required an improvement in a student's self-discipline, not as a state of achievement, rather than ongoing process, wherein the graduate became a lifelong learner capable of using their information literacy skills beyond the college environment.

Belshaw (2012) further suggested that since information literacy implementation at colleges and universities was largely unsuccessful, it then became the new digital literacy in the 21st century. Belshaw's (2012) findings included that digital literacy was viewed as an ambiguous term, since it was not possible to decide whether the emphasis was on 'digital' or on *literacy*. Both were considered to be popular terms. However, the terms would continue to be refined in the future in creative ways. As a result, digital literacy was further defined in Belshaw's dissertation as the carrying out of digital action and was said to include photo-visual, reproduction, branching (non-linear to hypertextual), information evaluation, and understanding and application of online communication rules and skills. Digital literacy included a matrix of technology skills, which are divided into functional access, such as networks, devices, services, software and content (Martin 2008). Martin's (2008) matrix was an overlapping one that explained that digital literacy competence was foundational for information literacy, media literacy, techno literacy and academic and techno-social practice.

Belshaw (2012) suggested that truth, according to pragmatist philosophers, was conditional and dependent upon the community of inquirers who were using the terms in a specific setting. As a result, a community could decide for themselves how they wanted to define the terms “digital literacy.” Thus, academic librarians and others may define the term “digital literacy” differently. When considering individuals to be digitally literate, would be very similar, even if the application was different.

Amicucci (2013) conducted a mixed-methods (survey and in-depth interviews) digital literacy study to discover non-academic uses of technology utilized by first-year college students. The sample consisted of 177 freshmen interviewed at a Midwestern University and eight students were chosen out of the sample for in-depth interviews. The researcher also conducted four classroom visits during the study to conduct research. Amicucci (2013) found that the students made a theoretical shift toward multiple literacies, using many different digital tools and social spaces on a daily basis. Freshmen used the following digital tools most: text messages (99%), Facebook reading (81%), Facebook writing (48%), instant messaging (26%), Twitter (21%), and blogging (5%) on a daily basis when creating content. When receiving information from others, freshmen received 81% of their information through reading Facebook. Students were asked to check off simultaneously what the other social media they used to get their information. Fifty-seven percent of these students viewed Facebook photographs to glean information, while Twitter was used 30% and YouTube viewing was used 39% of the time by these students on a daily basis.

Amicucci (2013)’s study found that students used social media multiple times daily for non-academic information. The study also found that freshman received much

more content than they themselves actually created. Much of participants' description of their digital literacy activity fit within Street's (2003) definition of literacy as a social practice in personal use "literacy is a social practice not simply a technical and neutral skill" (p.77). However, the majority of students did see these types of social media as being useful for academic writing. While the researcher had hoped to find that there would be a connection for students between social media in personal use and then adapt this media to academic writing, the findings indicated that students separated the two.

In summary, these two studies shed little light on the relationship between digital and information literacy in terms of the connection between student personal technological use and academic information literacy, so the relationship appears to be unclear. Belshaw (2012) reasoned that digital literacy was the foundation of information literacy and that information literacy was part of the ongoing process of lifelong learning. However, when considering Belshaw's (2012) philosophy against the results of Amicucci's (2013) study of personal student use of social media, it is probable that social media practices, e.g. Facebook, etc., are dissimilar to information literacy practices in the academic sense. While Amicucci (2013) tried to find an interface between social media and information literacy, students found the two uses of technology unrelated. Students were steeped in social media; yet saw little or no connection to the information literacy that is required for academic success and lifelong learning.

Chapter Summary

The chapter began with a theoretical framework for the study, a description of the development of the concept of information literacy and describes the history of information

literacy. In the conceptual framework and major reports section of the chapter, the term “information literacy” was defined, how information literacy moved into its current position of prominence in higher education, and then defined the term “Information Literacy” as it was described and understood in the Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000). There were four major reports: *A Nation at risk* (1983), *Newman’s Education Commission of the States* (1985), *Libraries and the search for academic excellence* (1987) and *The Presidential Committee on Information Literacy Final Report* (1989) and their findings were presented. The American Library Association-Association of College and Research Libraries (1989, 1998) reports described the path to be taken in establishing information literacy in community, business and education settings, in the creation of National Forum on Information Literacy. It also described the development of the Association of College and Research Libraries Information Literacy Standards for Higher Education (2000) and the progress made in implementing information literacy in the United States over the last 14 years. It described the broadening of information literacy by explaining information literacy theory, some of the information literacy components used in the Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000) and the revised Framework for Information Literacy for Higher Education (2016).

In the Information Literacy and Higher Education section of the chapter, technological changes in the 1990s led to educational reforms that sparked an interest in and an implementation of information literacy programs in college and university General Education programs in which lifelong learning was an essential part of college

and university mission statements. Institutional approaches to information literacy program development and implementation differed and depended on the motivations and interests of college and university administrators. Information Literacy assessment and authentic assessment were considered vital to information literacy programs.

In the Information Literacy and the University Library section the library stakeholder was defined, along with the role played in information literacy. The importance of understanding student perceptions of the library and the need for faculty-librarian collaboration when integrating it into the college or university curriculum was also discussed. The chapter is concluded with digital literacy dissertations, which are described and analyzed.

Chapter 3 - Methodology and Data Analysis

Introduction

In this chapter the research methods and procedures used in the study are described in detail, including the research questions, the rationale for qualitative methodology, and the case study rationale. That is followed by a description of the participating institutions, research location course offerings, research settings curriculum, research plan, participants of the study, qualitative collection and analysis methods that were employed and concludes with the trustworthiness of the research, the ethical considerations regarding this research study and a chapter summary.

Research Questions

The research questions relating to the development of information literacy courses in exemplary colleges and universities in the United States were as follows:

1. How are selected four-year colleges implementing exemplary information literacy courses?
2. How do exemplary four-year college library information literacy courses implementing the Association of College and Research Libraries Framework for Information Literacy in Higher Education (2016)?

3. How do exemplary four-year colleges and universities implement digital literacy and the six frames of the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016)?

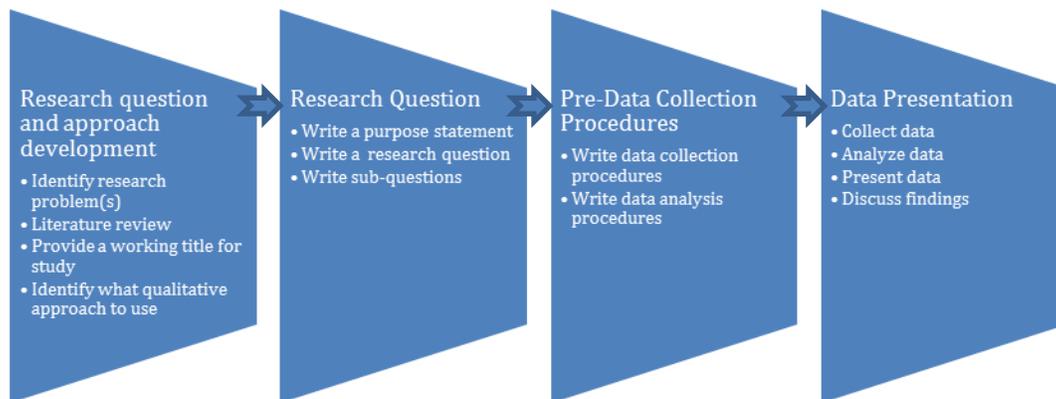
What is the role of the Researcher?

According to Danish researcher, Anne Fink (2000), the role of the qualitative researcher is to conduct their qualitative study by designing it so that it followed the accepted qualitative research process. First, the researcher asked the answers to the fundamental research questions regarding the topic being studied then were transcribed and analyzed. It was the researcher's responsibility to locate appropriate research subjects that could provide them with information they required to answer the questions posed. Then it is the researcher's responsibility to follow accepted qualitative procedures to collect qualitative data and analyze the data collected. The researcher's coding techniques defined and categorized the phenomena studied and determined the relationships between the categories identified. Fink (2000) identified the thematizing (creating themes), designing, interviewing and transcribing, analyzing, verifying and reporting processes as the purview of the qualitative researcher. The researcher made decisions relating to the techniques of data collection, the integrity of the data, the actual character of the data collected, the data processing that was completed and the final presentation of the data analysis and results.

Rationale for Qualitative Research

This qualitative multiple case study was viewed through a theoretical lens in order to solve problems that were faced by a very specific population. Qualitative research is inductive and shaped by the data collection process. Cresswell (2013) stated that as the researcher gathers information, conducts interviews, observations and documents during their qualitative study; they have to make their own assumptions about what they encountered during the study. They must consider probable solutions to the problems being explored. Secondly, this understanding then provides the researcher with ideas about how to conduct their study and which combination of methods of analysis to use and how best to describe their study. In the continued search for meaning, the researcher's role is to understand the results of their study and be able to interpret these using their theoretical lenses. Yet at the same time, the researcher has to remain open to continuing to question and describe what they have encountered and clarify the information they have gathered, mapping it to theory when this is possible or developing alternative theories if these are required to explain study results. The researcher's approach to the problem is a very distinctive inquiry focused on the meaning of what participants are imparting. The researcher understands that there are multiple views that emerge from the interviews and additional resources gathered during the study and that these needed to be interpreted at different levels of complexity. According to Cresswell (2013), there are key steps to be followed by the researcher in order to complete a qualitative research study. Figure 3.1 below, simplifies and describes the steps of the qualitative research process.

Figure 3.1
Key steps during the Qualitative Research Process



Note: Adapted from Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches*. (3rd.). Thousand Oaks: Sage Publications.

This study utilizes a qualitative multiple case study approach to measure how the researcher understands, describes and explores the research problems. Using qualitative research methods, the researcher explores how exemplary four-year colleges and universities were implementing information literacy courses and how these colleges and universities implement the Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000), and the American College and Research Libraries Framework for Information Literacy for Higher Education (2016) in their courses and to what extent digital literacy courses are incorporated in these exemplary courses.

This is a multiple case study, which utilizes qualitative research methods and consists of qualitative interviews with librarians at each of the colleges selected for study. Gall et al (1996) defined case study research as “the in-depth study of instances of a phenomenon in its natural context and from the perspective of the participants involved in the phenomenon” (p.545). The eight case studies in the study contained stories that were based on the perspectives of librarians participating in information literacy

instruction and administration. “The case study approach allowed the researcher to” explore curriculum development, administration and leadership within the instructional environment, thus allowing for understanding the behavior of instructors “in the context of wider forces operating within and outside the institutions studied.

Denzin & Lincoln (2004) defined qualitative research as a situated activity that locates the observer in the world. It consists of a set of material practices that makes the world visible. These practices transform the world. They turn the world into a series of representations, including field notes, interviews, conversations, photographs, recordings, and memos to the self...qualitative research involves an interpretative, naturalistic approach to the world” (p.3).

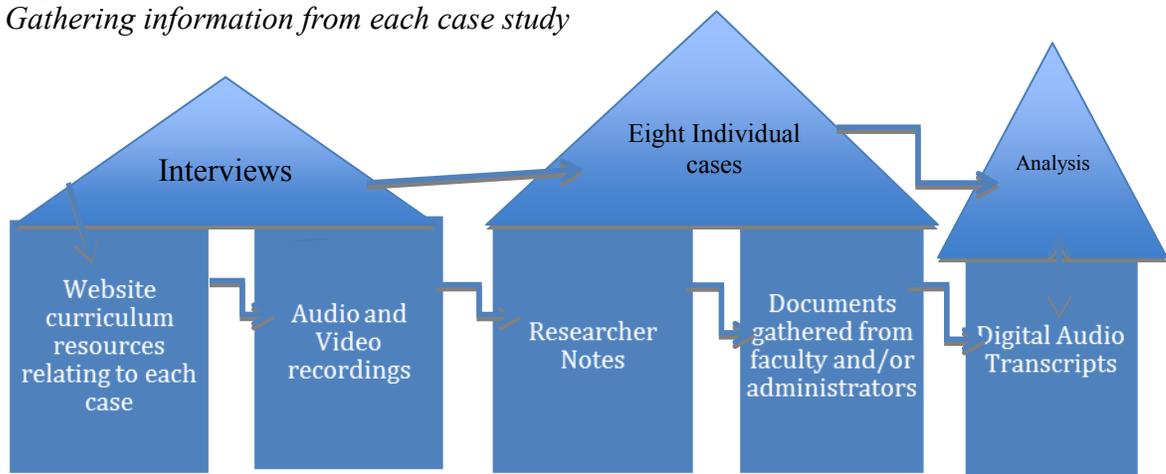
A case study is defined as an “account of an activity, event or problem that contains a real or hypothetical situation and includes the complexities you would encounter in the workplace. Case studies are used to help researchers see how the complexities of real-life influence decisions” (University of New South Wales, Sydney, 2017). “Qualitative methodologists...accept this conception of the comparative method as a strategy for conducting research of naturally occurring phenomena in a way that controls for potential confounding variables through careful case selection and matching rather than through experimental manipulation or partial correlations. This suggests that the logic of inference is quite similar in statistical and comparable case methods” (Levy, 2008). This study is a set of eight case studies, a multiple case study that uses an explanatory case study (Yin, 2003) within its design. The explanatory case study involves searching for answers to questions that explain causal links in real-life interventions that are too complex for the implementation of survey and experimental studies. This

methodology is useful when studying program development and linking program implementation with its effects (Yin, 2003). In this study, faculty from eight colleges and universities were asked to describe and discuss their information literacy programs, and more specifically, how and why they were designed, how they were unique and why they chose to apply to become an exemplary program. They were also asked how the exemplary program status affected their library and university and what changes or additions were being made to their programs following this national status. Course and program designs were considered, analyzed and compared with one another, and similarities, differences, and points from which to learn were identified. It is to be understood that Research “Methodology” implies more than... the methods... intended “to use to collect data. It is often necessary to include a consideration of the concepts and theories which underlie the methods” (University of Manchester, 2017). Methodology is different from ‘method’ in that the latter is the step-by-step processes that are required for the entire methodology to work, while the methodology is also about the right tools that are selected by the researcher in order for the “science’ behind the methodology to work in the study.

Yin (2003) defined a descriptive case study design as one that allowed the researcher to explore the phenomenon that was information literacy and how it was interpreted by the universities in the study. At the same time information literacy interventions that were used at different colleges and universities in the study were explored. There was also the opportunity to qualitatively explore the differences and similarities within and between cases and replicate findings across cases, thus drawing comparisons between cases through careful interpretation so that similar or contrasting

results could be predicted through cross-case analysis. This research study sought to better understand how the different institutions had implemented information literacy programs, how these programs implemented technology in their courses, and also how they implemented the Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000) and the Framework for Information Literacy for Higher Education (2016) in their curricula and used rubrics to assess their programs. Each program was unique and was treated as a unique case. Interviews were conducted with the program directors and one or more instruction librarians at each of the institutions participating in the study and further analyzed. Figure 3.1 describes how each case was handled allowing for the collection of qualitative artifacts. These would help the researcher understand the information literacy program's history, creation, intervention process, ongoing changes in the department, as well as social and political events that had influenced and shaped each program.

Figure 3.2
Gathering information from each case study



Multiple Case Study Rationale

Yin (2009) defined the case study as a type of research that involved studying a phenomenon in context, where the findings of the study were then explained and how and why the phenomenon had occurred in a particular situation. In this case study, one of the questions focused on how exemplary information literacy programs are implemented.

According to Yin (2009), the case study is a qualitative method that does not control or manipulate behavioral events, but instead focuses on contemporary events, thereby allowing “investigators to retain the holistic and meaningful characteristics of real-life” (p. 8). The case study method is used for three purposes that Yin (2009) defined as explanatory, exploratory and descriptive. Stake (1995) added additional case study purposes such as intrinsic when exploring unique traits and instrumental when attempting to gain insight into the case studied.

According to Yin (2009) case studies are most often done when researchers asked ‘why’ and ‘how’ questions because they are more explanatory and do not require enumeration, as do what questions. The strengths of the case study design are that it allowed the researcher to gather a rich array of information sources while conducting interviews, observations and gathering documents. Artifacts and field-notes can then be analyzed using a multitude of qualitative analyses. Yin (2009) pointed out that an additional benefit to using a case study design is that “prior development of theoretical propositions” can be used to guide the “data collection and analysis” (p. 18).

Yin (2004) described a multiple case study as the type of study where more than one unique case relating to a phenomenon was studied and where each case remained “within the same methodological framework” (p. 45). Every case in the study served a

very specific purpose within the inquiry and could not be replicated, so that each was either predictive of the ultimate results at the conclusion of the study or produced “contrasting results for predictable reasons.” The analysis of each case was then done within and across cases in the study in “a rich theoretical framework” which then became the “vehicle for generalization to new cases” or enabled the modification of the theories used (Yin 2004, p.45).

Description of Research Participants

Thirteen universities were described on the Association of College and Research Libraries Information Literacy *Best Practices: Exemplary Programs* website, receiving a status as exemplary programs. Fourteen institutions with information literacy programs were contacted out of the fifteen exemplary programs listed on the *Best Practices: Exemplary Programs* website. One program was a non-United States program. The researcher chose to exclude non-United States programs to limit the costs associated with this study. Three colleges did not reply to telephone messages or email contacts made by the researcher and were thus not included in the study. One university’s program director was on sabbatical and another college was going through program revision and was therefore unable to participate. As a result, eight programs were included in the study from the Association of College and University Libraries Exemplary Information Literacy Programs listed on the Association of College and Research Libraries Information Literacy *Best Practices: Exemplary Programs* website (2002, 2012).

Table 3.1 below lists the eight colleges and universities chosen for the sample, along with their locations, institution types, and undergraduate student population

information. There are two private colleges, one public comprehensive university, two public land-grant institution and three public universities. The two private colleges have student population headcounts below 7,000. The medium-sized public universities have student headcounts ranging from above 10,000 to just below 14,600 and two large public universities, one with an undergraduate student headcount just below 24,000 and the second with a headcount of 29,497 undergraduate students. Five universities belong to larger public university systems.

Table 3.1

Association of College and Research Libraries Exemplary Information Literacy Programs

<i>College or University Library</i>	<i>University Location</i>	<i>Institution Type</i>	<i>Undergraduate Student Headcount (2014)</i>
<i>Augustana College, Thomas Tredway Library</i>	Rock Island, Illinois	Private, Liberal Arts	2,524 undergraduates
<i>California State University, San Marcos, Kellog Library</i>	San Marcos, California	Public, Research 1	10,675 undergraduates
<i>Loyola Marymount University, William H. Hannon Library</i>	Los Angeles, California	Private, Liberal Arts	6,205 undergraduates
<i>Purdue University</i>	West Lafayette, Indiana	Public, Land-Grant, Research 1	29,497 undergraduates
<i>University of Nevada, Las Vegas</i>	Las Vegas, Nevada	Public, Research 1	23,813 undergraduates
<i>University of North Carolina, Wilmington</i>	Wilmington, North Carolina	Public, Research 1	12,993 undergraduates
<i>University of Rhode Island University Libraries</i>	Kingston, Rhode Island	Public Comprehensive	13,528 undergraduates
<i>Utah State University</i>	Logan, Utah	Public, Land-Grant, Research 1	14,573 undergraduates

(Statistics was gathered from Fast Facts about each College/Institution)

Research Locations and Programs

There are eight colleges and universities in the sample. The study included eight college cases where exemplary information literacy programs were offered and these were viewed through the theoretical lenses of the Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000) and Framework for Information Literacy for Higher Education (2016). The research location description of each exemplary program is summarized from the category description provided by each library regarding their fit with a specific exemplary category on the Association of College and Research Libraries Information Literacy Best Practices: Exemplary Programs website for 2014. Each Information Literacy Best Practices Category is listed in Figure 3.3 Some information literacy programs are exemplary only in association with one Category; while others relate their course or program development and outcomes to one-three categories as described below.

Figure 3.3

ACRL Information Literacy Best Practices Categories

<u>ACRL Information Literacy Best Practice Categories</u>
<u>Category 1: Mission</u>
<u>Category 2: Goals and Objectives</u>
<u>Category 3: Planning</u>
<u>Category 4: Administrative and Institutional Support</u>
<u>Category 5: Articulation (program sequence) within the Curriculum</u>
<u>Category 6: Collaboration</u>
<u>Category 7: Pedagogy</u>
<u>Category 8: Staffing</u>

Note: Adapted from ACRL.(2016). *Information Literacy Best Practices, Exemplary Programs*. Retrieved from <http://www.ala.org/acrl/aboutacrl/directoryofleadership/sections/is/iswebsite/projpubs/bestpractices-exemplary>

Augustana College

Augustana College is a private, undergraduate Liberal Arts College located in Rock Island, Illinois. The college was founded in 1860, is affiliated with the Evangelical Lutheran Church and offers 36 undergraduate majors and pre-professional degrees but no graduate programs. The college has a 12:1 faculty ratio. In 2014, the college enrolled 2,524 undergraduate students of who were 57% female and 43% were male students (Cappex, 2014; Augustana College, 2015).

Augustana College's commitment to information literacy was demonstrated through sustained administrative and faculty support of the library and the program. Librarians collaborated with classroom faculty to incorporate information literacy into the curriculum. Students in first year seminar visited the library during the year and liaison

librarians worked in partnership with faculty to place information literacy into disciplines. Freshmen participated in a required sequence of five information literacy instruction sessions, and upper-level students received discipline-specific information literacy instruction in their majors. Librarians aligned first-year information literacy learning outcomes and collaborated on upper-level information literacy instruction and outcomes. Collaboration was extended to the broader community since the library outreach coordinator connected with the local high schools to schedule special research days in the library. Faculty at the college approved “critical thinking/information literacy” as one of eight college-wide student-learning outcomes. Augustana College facilitated information literacy through the regular participation of librarians on college-level committees, such as the General Education and Assessment Committees. The university has sustained a commitment to the professional development of librarians that resulted in frequent librarian presentations and attendance at national conferences, e.g. the Association of College and Research Libraries Immersion program (Association of College and Research Libraries Information Literacy Best Practices, Categories four & six, 2015; Augustana College, 2015; Cappex, 2014).

California State University, San Marcos

California State University, San Marcos, is one of the 23 independent campuses in the California State University System. The university was founded in 1989. California State University, San Marcos is located in San Diego, in Northern San Diego County. The campus has five colleges in the fields of Humanities, Arts and Behavioral Sciences; Business Administration; Science and Mathematics; Education; and Health and Human Services. It also has interdisciplinary and extended learning departments serving both

undergraduate and graduate students. In 2014, undergraduate students numbered 10,675 undergraduate students 60% female, and 40% male, as well as 348 graduate students were enrolled on the campus (Cappex, 2014; California State University, San Marcos, 2015).

California State University, San Marcos Library's librarians were responsible for outreach and considered it to be a core function of their information literacy program. They partnered with disciplinary faculty to provide information literacy instruction and to integrate it across the curriculum and grow instructor-student relations via instructional experiences in the classroom and during reference encounters with students. Librarians strove to develop students' understanding of the inquiry process. The Outreach Librarian at the university coordinated the curricular-based "Context: Library Series" and the Common Read. In collaboration with disciplinary faculty, the outreach librarian created assignments and learning opportunities for students related to their shared intellectual experiences. The Institutional Repository Librarian worked with faculty and university administration on issues surrounding scholarly communication and intellectual property (Association of College and Research Libraries Information Literacy Best Practices, Category nine: outreach, 2015; California State University, 2015, Cappex, 2014).

Loyola Marymount University

Loyola Marymount University is a private Jesuit university located in residential Los Angeles, California, and was founded in 1911. The university has an average undergraduate class size of 21 and a faculty to student ratio of 11:1. In 2014, the university enrolled 6,604 undergraduate students, (57% female and 43% male) 2,189 graduate students and 1,142 law students. The university has four colleges including

Liberal Arts, Science and Engineering Business Administration, Communication and Fine Arts and three Schools of Education, Law and Film and Television (Loyola Marymount University, 2015).

Loyola Marymount University's new core curriculum was the catalyst for the librarians at the University Library to sequentially integrate information literacy across the curriculum. Information literacy outcomes were then embedded into core classes, specifically into first-year seminars and "Rhetorical Arts" courses, allowing students to further their information literacy skills by taking a "flagged course" within their discipline. The flags indicated the courses students could choose from, since these were earmarked to fulfilled skill and knowledge area requirements, and included information literacy. "The sequentially", integrated information literacy program was aligned "with the mission and vision" of Loyola Marymount University (Association of College and Research Libraries Information Literacy Best Practices, Exemplary Programs, 2015). Loyola Marymount librarians successfully collaborated on the formal articulation of information literacy into the university curriculum, which started with the inclusion of novice-level information literacy learning outcomes in the First Year Seminar where the information literacy instruction was delivered through an online tutorial with embedded graded assignments. The second phase of articulation occurred in the second semester of the freshman year and built onto the first phase. Librarians collaborated with course developers on assignments and graded rubrics. The third phase was the most innovative, requiring students to take flagged courses within their majors. Librarians helped design assignments and provide subject-specific library instruction. The combination of university-level adoption of information literacy into the core curriculum and the

librarian-created scaffolding approach of introducing, reinforcing, and enhancing information literacy outcomes made this information literacy program a model program (Association of College and Research Libraries Information Literacy Best Practices, Categories two & five, 2015; Loyola Marymount University, 2015, Cappex, 2014).

Purdue University

Purdue University was founded in 1869, as a land-grant university in West Lafayette, Indiana. The university offers programs at the main campus and it also collaborates with Indiana University at its Fort Wayne Campus to offer programs. The university offers certificates, associates, bachelors and graduate degrees. The university has nine colleges, which includes a Division of Continuing Studies and a Unit of Affiliated Programs. In Fall 2015 the university had a total enrollment of 39,409 students including 29,497 undergraduate students, 938 professional students and 8,974 graduate students enrolled on the campus (Cappex, 2014, Purdue University, 2015).

Purdue University was listed as exemplary in three ACRL Categories: Category 4--Administrative & Institutional Support, Category 6--Collaboration and Category 9--Outreach. According to the ACRL website (ACRL Information Literacy Best Practices: Exemplary Programs) Purdue's librarians participated in discussion at all levels of their University in order to be in the position to communicate the value of information literacy in higher education to their colleagues. According to librarians at Purdue University, instruction librarians were committed to working with faculty to integrate information literacy into their "new core curriculum both at the foundational level, for general education outcomes, and at the embedded level, requiring each discipline to incorporate this ability" into their own undergraduate programs (ACRL Information Literacy Best

Practices: Exemplary Programs, 2015). Their librarians collaborated with faculty and served on curriculum committees as advisors, infusing information literacy strategies into large introductory courses that were led and redesigned by librarians through the University's IMPACT program (Instruction Matters: Purdue Academic Course Transformation). In response to the university's Foundations of Excellence Initiative, libraries' faculty also worked to integrate information literacy into the student first-year experience at the university. They taught and co-taught courses in other campus interview comments, such as in the Science and Honors Colleges. Library Departmental liaison librarians worked with faculty members "to offer instruction in a variety of modes" while also "maintaining alignment with disciplinary-based information literacy content... due to the librarians' influence. "Purdue's 2008-2014 Strategic Plan" included information literacy as "an expected learning outcome at within the foundational core curriculum and embedded at the disciplinary level" (Association of College and Research Libraries Information Literacy Best Practices: Exemplary Programs, 2015, Para. 20). Librarians were also responsible for editing and producing an annual publication, a library newsletter and library displays that added additional value to community. They also hosted a blog and provided press releases about activities on the Campus. The "Cool Signs" display in Purdue Libraries was created by using animated video on LCD screens for instructional and marketing messages. Information Literacy Month was celebrated by the community in October with banners, press releases and events put on for the students by librarians (Association of College and Research Libraries Information Literacy Best Practices: Exemplary Programs, 2015; Purdue University, 2015, Cappex, 2014).

University of Nevada, Las Vegas

The University of Nevada, Las Vegas was founded in 1957, as a branch campus of the University of Nevada, Reno. The University of Nevada, Las Vegas is a public/private partnership, partnering with Majestic Realty Company, a real estate company owned by Edward P. Roski, having offices throughout the United States. The university transformed itself over the years from a small branch college to a research institution. The university has 17 academic interview comments that included Business, Allied Health, Nursing, Community Health and Dental Health Schools and Colleges of Engineering, Education, Liberal Arts, Sciences and Urban Affairs. In 2014, the university enrolled 28,515 students, 23,813, of whom were undergraduate students and 4,715 were graduate students; (45% male and 55% female students) (University of Nevada, 2015, Cappex. 2014).

The University of Nevada, Las Vegas librarians maintained a well-developed “shared values” statement that was connected to information literacy, lifelong learning and partnered with the university’s educational mission. The University Undergraduate Learning Outcomes (UULOs), which were required of all undergraduate students, and were aligned to the Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000). The University Libraries created an *Instruction Framework*, which recommended “a roadmap and tools for strategic development of the University Libraries’ instruction efforts” (p. 23). Librarians integrated, mapped, and scaffolded information literacy learning at all undergraduate levels. “UNLV Libraries lead a faculty development initiative, which was called the UNLV Libraries Faculty Institutes (<https://www.library.unlv.edu/faculty/institute/>) aimed at collaboration with instructional faculty to integrate learning outcomes, including

critical thinking and inquiry, into course syllabi” (Association of College and Research Libraries Information Literacy Best Practices: Exemplary Programs, 2015, Para.22) with numerous partnerships between the library and other academic interview comments. The Faculty Institutes began in 2010. These institutes represented the recognition of librarians' expertise in matters of instructional design and a foundation for further collaboration between librarians and course instructors on the university's campuses (Association of College and Research Libraries Information Literacy Best Practices, Categories three, six & seven, 2015; University of Nevada, 2015, Cappex. 2014).

University of North Carolina, Wilmington

The University of North Carolina, Wilmington is a public university located in Wilmington, North Carolina. Wilmington College was opened in 1946 under the Directorate of Extension of the North Carolina College Conference and the University of North Carolina, Chapel Hill and started out enrolling 250 freshmen. In 1963 the college became a senior four-year college and in 1969 it officially became the University of North Carolina, Wilmington. In 2014 the university enrolled 12,993 undergraduate and 1,618 graduate students. The university currently offers 55 bachelor's degree programs in 49 majors, 42 master's degree programs and two doctoral programs (Cappex, 2014; University of North Carolina, Wilmington, 2015).

Information Literacy was one of the *University of North Carolina Wilmington's* learning goals, achieved through their General Education curriculum (called “University Studies”) that clearly defined the requirements for student information literacy competency. Students were required to complete nine hours of information literacy intensive courses beginning with the First Year Seminar and extending into the major.

Each course that was approved as an information literacy intensive course underwent a rigorous evaluation process that was part of an ongoing information literacy assessment and program improvement process at the university. Librarians worked on the University Studies requirements through the scoring of course proposals for the information literacy category of courses and by serving as the information literacy experts during university-wide assessments. The librarians led the integration of sequential, scaffolded instruction throughout each student's information literacy exposure and assessed information literacy at the session, course, program and institutional levels. The university conducted a pilot program to test transfer students on information literacy skills, so that all students were required to demonstrate their information literacy skills prior to their graduation (Association of College and Research Libraries Information Literacy Best Practices, Categories five & ten, 2015; University of North Carolina, Wilmington, 2015, Cappex, 2014).

University of Rhode Island

The University of Rhode Island is located in Kingston, Rhode Island and is a public, comprehensive university. The university was founded as a land-grant institution and offers students a broad liberal arts education. The university offers 80 undergraduate programs and a smaller offering of graduate programs. In 2014, the university enrolled 13,528 undergraduate students, 53% female and 46% male and 3,023 graduate students (Cappex, 2014; University of Rhode Island, 2015).

The University of Rhode Island Libraries information literacy plan was created in 2014 to articulate the mission, vision, goals and objectives of the university. These were then constantly revisited by information literacy instructors. Assessment was

incorporated into all information literacy efforts. A rubric that was based on the Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000) was developed and tested for use in any course that was intended to satisfy the Information literacy requirement of the general education program. A curriculum map set out ladder information literacy learning goals for various course levels at the university. The information literacy instruction plan mapped all information literacy instruction across the curriculum at both the discipline level and the course level, from a pre-freshman “Talent Development” initiative to capstone courses across the disciplines. The University of Rhode Island approved a general education Program that included information literacy as an outcome that all students had to attain, required for all courses and programs that included information literacy instruction. The General Education Program required information literacy competency through scaffolding and incremental approach, and woven throughout the four-years of a student’s program of study. Students could then fulfill their information literacy requirement by taking a three-credit hour information literacy course or by fulfilling a sequence of information literacy opportunities including an information literacy tutorial, engagement with information literacy in Freshman Seminar, a Writing Course, a Communications Course and an upper level integrative course. The Library’s information literacy program also offered both credit bearing courses and comprehensive outreach courses to freshmen engineering students. Librarians took full advantage of technology-integrated classrooms to assess student learning in credit-bearing courses through the presentation of projects (Association of College and Research Libraries Information

Literacy Best Practices, Categories two, five & seven, 2015; University of Rhode Island, 2015, Cappex, 2014).

Utah State University

Utah State University is a public land-grant research university located in Logan, Utah. The university was founded in 1888 as an agricultural college and became Utah State University in 1957. The university has two comprehensive regional campuses: Utah State University Eastern, Price and Utah State University, Blanding, 19 regional campuses and an online distance education program. The university offers 168 degrees, 94 minors and 143 graduate degrees and has a student-faculty ratio of 21:4. The university offers rolling admission and admits 98.5% of students who apply. In 2014, the university enrolled 16,472 students, of whom 14,573 were undergraduates and 1,826 were graduate students. In 2015, the university enrolled 24,385 students; 46% were male and 54% were female, including 18,491 students from out of state (Cappex, 2014; Utah State University, 2015).

Utah State University Libraries conducted rubric assessments of student papers to revise learning outcomes and curricula using mixed-methods to explore the impact of sequenced integration in academic programs. Comprehensive yearly annual reports, rubric assessment data, and assessment tools were used to assess information literacy at the university. The Outreach and Peer Learning Coordinator led collaboration with a wide range of campus partners, from the Access & Diversity Office to the Writing Center. Librarians participated in university departmental programs and employed diverse outreach and communication methods to engage students at the university. Librarians took a collaborative approach to library instruction by developing learning

outcomes in partnership with academic faculty. This collaboration resulted in the development of new approaches to instruction being applied, that included the teaching of critical thinking skills and developing programs integrating threshold concepts into teaching practice in the information literacy programs offered to students. Librarians used technology and innovative approaches such as flipped classrooms with built in accountability structures such as discussion and quizzes for students. Librarians also made very efficient use of their time by focusing on individual students and helping them to meet their research needs (Association of College and Research Libraries Information Literacy Best Practices, Categories seven, nine & ten; 2015; Utah State University, 2015, Cappex, 2014).

Expert Panel

Three information literacy librarian experts, selected because of professional reputation, were asked to review the qualitative questions that would be posed to participants during interviews (Appendix I). Before beginning the study, however, each expert was asked to make additional suggestions about questions. The experts were librarians who had expertise in information literacy program development, implementing information literacy courses and in creating course outcomes and applying them. The three librarians on the expert panel were actively involved in the process of coordinating, developing and improving information literacy programs at their colleges and universities were asked to serve as experts on the panel since they would have a good idea of what questions to ask of best practices programs that had been established and were working well.

The librarians on the Expert Panel were as follows:

- Caleb Puckett is the Instruction Librarian hired to begin the information literacy initiative and develop the information literacy course at a Kansas College. Caleb worked as a consultant for the School of Education at the University of Kansas and has since moved into an instructional design position at Grantham University.
- Amy Fyn is Coordinator of Library Instruction at Coastal Carolina University in South Carolina and incoming chair of the Association of College and Research Libraries Instruction Section Best Practices Committee, 2015-2016.
- Alysia Starkey is Associate Dean of Undergraduate Studies at Kansas State University. She is a former library director at Kansas State University Polytechnic and has published on distance learning in higher education.

Participants of the Study

The population of the study consisted of librarians from eight colleges and universities chosen from the list of fifteen colleges and universities that had been listed as Association of College and Research Libraries Exemplary Information Literacy program on the Association of College and Research Libraries website. The website had contact information for each library listed. Emails were sent to each university listed, and then these were followed up by phone calls. The researcher called the information literacy program directors/coordinators at each of the universities to make an initial contact and was told that each would participate in the study. The directors of each of the programs suggested that they would be the best contact to interview about their programs. The researcher asked information literacy program directors for additional information

literacy staff contacts that would be willing to participate in interviews. Interviews lasted between 45 minutes and 60 minutes. Three librarians were interviewed at each exemplary library, except at Purdue University where only two librarians were willing to participate in the interviews. A total of 23 participants were interviewed. Twenty-two participated in interviews and one completed a survey due to a disability that did not allow the participant to interact easily with the researcher on the telephone. The same questions were asked during each telephone interview. The differing number of interviews did not compromise or impact the researcher's findings.

Table 3.2
Study Interview Chart

<u>Date/Notes</u>	<u>Interviewee Code</u>	<u>Universities</u>	<u>Academic Title</u>
12/11	P1	UNLV	Educational Initiatives Head
12/15	P5	USU	Coordinator of the Regional Campuses & Distance Education Library Services
12/17	P3	Augustana	Research & Instruction Librarian & Assistant Professor
12/17	P2	LMU	Library Instruction Coordinator, Reference & Instruction
1/8 11am	P4	Augustana	Research & Instruction Librarian & Assistant Professor
12/23	P7	Augustana	Director of the Library
12/28 10am	P8	USU	Library Instruction Coordinator
1/4 3pm	P6	LMU	Head of Reference & Instruction Services
1/4 4pm	P10	CSUSM	Information Literacy Services Director
Interview format chosen due to a disability	P11	URI	Head of Information Literacy Instruction
1/7 1.15pm	P9	Purdue University	Assistant Professor, Academic Affairs & Information Literacy
1/15 1pm	P13	Purdue University	Associate Dean for Academic Affairs
1/15 Noon	P15	UNLV	Teaching & Learning Librarian, Educational Initiatives
1/21 2pm	P19	UNCW	First Year Engagement Librarian/Lecturer
2/5 4pm	P21	LMU	Instruction Design Librarian, Reference & Instruction Services
1/22/ Noon	P20	UNCW	University Studies Librarian
1/20 10am	P18	UNLV	Teaching & Learning Librarian, Educational Initiatives
1/13 3pm	P14	USU	Head of Reference & Instruction
2/12 3pm	P16	CSUSM	First Year Experience Librarian
2/3 1pm	P22	URI	Public Services Chair, Head of Government Publications
2/3 9.15am	P23	URI	Professor, Humanities Librarian, Reference Bibliographer
1/19 3pm	P17	CSUSM	Outreach Librarian
1/11 Noon	P12	UNCW	Associate Director of Library Assessment & Instruction

Once participant contact information was gathered from each initial contact, the researcher contacted each additional participant by email to invite her/him to participate in the study. If a reply was received, an interview time was determined. The researcher kept the above Study Participant List in 3.2, as a rough list and updated it each time an interview had been scheduled or completed. Each librarian received the participant letter in Appendix B created for interviewees and a participant consent form in Appendix C that was signed and completed. There was enough contact with participants, for the researcher to answer any questions that each had prior to the interviews.

Program Selection Criteria

Two selection criteria were applied to the Information Literacy programs that are included in the study. They were: (a) Colleges and universities included on the Association of College and Research Libraries' information literacy best practices exemplary programs list and (b) Colleges and universities that were in the process of implementing or had implemented a course or courses or a program with either of the following components for sharing course content: completely online content, online learning objects, online tutorials, a blended or completely online course(s) or a face-to-face program that were being transferred into an online format. The researcher included this selection criteria to be inclusive of all delivery modes. As a result the researcher included a variety of online teaching formats that were being used by librarians to teach information literacy at colleges and universities.

Participants were chosen because they were often the only authorities on the topic, having the specialized knowledge that was required to answer specific questions in a case study. The participants were chosen because they were program coordinators,

faculty or administrators involved in their college or university's exemplary information literacy program and who served as leaders at these colleges or universities when it came to creating, developing and revising information literacy curriculum.

Participant Selection Criteria

There were selection criteria that must be applied to the participants chosen to participate in this study. The participants chosen had to be: (a) program coordinators, administrators, faculty, instruction librarians or library adjuncts associated with one of the eight programs exemplary programs in the sample. Staff must be serving in either a full-time or part-time capacity at the university and (b) associated with the program for more than one semester as an instructor, librarian, administrator, program coordinator, faculty member or an adjunct. (The latter is important because librarians often move to new positions, and the researcher wanted to be sure that librarians with solid knowledge of their college's information literacy program were interviewed).

Sampling Procedures

Snowball sampling was defined as “a (non-random) sampling method used when” the “characteristics to be possessed by samples are rare and difficult to find” (Research-Methodology, 2016, Para. 1). This was the case with choosing participants for this study of exemplary information literacy programs. Since only thirteen exemplary information literacy institutions had participated in the Association of College and Research Libraries competition, to identify themselves with one or more of the ten exemplary criteria, the researcher chose the participants for this study from the list of institutions available on

the *American College and Research Libraries Information Literacy Best Practices: Exemplary Programs*. There were no other alternatives available. Thus, *exponential discriminative snowball sampling* was used in this study, where participants gave “multiple referrals” were made, as participants gave the researcher two more contacts to interview from each of the colleges. Their participant “choice of a new subject” offered to the participant was “guided by the aim and objectives of the study” (Para.7), since the researcher sent each initial contact a letter laying out these study aims and objectives and the questions to be asked of each participant.

Snowball sampling was further defined by Jupp (2006) and referred to as a form of *Purposive sampling*. This was “a form of sampling that Jupp (2006) defined purposive sampling as “a form of non-probability sampling in which decisions concerning the individuals to be included in the sample” were “taken by the researcher, based upon a variety of criteria which... included specialist knowledge of the research issue, or capacity and willingness to participate in the research” (Jupp, 2006, p. 123). Tongco (2007) stated that this sampling technique, which was also referred to as judgment sampling, is a common sampling technique used in qualitative research where the researcher made a judgment call or a very deliberate choice regarding the participants that are to be included in their study. Purposive sampling is often used when the chosen participants had very specific information to impart (Jupp, 2006).

Document Analysis

The process of document analysis and why this process was important was described in this section. Bowen (2009) defined document analysis as “a systematic procedure for reviewing or evaluating documents” (p. 27) that were either printed or

electronic materials gathered during the study. Documents gathered from participants had a direct relationship to the study and documented participant activities in relation to the topic researched were gathered during the study process. These documents were “examined and interpreted in order to elicit meaning, gain” an “understanding and develop empirical knowledge” (Bowen, 2009, p. 27) and were used as a means of triangulation, allowing the researcher to draw on multiple “sources of evidence” (p.28), thereby, “providing a confluence of evidence that” was able to breed “credibility” (Eisner, 1991, p. 101). Bowen (2009) also stated that was efficient and often cost-effective, much less obtrusive to some study participants, and considered to be much more stable and exact. Documents collected during a study associated with the phenomenon being studied often described events and provided a more detailed description of them than from the participant or even a college or university’s point of view. In case of the latter, it was probable that the documents also portrayed biases, due to organizational policy, process and procedure that might have been described in detail in documents that were created.

The researcher collected documents, handouts and website information after each interview relating to the information literacy programs the participants worked in. In qualitative research, researchers are encouraged to gather documents that could be used to provide improved interpretation of the study. This document collection is backed up by the literature. According to Bowen (2009) document analysis was useful when conducted during a research study because it provided the researcher with additional background information about the phenomenon, additional historical insights into past events related to it, and tracked changes and developments relating to the topic.

Document analysis was also useful to the researcher to better understand how a program had fared or changed over time. Document analysis also supplemented data collected from interviews during the research study and helped the researcher to generate new questions during the study that could then open the discussion in areas that were not initially included in it. Documents that were important to shape this study included program descriptions that were collected prior to the interviews from the participants, as well as electronic documents available on the web or on Libguides explaining curricula concepts.

Research Design

Bogdan & Biklen (1992) stated that when the researcher started the data collection process it was common that they might not know what analysis methods to use with the study. They would however, gain the chance to review and explore the data they collected and see, and armed with their knowledge of correct qualitative data analysis procedures to aid them, would be able to determine how best to proceed.

In this case study, the researcher conducted two or three in-depth semi-structured individual interviews at each of the eight research sites, and collected additional data from field-notes and additional documentation such as reports, curriculum documents gathered from participants and library websites. The data collected from each of the 23 interviews were organized into 23 survey sets so that they could be auto-coded, using both open and thematic (axial) coding and further analyzed using the Nvivo 11 Plus qualitative analysis program.

Yin (1994) suggested that researchers consider utilizing one of four methods of analysis when conducting case studies. These were: pattern matching, explanation building, time-series analysis and program logic models. Pattern matching occurred when the researcher compared empirically-based patterns to predicted ones or reverse patterns in the case study. Explanation building was a process whereby the researcher developed an initial theory or proposition and compared it with the data collected and then revised the theory or proposition across cases until the theory fitted the data that was collected. Time-series analysis was described as being able to examine ‘why’ and ‘how’ questions in the study over a set period of time, while taking note of the changes that had occurred relating to the phenomenon studied. The program logic models were used in explanatory and exploratory studies to make cause and effect matches between variables.

Yin (1994) suggested that it was not possible for the researcher to immediately determine which of the four methods would best analyze the data that was collected in this case study, but it was probable that one or more of the four methods suggested by Yin for case study analysis would be used to analyze the data gathered during the study. It was also possible to create a lay-out of the Methodological Review Plan that was followed during the study to help with these decisions, as is described in Figure 3.3 below, and suggested and described in Stake (1994). The researcher adapted Stake (1994)’s Methodological Review Plan and used it in this study, following the steps listed in Figure 3.4.

Figure 3.4

Methodological Review Plan when conducting the research

November-Early December

- Create participant questions and sent to expert panel (ND)
- Participant questions finalized and approved (ND)

Early December

- Pre-research email contact to develop participant chart (ED)
- Setup Expert Panel to vet questions (ED)
- Send question sets to participants for review (ED)
- Send consent forms to participants for a signature (ED)
- When study begins: Make initial contact with all the participants via email (ED)

December-February

- Call each participant to confirm study participation (DF)
- Answer their questions about the study (DI/DF)
- Schedule 1-1 telephone interviews (DF)
- Setup audio-taping of telephone interviews (DF)
- Gather data for document analysis from participants (DF)
- Complete telephone interviews (DF)
- Thank interviewees in person at the end of each interview (DI)
- Assign coded numbers to each participant (DF)

Methodology for Qualitative Analysis (MI)

- A. Transcribe audiotapes by hand
- B. Code each of the transcriptions
- C. Analyze documents collected by hand
- D. Create survey analysis answers to seven questions from transcriptions
- E. NVIVO 11 Plus analysis
- F. Utilize pattern-matching and/or explanation building analysis
- G. Triangulation
- H. Combined analysis
- I. Develop theory
- J. Test theory across cases
- K. Write report and defend it (YL)
- L. Debrief Participants (YL)

Rough Timing/Dates: November/December (ND); Early December (ED); December-February (DF);

Day of Interview (DI); Months following interviews (MI); Year after interviews (YL)

Note: Adapted from Stake, R.E. (1995). *The art of case study research*. USA: Sage.

Interviews

Denzin (2001) described the interview as “an interpretative practice” where lived-meaning and history were related and it was possible to “write the world bringing it into play” (p. 25). The interview was also described to be a “miniature and coherent world” (p. 25) that did not mirror reality instead the interview was like a performance where the interviewees were placed in the role of storytellers. The “reflexive” (p. 28) interviewer listened to the many different stories told during interviews and interpreted and analyzed them.

Wolcott (1999) described how the qualitative ethnographer and researcher conducted inquiries and examinations during the interviewing process and how there were major distinctions. The researcher’s role could be either as a passive or an active inquirer or examiner or an intruder initiating activities during the interview amongst those being studied. The inquirer posed a dilemma by intruding in the interview process having their own agenda. Often the researcher remained silent hoping that what they wanted to know (eventually) would be revealed “in some naturally occurring way” (p. 47) Attempting to discover the truth, the researcher in this study had to combine both the intruder stance and the silent stance, since it was extremely difficult to draw information from study participants. As a result, the truth that emerged was not what the researcher had expected would emerge.

In this case study, the researcher used semi-structured interview techniques with the participants. The techniques used in the interviews were a two-way conversational technique, which started out with the researcher attempting to develop a rapport with the interviewee and make the interviewee feel comfortable during the interview process. The

questions created for the interviews were open-ended, and constructed to encourage topic elaboration and avoid closed questions with yes-no answers from participants. The semi-structured interview started out with general questions and moved into more specific questions. This type of interviewing procedure was believed to be flexible, because even though the interviewer had developed a set of questions to ask during the interview, it was still possible when necessary to deviate from the set of constructed questions and ask probing questions of the interviewee that would provide further details. Yet it was still possible to return to the original set of questions and continue to use the set as an interview guide. The interviewer determined if there were instances where the transcription was incorrectly transcribed and where the meaning of the participants' comments had been mis-transcribed or somehow misunderstood (Denzin, 2001).

Wolcott (1997), in describing ethnographic research techniques, divided the research interview process into four sections, representing four basic research strategies: participant-observation, interviewing and two augmented sections, the use of written sources and the analysis or collection of non-written sources, e.g. websites. Wolcott (1997) identified different types of interviews that were commonly conducted by qualitative researchers: key informant interviews, life history interviews, structured or formal interviews, informal interviews, and questionnaires. Based on Wolcott's (1997)'s interview types, the researcher conducted twenty-three key informant interviews, with twenty-two that were informal in structure and one that was in the format of a questionnaire type interview. Wolcott (1997) also made distinctions among participant-observer styles during interviews and suggested three style that were most common where the researcher was an active participant, privileged observer or a limited observer.

In the case of the twenty-two telephone interviews, the researcher was an active participant, able to ask questions, rephrase them, move in a different direction during the interview and probe the interviewee further about a specific topic.

The researcher conducted telephone interviews with all participants using the speaker-phone option. Since interviews were not conducted in person, the interviewer was unable to observe interviewees and observation notes could not be made about interviews. Using the telephone speaker-phone option made it possible for the researcher to tape each interview in duplicate, making sure that no information was lost while conducting the interview. Each interview was taped by using an Olympus digital voice recorder and a mobile phone. Twenty-two interviews were then downloaded onto the computer into Roxio Creator Pro and translated into mp3 format. The mp3 was then uploaded into Audacity and transcribed. The twenty-third interview was received via email in the format of a survey because the participant was unable to participate in a phone interview and was at a distance. The survey questions were transcribed and dealt with in the same manner as the previous interviews.

Triangulation

Seale (1999) stated that the idea of triangulation was derived from initial qualitative methodologist researcher discussions in the 1950's, around the measurement of validity, suggesting that the qualitative researcher use many different social research methods of analysis at once so that "the biases of any one method might be canceled out by the others" and provided credibility the researcher's process (p. 473). Wolcott (1997) reminds the researcher that triangulation "is not to be taken literally as it implies, but as a reminder of the need to corroborate findings" (p. 216). In the same vane Seale (1999)

stated that triangulation moved away from “the idea of convergence on a fixed point” and accepted “a view of research as revealing multiple constructed realities” (p. 474). Seale (1999) suggested too that triangulation varied with each research problem because it aided in deepening the researcher’s understanding of the concepts and issues around the topic studied because every time they read and re-read participant interviews, their review of these texts produced new interpretations. The researcher transcribed 23 interviews, re-reading them in order to identify and categorize common ideas and topics that emerged from interviews during the analysis process.

Data Analysis

According to Tesch (1990), qualitative data analysis is viewed as being “eclectic” meaning that there was really no correct way the researcher should do interpretive data analysis. There are many types of data analysis that exist, but Denzin & Lincoln (2000) stated that often it was actually the framework that was chosen by the researcher that would dictate or direct the researcher in terms of data analysis. Further “strategies of inquiry...connect the researcher to specific methods of collecting and analyzing empirical materials” (p. 25) and provided an apt example by stating that “the case study strategy” relied “on interviewing, observing and document analysis” (p. 25).

Once the information collection phase of the study was completed, the researcher used a combination of open coding and axial coding to analyze the study, with open coding defined as identifying and circling or labeling phrases in the text, and axial coding defined as creating themes, categories and groupings for the codes and labels in the transcript. Cresswell (1994) stated “data analysis” required “that the researcher be comfortable with developing categories and making comparisons and contrasts” (p. 153).

It was further suggested that the qualitative researcher engage in several data analysis techniques, thereby “sorting the information into categories, formatting the information into a story or picture and actually writing the qualitative text” (p. 153). Cresswell (1994) also suggested that the researcher start coding data as they finished each transcript, reducing them to categories and themes to better organize their data, as it was extremely difficult to analyze mountains of data and finish the research if the researcher became backed up. As a result, it was important that the qualitative researcher had a plan of action in place before they started data collection for their systematic data analysis. The researcher started to do this, but fell behind constantly, and had to resume this procedure throughout the entire interview procedure. The researcher followed the Methodological Review Plan described in Figure 3.4

Cresswell (1994) suggested that the researcher learn how to utilize a qualitative computer software program that could “provide a more efficient system for retrieving and sorting information” (p.187). For this case study, the researcher utilized the qualitative analysis program, Nvivo 11 Plus to analyze the data further and make the study and its findings credible. The set of seven questions were organized in the format of a survey and entered into Nvivo 11 Plus for auto-coding analysis.

In addition, a word cloud analysis was done of participant transcripts using Nvivo 11 Plus. According to DePaolo & Wilkinson (2014) “a picture is worth a thousand words,” continues to hold true even in the ability to organize any data...in a graphical representation” so that it “makes the data easy-to-read and comprehend. The effectiveness of the word cloud is theoretically grounded in the learning model of graphical organizers”, where “a graphic organizer is a visual communication tool that

uses visual symbols to express ideas and concepts, to convey meaning” allowing the viewer to discover their own patterns of relationships” that “have meaning” (p.38) and can aid the researcher to better understand the big picture, namely the interrelationships between individual concepts described in the word cloud.

The word clouds were used in this study to compare and qualitatively analyze the eight institutions in the study to discover patterns and relationships that were not apparent when the participant interviews were analyzed. The word clouds were created in Nvivo 11 Plus representing Question 1’s five question survey responses from the 23 participant transcriptions and eight universities in the study. The limits set were the word cloud default limits in Nvivo 11 Plus, which were a word frequency of 1,000 and a minimum word length of three letters.

Participant Confidentiality Concerns

Interviewees participating in this study were very concerned about confidentiality. The researcher is responsible for protecting the confidentiality of participants since it would be easy to know which librarians specifically were interviewed at which university, were more details to be provided about each subject interviewed. As a result, only job titles have been provided; however, since even providing those titles can very transparent, and specific responses have not been linked to titles. To protect librarian confidentiality, the researcher has not used a number in the study to describe each librarian and has not been specific about which librarian said what at which university when using the transcription.

Participant Debriefing

According to Lincoln & Guba (1985), debriefing was defined as “a process of exposing oneself to a disinterested peer in a manner paralleling an analytical sessions and for the purpose of exploring aspects of the inquiry that might otherwise remain only implicit within the inquirer's mind" (Lincoln & Guba, 1985, p. 308). Even though Lincoln & Guba (1985) were discussing peer-debriefing which often was possible when more than one researcher was conducting the interviewing; this explanation pointed out to the sole researcher, that debriefing was not only for the good of the participant but also for that of the researcher. Through debriefing the researcher was be able to probe into and analyze their own biases, test the plausibility of their theories and was better able to understand their own posture toward the data they had collected during their study.

Cooper & Schindler (2014) defined the debriefing of participants as an event that occurs after the collection of data and then again after the study had been completed. During the debriefing after data collection, the researcher shared several ethical truths with the participants in the study. These ethical truths included: explaining any deception that occurred in the study or identifying any problems during the study, and providing participants with the theoretical framework of the study, along with its goals, objectives and purpose. There was no deception or specific problems that warranted revelation to study participants related to this study.

Before or after the interviews, there was a debriefing time when participants were provided with information about the interviews, why they were being conducted and what the process would be following the interview. Participants were told that if they had any questions at all they could ask at any time after the interviews had been conducted.

Participants asked that they not be named and the interviewer did her best to protect their identities and institutional connections. Thus, interviewers were not named using initials and limited direct connections were made between participants and their colleges. However, each college's unique program information and procedures relating to how information literacy was taught was triangulated.

Cooper & Shindler (2014) stated that during the debriefing at the completion of the study, the researcher was required to share the results of the study with all study participants. In this study, each of the participants was debriefed twice, once where they were provided with all the information about the study and were encouraged to ask additional questions and then again after they were interviewed. Each participant was provided with a study findings report in the form a dissertation link.

This debriefing was done before or after the interview so that the participants would better understand the research study. They were encouraged to contact their colleagues if they believed that there were others who might be able to help with the researcher's study or that had not been included. Each initial contact was able to get back to the researcher with additional participant names. Participants were provided with instruction to make sure that if they needed clarification or had specific questions about the study and did not ask them before they would have the opportunity to do so at any time by contacting the researcher. The final debriefing happened at the end of the study when the participants received a final report from the researcher describing the results of the study.

Trustworthiness

Lincoln & Guba (1985, 1989) described trustworthiness in qualitative research as a ‘science’ delineating six criteria in relation to trustworthiness: credibility, transferability, dependability, fidelity, authenticity and confirmability as measures of trustworthiness. Trustworthiness is embedded within qualitative narrative methodology, the systematic analysis of the narrative through thematic coding and research question categorization and critical story analysis that engages the researcher in reflection and a retelling of the story around and within the power structures that emerge (Moss, 2004). Shelton (2003) stated that the works of Guba & Lincoln explained that there were four concepts that researchers had to pursue to develop a trustworthy study and that these could in turn be connected to the quantitative to better explain them and make them easier to comprehend: credibility (to internal validity); transferability (to external validity/generalizability); dependability (to reliability) and confirmability (to objectivity).

Authenticity

Authenticity was defined by Guba & Lincoln (1994) by describing this concept as four different but related authenticities, “ontological authenticity” which enlarged “personal constructions,” “educative authenticity” which led “to an improved understanding of others,” catalytic authenticity which stimulated action and “tactical authenticity” which empowered action (p.114). Whittemore, Chase & Mandle (2001) stated that authenticity was closely linked to credibility in validity. This was because it portrayed research by reflecting meaning and experience that had been lived and perceived by participants and provided a “multivocality of interpretative perspectives.”

The “authenticity of the person, phenomenon, or situation” that was an “important criteria for validity” (p. 530). Authenticity was about being able to “remain true to the phenomenon” (p. 530) that was being studied, where the researcher was then able to speak to the authenticity of the experience of their participants that they had interviewed. The researcher was required to pay “conscious” attention to not influencing what their participants had to say. It was further suggested that multiple socially constructed realities were “exposed through attention to authenticity” in a study (p. 530).

Credibility

Shenton (2004) defined credibility in terms of internal validity, where the researcher seeks to determine if the study measures or tests what it intends. “Credibility, deals with the question, “How congruent are the findings with reality?” since Lincoln & Guba argue that ensuring credibility is one of most important factors in establishing trustworthiness” (Shelton, 2004, p. 64). Qualitatively, this translated into determining how well participants answered the questions that were asked during the interview. Also how well the researcher followed the qualitative research process, whether the researcher adopted acceptable qualitative interviewing techniques and whether methods used involving triangulating a wide range of information sources was used. Confirmability

Shelton (2004) described confirmability as a construct that developed out of the Guba’s (1981) writings about objectivity that were emerging and still being defined by qualitative researchers today. According to Shelton (1994), confirmability was the researcher’s concern to be objective. In also related to the steps had to be taken by the qualitative researcher to make sure that their findings resulted from the experiences and

ideas of the participants in their study and that these were not directly related to the “characteristics and preferences of the researcher” (p. 72). It was therefore suggested that the researcher admit to their own predispositions, technique weaknesses, “beliefs underpinning decisions made and methods adopted” and “preliminary theories not borne out by the data” (p. 72) and that these were reported and discussed in their study. It was considered important make sure that a study was considered confirmable, if the researcher could trace the course of their research step-by-step through decision and process, following a “data-orientated approach” that showed how their “data” had eventually led them to “the formation of recommendations” (p. 72).

Transferability and Generalization

External validity was defined by Yin (2009) as “defining the domain to which a study’s findings” were “generalized” (p. 40). Shenton (2004) pointed out that generalization and transferability are really concerned with the extent to which “the findings of one study could be applied to other situations” (p. 69). To prove transferability (external validity), the researcher had to use the data gathered and analyzed in multiple case studies to identify similarities and differences between cases and to develop a probable theory that would then be developed connecting the cases with one another. In relation to generalization, it was understood that unlike with quantitative research studies where there were statistical generalizations, instead, there were analytical generalizations, and it was not uncommon for the results from multiple case studies to be generalized and applied to a broad theory. Yin (2009) reminded researchers that generalizations in case studies were never automatic and that “a theory” had “to be tested

by replicating the findings in a second or even third” (p. 44) case and if the same results are obtained, then the theory was able to hold up as a valid theory.

Fidelity

Blumenfield-Jones (1995) defined fidelity as the act of faithfulness and integrity on the part of the researcher to preserve “the worth and dignity of the teller” (p. 27). This also means that each story told by a participant can be considered to be unique, standing apart from other stories told about their institution. Thus, if three interviews were conducted relating to the same institutional program and the information that can be gathered from each of these transcriptions is reliable, and dependable, then each story is authentic and has its own worth, thus adding to the entire institutional story.

Dependability

Shenton (2004) described dependability in the same way that reliability in the positivist sense was described. If a study were repeated using the same methods and contexts, would the study results be the same? Shenton (2004) does point out that the concept of “reliability” is problematic in qualitative research situations because what the qualitative researcher observes, determines, finds is attached directly to situation and is therefore “frozen in the ethnographic present” (p. 71). Thus, dependability is concerned with how the qualitative study was designed and how the research design was implemented, how the data was gathered during the study and how effective the inquiry process during the study really was.

Ethical Considerations

Farquhar (2012) addressed seven ethical responsibilities that researchers had to be sure of when they undertook the research process. Farquhar (2012) stated that it was the researcher's responsibility to be properly trained to work with human subjects during the study and to conduct their qualitative study following acceptable and correct qualitative methodologies, procedures and analyses. The researcher had to prevent plagiarism, avoid conflicts of interest, and take the necessary preventative measures to protect all subjects participating in the study from physical or psychological harm. It was also the researcher's responsibility to conduct the research study ethically, with integrity, and under the effective management of the research institution.

The researcher completed the Kansas State University IRB training (Appendix A) necessary to work with human subjects. The researcher made sure that each participant voluntarily participated in the study reading the consent forms, asking questions about the study and signing a participant letter of consent form (Appendix B) before the study commenced. Participants were notified that they could choose not to answer a question during the interviews or withdraw from the study at any time. If there were problems with the data, the researcher did what was necessary to correct these problems and re-code the data.

Coding the Reasoning Process

Renowned Oxford University qualitative researcher, Johnny Saldana states that a "code is a word or short phrase that symbolically assigns a summative, salient, essence capturing, and/or evocative attribute for a portion of language-based or visual data"

(Saldana, 2008, p. 4). According to Merriam (1998) how we interpret our themes by looking at the patterns described and ultimately “our analysis” and “interpretation – our study’s findings will reflect the constructs, concepts, language, models, and theories that structured the study in the first place” (p. 48). Thus, the researcher used an open-ended process and started out using “first impression” coding. These codes developed into “thematic” codes that were directly related to topical themes associated with instruction, assessment, curriculum and instruction and information literacy. Single words, phrases and sentences were coded and each coded section was considered to be a “unit.” Coded interview comments that had the same theme in this dissertation were counted, so that patterns could be studied closely and the three dissertation questions could be answered using the themes and the patterns that emerged. Saldanha (2008) suggested that there were six types of patterns that existed and had to be considered by the researcher when they were coding qualitative research e.g. transcripts, and these were: “similarity (things happen the same way), difference (they happen in predictably different ways), frequency (they happen often or seldom), sequence (they happen in a certain order), correspondence (they happen in relation to other activities or events) and causation (one appears to cause another)” (p.6). The researcher explains in detail in Chapter 4, the transcript coding process and what went into coding and transcript analysis.

Chapter Summary

In this chapter, the research questions posed in this study were stated, and followed by the role of the researcher in the study, the rationale for qualitative research, the multiple case study rationale, the description of research settings, the research

locations and programs, a description of the expert panel, participant program selection, sampling procedures and document analysis. Also described were a multiple case study approach to data and collection methods. Further qualitative data collection and analysis were detailed. This section was followed by a discussion about the trustworthiness of the study, which included topics such as authenticity, credibility, transferability, fidelity, dependability, the ethical considerations that the researcher takes into account when conducting the study and the reasoning that was associated with the coding that the researcher did in the study.

Chapter 4 - Findings

Chapter Overview

This chapter includes an introduction, the study questions are restated, an interview data collection section that described the interview process in depth, and a demographics section that described the demographics of the study participants and their colleges/universities. There are also three sections describing the major findings for questions 1-3, a discussion about these qualitative findings and a chapter summary.

Introduction

An application to approve this study was made to the Kansas State University Institutional Review Board (IRB) in August, 2015. Approval for the study to commence was received in November 2015. The questions for the researcher's study was vetted in December and three months were set aside, from January through March 2016, to conduct the interviews for the study, with data analysis following the data collection process.

Cresswell (2007) stated that qualitative research was "a set of interpretative, material practices that make the world visible" (p.36). As the qualitative study was implemented, and the research process unfolded, the researcher's world view and assumptions were tried and expanded, clashing with those of the various participants in the study who provided answers to the interview questions posed. Those answers were

compared to one another, analyzed and then put through the theoretical lenses available from the field of education and interpreted to answer the overall research questions posed in the study (Cresswell, 2007, p.37).

The questions posed to participants in interviews were based on and associated with the three major research questions relating to the development of information literacy courses in exemplary colleges and universities in the United States which were as follows:

1. How are exemplary four-year colleges implementing exemplary information literacy courses?
2. How do exemplary four-year college library information literacy courses implement the Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000), and the American College and Research Libraries Framework for Information Literacy for Higher Education (2016)?
3. To what extent is digital literacy incorporated into these exemplary information literacy courses?

Interview Data Collection and Participant Selection

The researcher contacted key four-year exemplary institutions via email that were listed on the *Association of College and Research Libraries Information Literacy Best Practices: Exemplary Programs* website. Two of the colleges did not respond to emails or telephone call requests to participate in the study. A third college stated that they were

not able to participate in the study. Eight colleges were willing to participate and initial contacts were asked to identify the instruction coordinator or the library director responsible for the information literacy program at their institutions. Once these were received, the researcher contacted each program by telephone and established an interview date and time. Once the interview was completed, the researcher asked for two more names of contacts from each institution that might be available for an interview. Interview participants were asked that any suggested participants be notified that they would be contacted in the near future. Once those names were secured the suggested participants were then contacted by telephone or via email for interview dates and times to be established. In order to keep a record of study participants, an online spreadsheet was developed in Microsoft Excel. The record identified each participant, assigned numbers used to identify each uniquely, and the institutions they were related to. The Excel spreadsheet was also used to keep appointment dates and times straight since interview appointments often had to be rescheduled. The researcher created an Excel spreadsheet and named it an *Interview Task Chart* that was continually updated and can be found in Table 4.1. Prior to the interview date, each participant was contacted via email and the interview protocol that included interview questions and the letter of informed consent that required a signature was sent to them. Participants were asked to read the forms, ask any questions and sign them prior to the interview. They were advised that if they had any additional questions, they could ask them at any time during the study.

Twenty-three participants were interviewed during the study. Interviews took the form of taped telephone interviews. They took place during a short window of time between December 11th, 2015 and February 12th, 2016.

The interview protocol was lengthy since the three major research questions were expanded to include a total of nineteen open-ended questions that were asked of participants, described in Table 4.1. The protocol was used as a question guide, so that in each interview the same questions were asked, but often the expansions on the questions were different and sometimes unique depending on the specialty of the instruction librarian or how the librarian was working with instruction and information literacy at their institution. When topics were discussed that the researcher wanted more information about, questions were asked that were not in the research protocol, in order to probe and explore additional areas that added value to the information literacy topics discussed.

Twenty-two participants in the study were interviewed using the twelve questions as an interview guide. One participant, who had a disability, requested that the interview questions be emailed so that it could be filled out as a questionnaire, which consisted of all the questions in the protocol sent via email to the participant. The participant then responded by typing the answers to the questions and sending them back to the researcher via email. When the questionnaire was returned to the researcher, all the questions were answered except for the final question which was not completed because the participant believed that the question was missing the point, and that there was much more to information literacy instruction when teaching *Authority is constructed and contextual* than just teaching students how to use technology. Thus, the question was asked:

“Please relate student technology use to information literacy course/program outcomes to the six frames: Authority is constructed and contextual.”

The answer provided by the participant was:

*“Information Creation as a process, Information has value, Research as Inquiry, Scholarship as Conversation, Searching as Strategic Exploration, Research is Inquiry
Sorry, I cannot complete this question. It just doesn’t make sense to me. Technology is a tool that is used to employ information, but it is not the crux of the matter. “*

The questionnaire was Table 4.1 typed up as an email, was included with the interviews and was not treated separately from the interviews, but was coded similarly. The protocol questions were used in the interviews with all the participants and can be found in Table 4.1

Table 4.1
Interview Questions 1

<i>Research Question</i>	<i>Interview Question</i>
<p>1. How are selected 4-year colleges and universities implementing exemplary information literacy courses?</p>	<p>1. What is the relationship between your course outcomes and your college mission/strategic plan/library standards?</p> <p>2. Explain how your information literacy course/program is designed and organized, and who teaches your information literacy courses?</p> <p>3. How do you believe your information literacy courses are a fit for the ACRL exemplary course criteria?</p> <p>4. How does your information literacy program serve or support your distance and online students?</p> <p>5. What online components are being used in your course/program?</p> <p>6. How did you use best practices in developing your information literacy program?</p> <p>7. How has your information literacy courses/program changed after being listed as an exemplary program?</p> <p>8. How do you assess student information literacy skills in your course?</p> <p>9. How do you know that students graduating from your college are information literate?</p>
<p>2. How do exemplary 4-year college library information literacy courses implement the American College and Research Libraries Framework for Information Literacy in Higher Education (2016)?</p>	<p>10. How do you currently view the ACRL Framework and the changes that were made to the ACRL Standards?</p> <p>11. How you are using the ACRL or other Standards?</p>
<p>3. How do exemplary 4-year colleges and universities use technology to support student digital literacy for each of the six frames of the Framework for Information Literacy for Higher Education (2016)?</p>	<p>12. Please relate student technology use to information literacy course/program outcomes to the six frames:</p> <ul style="list-style-type: none"> a. Authority is constructed and contextual b. Information creation as a process c. Information has value d. Research as inquiry e. Scholarship as conversation f. Searching as strategic exploration g. Research is inquiry

In order to make the lengthy interview responses easier to manage, data analysis was done in NVIVO 11 Plus.

After each interview was transcribed, the transcription was coded so that the answers from each transcription were added to a separate survey worksheet containing each of the seven questions ready for input into NVIVO in a survey format. Each file was organized using Microsoft Word headings. In the transcript “I” for Interviewer and “S” for Subject were used. Each of the seven questions were written in the survey using heading 1/chapter formatting, the subject or “S’s” answers to questions using normal formatting and all “I’s” answers using italics formatting in the survey. Each survey file was named for the institution and participant and entered in NVIVO 11 for auto-coding analysis. An example of one of the survey questions as it was formatted in Microsoft Word and entered into NVIVO 11, is presented below in Figure 4.1.

Figure 4.1
Survey Format Question

**1. How does the institution incorporate information literacy into its mission, student learning outcomes (SLOs), and/or strategic plan?*

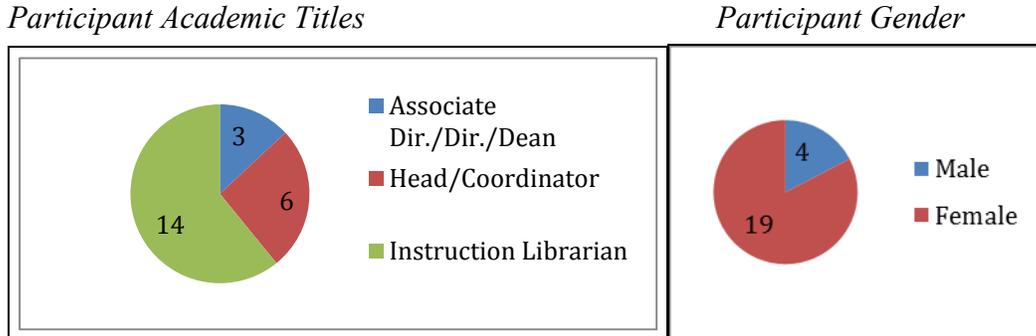
I: Okay I have my recorder on. Okay, so can you tell me a little about your program in terms of what the relationship between it, your courses, and your mission and strategic plan and the library standards that you've chosen to use?

S: Okay, so let me just make sure I've got all the pieces of your question; you said relationship between our information literacy program and the academic program?

Participant Demographics

Of the twenty-three participants that were interviewed during this qualitative study, 19 participants (82.6%) were female and four participants (17.4%) were male. When examining participants' academic titles, three participants held a position of either dean, director, or associate director of the academic library, six held instruction head or coordinator positions and fourteen held instruction librarian position that included faculty rank. All the male librarians interviewed were instruction librarians, but all had also attained additional administrative standings in their library community.

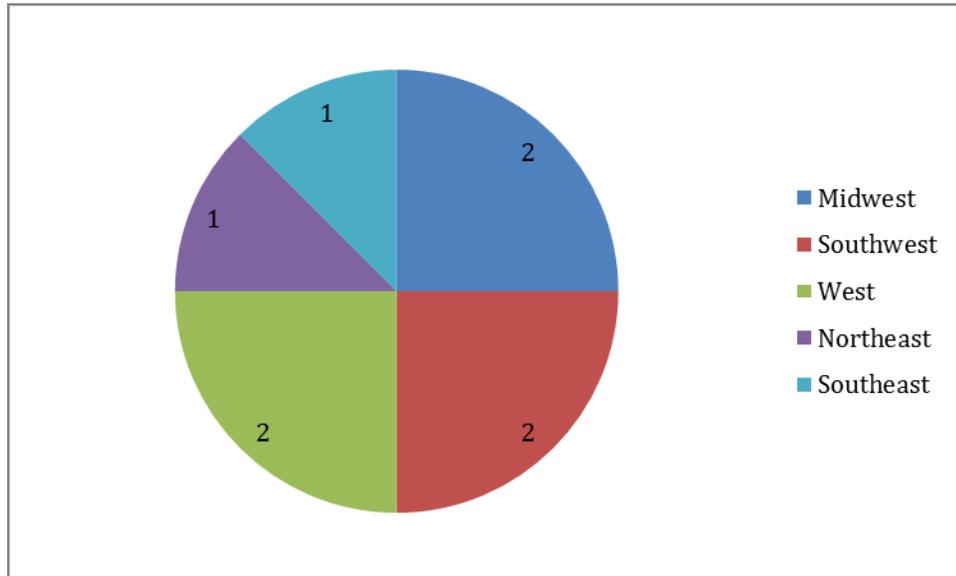
Figure 4.2
Participant Academic Titles and Participant Gender



The institutions in this study were spread out across the United States. The two institutions located in the Midwest were Purdue University (Indiana) and Augustana College (Illinois), the two Southwest institutions were Utah State University (Utah) and University of Nevada, Las Vegas (Nevada), the two West coast institutions were Loyola Marymount University and the University of California, San Marcos (California) and the

sole Northeast institution was the University of Rhode Island (Rhode Island) and the Southeast institution was the University of North Carolina, Wilmington (North Carolina).

Figure 4.3
Participant Demographics



Research Question 1

The research question asked: *How are selected four-year colleges implementing exemplary information literacy courses?* The focus of this study was to understand how information literacy courses were implemented at exemplary four-year colleges.

The information gathered from interview participants in relation to Question 1 came from five questions that were listed in Appendix J. The five questions were organized into a questionnaire format and entered into NVIVO 11 Plus and analyzed. The Question 1 NVIVO 11 Plus Nodes were listed in Appendix O.

Question 1: Themes and Subthemes

Table 4.2

Question 1: Eight Main Themes

<i>Themes</i>	<i>Frequency</i>
General Education Program	396
Strategic Planning	174
Administration	319
Best Practices in Information Literacy	108
Assessment	144
Information Literate Students	104
ACRL Standards (2000)	14
ACRL Framework (2016)	27
GRAND TOTAL	1286

In Table 4.3 the *Question 1: Eight Main Themes* that were determined during the interviews are listed above. This table is a summary of the major themes discovered when analyzing interview data. A total of 1,286 interview comments was coded from instruction librarian interviews conducted during the study. A total of 396 interview comments was coded from interviews to the major “General Education Program” theme under which all the libraries’ information literacy courses were organized. Three more major themes were directly related to the general education program were identified, with the most prominent total numbers of coded interview comments which were: 174 interview comments related to “Strategic Planning,” 151 interview comments related to “Administration,” and 144 interview comments related to “Assessment.” The “Best Practices in Information Literacy” theme had 108 total interview comments coded to it which included six themes. The “Assessment” theme had 144 interview comments coded to it. The “Information Literate Student” theme that was related to all the previous themes had 104 interview comments coded to it that included twelve sub-themes. “The Association of College and Research Libraries Standards (2000)” theme had one sub-theme, and a total of 14 interview comments coded to it. “The Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016)” theme had 27 interview comments coded to it, 25 to the main theme and three to the sub-theme. In-depth sectional descriptions of themes and sub-themes answering Question 1 will follow this summary.

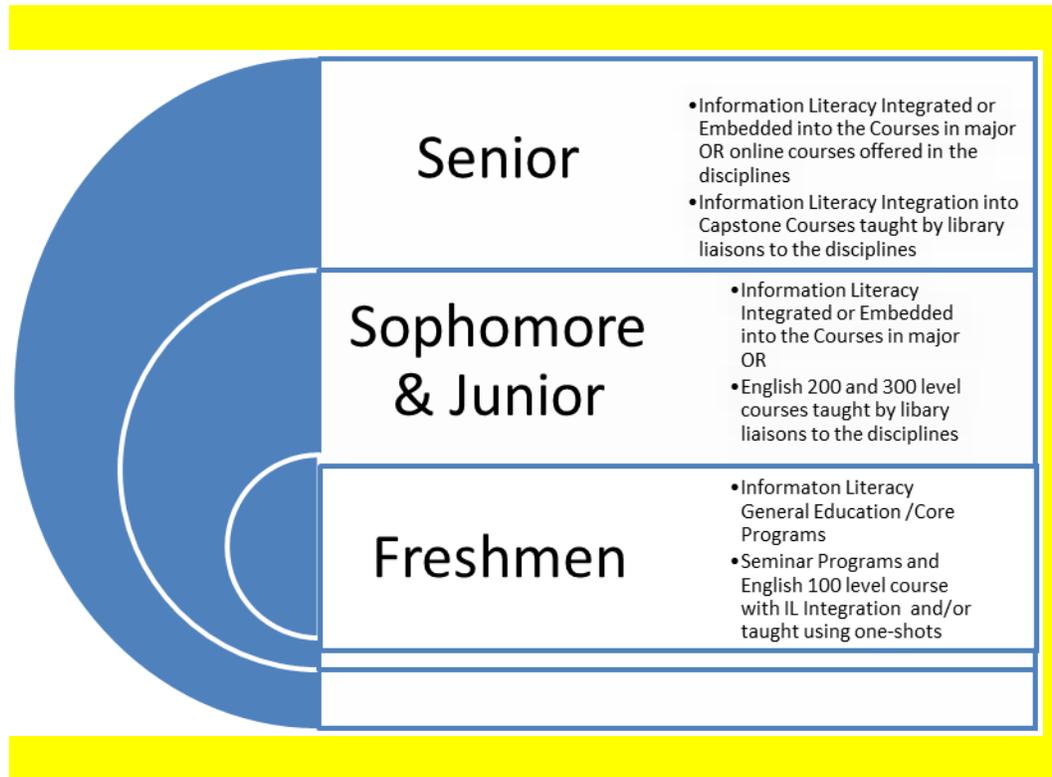
Theme: The General Education Program

In relation to the information literacy models that were described in Chapter 2, the researcher developed diagrammatic representations to explain how course program

similarities and differences between large and smaller institutions in the study were perceived, Figure 4.4. The diagram was inspired by an @Randall Library Poster (University of North Carolina, Wilmington, 2016) developed by one of the libraries in the study to explain the four step Information Literacy Process to new students who were to take information literacy courses at the University of North Carolina, Wilmington. The poster is located in Appendix N. The diagram explains that freshman took courses at their institutions according to interviewees across all eight institutions either as a seminar or a core writing class or a general education course. At the two smallest colleges in this study with student population's smaller than 10,000 information literacy was integrated into writing courses and organized and taught as sequenced courses. At the six larger universities, the one-shot, course integration and embedded methods of teaching information literacy were emphasized as course offerings. Smaller colleges, because of the smaller size of their student body, had more opportunity to teach for-credit information literacy courses that were compulsory or served as a pre-requisite in a major, but this was also being done by larger institutions focused on improving 1-1 student information literacy teaching opportunities, with upper-level classes. For-credit courses were where instructors had direct contact with students. Where they could teach a range of information literacy topics and have informative discussions with students. Where authentic learning could take place and where instructors were able to get to know student personally along with their strengths and weaknesses in the classroom. As a result, there would be greater opportunities for students to become information literate than if they were working with instructions in a one-shot session.

Figure 4.4

Diagrammatic Format of Information Literacy Programs in Studied Institutions

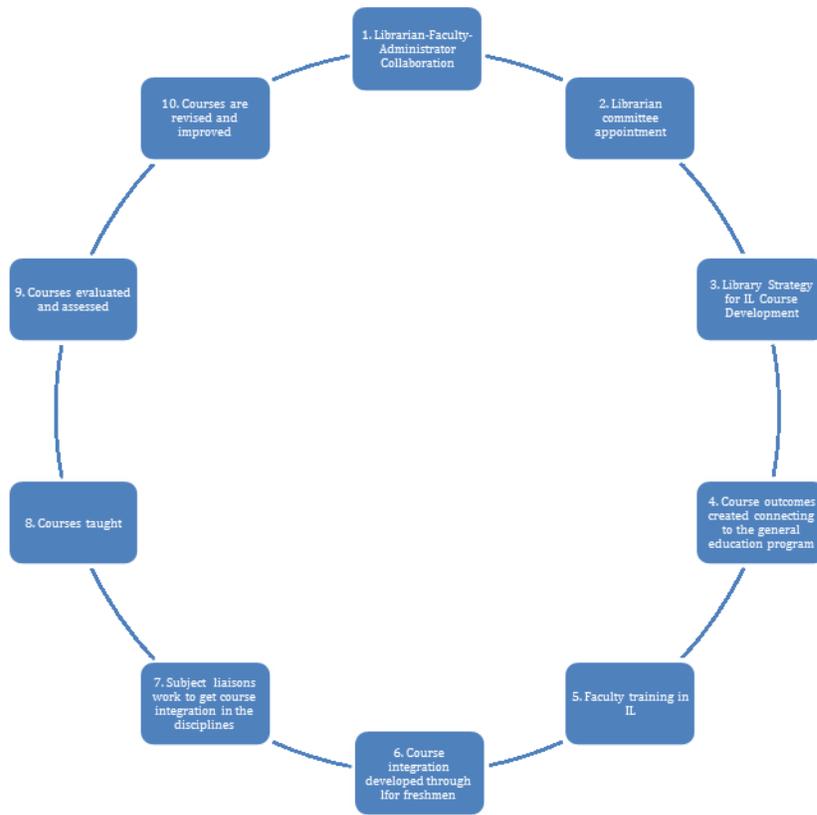


Note: This diagram was developed by the researcher to describe how information literacy courses/programs were organized at the eight universities in the study.

Figure 4.5 describes in diagrammatic format, how a course development process might occur, using ten possible steps, starting from librarian-faculty-administrator collaboration. This would be where the library director and librarians might start talking with faculty and administrators about what information literacy is and why they think that information literacy should be taught at the institution. To a librarians or faculty members acquiring a seat on behalf of the library on a general education program committee would be important as and these faculty would work to make sure that the library's strategic

plan is in-line with the university's and that subject-faculty needs would be met when teaching subject-specific information literacy.

Figure 4.5
Perception of University Information Literacy Course Process



Note: This figure was developed by the researcher to describe the ten steps of the information literacy course development process.

From there librarians would work with the committee to create course outcomes and determine what course models will be used that will best fit the university and the general education program or discipline. Librarians will have the opportunity to train faculty and librarians about information literacy and work with them to determine what programs might be tagged, or decide which courses will have information literacy

integration in them. Librarians and faculty collaboratively created courses, and if necessary also sequenced the information literacy courses. Librarians will work with faculty teaching general education courses and writing courses for integrations to be developed and subject-liaisons will work with faculty and departments to determine how information literacy will be integrated into specific courses in the disciplines. Methods of assessment will be determined prior to offering any courses. Once courses are taught, they will be evaluated and assessments will be completed, following what was decided. Decisions will have been made about when assessments will occur and who will be responsible for creating them, or presenting them to students and analyzing them. Evaluation and assessments reports will provide instructors with information about how the information literacy courses will be improved or changed so that future students would be provided with the better instruction.

The library's involvement in the general education program in the institutions in the study were said to have started out with the development of a new general education program or the redevelopment of the same, and opportunities for program development that were offered to library administrators to take, as one librarian explained it:

“When the college implemented its current general education program and when it was actually designing its current general education program because the Library really saw that as an opportunity to get more involved and you know we just really started or the folks that were there really started pushing hard and jumping at every opportunity that they could get to part of this conversation.”

Librarians defined the general education program at their institutions as:

“The General Education Program for the university is the required

courses that the all the students need to take to meet the graduation requirements...and what the instructional services have done ...They have been working with the faculty for many years, they established a lot of relationships with a lot of faculty members who are involved in general education and they have worked together...”

Librarians in the study also emphasized the importance for the library and also for information literacy course development of librarian and library administrator involvement in serving on general education program committees. Librarian service on general education committees allowed them to emphasize the necessity of information literacy programs and integration into current general education programming at the university:

“the committee has been mandated, they recently revised all the requirements and they’re gonna be implementing the new general education program...he’s chair of the committee that’s actually in charge of that, so it’s quite a bit of work. This time around with the revisions to the general education program there are eleven outcomes and one of the things that...did was to get established that one of those eleven outcomes would be information literacy and with this new program...all the general education courses have to meet at least two outcomes, one preferably two, and all the general education courses that we had under the old program plus any new courses, have to be submitted and approved to show that they meet the new program’s outcomes and of course one of them is information literacy.”

The researcher found that the information literacy programs of each institution in the study were developed for all students within the confines of each institution’s general

education program. For students in the majors, information literacy was integrated into their upper level courses and taught by an instruction librarian who was also a subject liaison. Each college's general education program was unique and offered information literacy courses of different course lengths depending on the college. At the same time each institution emphasized the student's Liberal Arts requirements that had to be completed prior to graduation. One librarian explained their general education program and how it worked:

"...this first year experience course that we work with is called GEL, which is called General Education Lifelong learning. These GEL courses have a two-week module, for lack of better term, where librarians teach those two weeks it's six hours I think total. And that is, because of an Area E course it has the...board of information literacy and we've written those learning outcomes. In terms of how the mission drives what we're doing, so the social justice piece is an interesting one because that comes out in two different ways. It could be formal learning outcomes where students are learning that the power structures inherent with information creation."

The researcher found that information literacy classes and the format were delivered could be directly aligned to course outcomes and also to the size of the institution. Larger institutions with more sections of information literacy courses commonly offered one-shots and tutorials connected to the flipped classroom model, or followed the embedded librarian model. Smaller institutions offered their students more sequenced, for-credit information literacy courses because librarians had smaller class sections of students and more time to teach sequenced sections of information literacy compared with the larger institutions. As one librarian explained:

“It’s just that the first year sequence, ... or just the version of it that is called LSFY which is what the majority of the students take... has a skills matrix, which includes writing, oral communication, reading and information literacy that all faculty who teach in the sequence teach to and so in that sense if you teaching one of those three classes in the sequence, because we’re on three ten week terms, so if you teach one of those three classes, you will doing information literacy and you will be working with a librarian on that because it’s part of that structure of the curriculum.”

Larger institutions with more librarians on their staff still had staffing limitations because of the size of their student body. Typically offerings were one-shot information literacy courses because library instructors assigned to these one-shots (Davis et al., 2011) were teaching hundreds of sections of information literacy courses. Information literacy courses generally took the format of face-to-face and blended courses where courses were designed to include online-components that made it easier for students to interact with the information literacy course material. Larger universities in the study offered many sections of information literacy courses for their freshman that included modules or tutorials that students had to complete before, during or after visiting the university library:

“So there’s 73 sections and 73 modules you know in Blackboard. And there’s five modules and it takes about five hours for them to complete and they get a grade on it.”

Institutions using one-shots in the study often stated that they used the flipped classroom model (Horn, 2013) with their freshmen classes, since the library had invested in creating

interactive tutorials on information literacy topics. Students were required to complete these online before coming to their first library visit, where they were then graded by the librarians. As one librarian explained about using the learning management system for their tutorials:

“...now there’s are a number of professors that are doing classes more like flipped instruction for their classes so that they’re preparing for classes ahead of time, we work with them we don’t have Blackboard we use Moodle and so things get put in there.”

Institutions developing information literacy programs built them in their general education programs around both their institutional and library strategic plans:

“We do meet the library’s its part of our strategic plan but because we are, we’re part of the general education program so it’s definitely very closely related to the university’s outcomes and their strategic plan and because the whole general education program was completely, it’s been completely revamped, to meet the mission and the strategic plan, to bring the you know make the students be critical thinkers and its more than just information literacy, this is this is across the whole curriculum and so it’s very closely related to the rest of the university’s mission and the strategic plan and obviously because we are involved with general education we are an active part of a central core of the university’s curriculum.”

If an information literacy program is included in the university’s strategic plan, then the program was inadvertently vetted (supported) by administration and the faculty and would have a better chance at success.

Theme: Strategic Planning

The “Strategic Planning” Theme and Sub-Themes were described in Table 4.4. The “Strategic Planning” theme had a total of 174 interview comments coded to it. The “Strategic Planning” theme had two sub-themes “Mission” and “Outcomes.” “Mission” had 20 interview comments coded to it and “Outcomes” had 56 interview comments coded to it.

Table 4.3
The “Strategic Planning” Themes and Sub-Themes

<i>Major Themes</i>	<i>Sub-Themes</i>	<i>Frequency</i>
Strategic Planning		98
	Mission	20
	Outcomes	56
GRAND TOTAL		174

The findings were that the academic libraries in the study had their own internal strategic plans, but that the library strategic plan was always tied back to the strategic

plan of their institution. The libraries in the study also had their own mission statements, but these were also connected back directly to that of the institution.

“Yes so our strategic plan we have a couple of strategic directions and I can read them to you if that would be helpful? One of the strategic directions that drives our program, “the library will lead in exploring and assessing programs that ensure and enhance student learning and success”. The other one um oh, that’s the one with strategic direction. Our mission includes “to collaborate with university’s community to ensure that user-centered experiences, welcoming environments and accessible information resources in order to facilitate scholarly inquiry and prepare students to be critical thinkers who are engagement members of local, regional and global communities” and that that does very clearly state what we’re doing.”

It was also found that library strategic plans were often created to include the requirements of the college accrediting body. The library upheld important competencies, such as information literacy, that were proposed as best practices in area institutions:

“We’re accredited by WASC Western Association of Schools and Colleges and one of the five core competencies that WASC looks for when they do accreditation is information literacy and so that’s been really good in that it was adopted university-wide in accreditation body and so of course its included in the library strategic plan.”

Study findings indicated further that when librarians made their plans to create an information literacy course they started with their institution and their library’s strategic planning documents. More specifically, they started with their institutional and library

mission statements that were then used as a guide for how to start the course outcomes and course building process. As one librarian explained the process:

“They focus on the institutional mission, when they plan, when we plan strategically, but also when we’ve planned specifically about information literacy so in our case, the institution’s strategic planning document refers to learning, discovery, research and engagement and so learning of course lines up closely with information literacy and then there are many other documents that we would point to as guiding policy documents.”

It was also found that when the library’s strategic plan was developed from the library’s mission and vision that were most often in-line with that of the parent institution. When goals and objectives were written that would guide library programming such as an information literacy program, the goals and objective used were also in alignment. As one librarian went on to explain:

“Our vision statement and mission statement are very much in line with what the college is asking for in those two things and so we have our goals, objectives and short-term outcomes are divided into six areas: teaching, service, outreach, collections, sustainability and space.”

Librarians stated that they often worked as a team on writing or rewriting mission statements after revising courses or crafting new mission statements for information literacy classes:

“So we are actually rewriting our mission right now. We are getting input from the rest of the department to make sure it is still with the new framework and a lot

of changes we have undergone and just making sure that everyone's up for our overall mission.”

Often the library or library system's mission was shared with that of the university and the shared mission was then used when information literacy course outcomes were being written:

“We were recognized for articulating a clear mission. We have a set of shared values and shared learning outcomes that are connect to the library and the university and to life- long learning. So we were recognized for our mission also for our goals and objectives our instruction framework that was developed locally has a road map and tools for developing the university library's instruction efforts.”

Information literacy course student learning outcome creation was found to be central to the development of information literacy course and program. These outcomes were often created in collaboration with the faculty and were often only just one of several general education undergraduate learning outcomes that were adapted, adopted and approved by general education committees across campuses. As one instruction librarian explained:

“We have information literacy as one of our nine college-wide learning Outcomes and when that happened. It wasn't that long ago actually that the college-wide learning outcomes were approved by the faculty.”

Librarians clarified they constantly revised their library strategic plans, and that these were often on a set revision cycle e.g, a two-year cycle. They also emphasized that there were differences that existed between both the university and the library strategic plan goals and the learning outcomes that were used for their information literacy courses

were not the same. There was a definite connection between strategic goals and ultimate course outcomes:

“So we’ve just finished up the 2013 to the 2015 plan and that’s closely aligned with the university’s plan. And our instruction program is meant has some goals within the strategic plan every two years that we we’re working towards and those are different from our learning outcomes in some ways because our strategic plan includes goals like you know having more faculty engage with us on assignment design or working with more graduate students to design research assignments that kind of thing, which is um different from our learning outcomes which are student learning focused, you know that students will be able to evaluate information effectively,”

In describing the library strategic plan, why it was important, and why it was really about connecting the library with the administration, the faculty and the students at an institution, a librarian explained:

“The strategic plan is at the library level so the libraries as a whole function kind of like a college and we have our own strategic plan that we pursue... as faculty and staff.”

Theme: Administration

The “Administration” Theme and Sub-Themes were listed in Table 4.5. A total of 319 interview comments were coded from interviews to the major “Administration” theme that had nine unique interview comments coded to it had two sub-themes, “Faculty” and “Librarians as Teachers.” The “Faculty” sub-theme had three subsidiary themes and a total of 137 interview comments coded to it. Forty-five interview

comments were coded to the “Faculty” sub-theme and 20 interview comments were coded to it the “Student Learning” sub-theme, 23 interview comments were coded to the “Rubrics” sub-theme and 49 interview comments were coded to the “Assignments” sub-theme.

Table 4.4
The “Administration” Theme and Sub-Themes

<i>Major Themes</i>	<i>Subsidiary Theme</i>	<i>Sub-Themes</i>	<i>Interview Comments</i>
<i>Administration</i>			9
	<i>Faculty</i>		45
		Student Learning	20
		Assignments	49
		Rubrics	23
	<i>Librarians as teachers</i>		77
		Collaboration	12
		Liaison Programming	18
		Professional Development	11
		Reference Desk	11
		Researcher	5
		Standardized Tests	19
GRAND TOTAL			299

The “Librarians as Teachers” sub-theme had six subsidiary themes and a total of 77 interview comments coded to it. Twenty interview comments were coded to “Librarians as teachers” sub-theme, the “Collaboration” subsidiary theme had 12 interview comments coded it, the “Liaison Program” subsidiary theme had 18 interview comments coded to it, the “Professional Development” subsidiary theme had 11 interview comments coded to it, the “Reference Desk” subsidiary theme had 11 interview comments coded to it and the “Researcher” subsidiary theme had five interview comments coded to it. The themes with the most prominent interview comments in the “Administration” were the “Faculty” and the “Liaison Program” themes. The findings suggested that information literacy programs in institutions were most successful when the library’s program was supported by the institution’s administration, as one librarian pointed out:

“The administration is very supportive of information literacy and promotes information literacy actively themselves.”

And another emphasized with gusto:

“We have the support and we have the resources. Their support is that we have cheerleaders who go around campus and talk about how awesome we are; you know and that is such a wonderful thing to have, to not be at odds with your administrators.”

Study findings strongly suggested further that successful information literacy course and program implementation, in fact, all eight institutions agreed this was a critical component, were dependent on the collaborative arrangements made between the instructional librarians and the faculty.

“The extent of participation of faculty in information literacy and the kind of work that we’ve been able to do with them to you know to really carefully design ways for students to become more information literate.”

The instruction librarians also worked with the faculty to integrate information literacy into their courses. If the faculty wanted librarians to participate as an embedded librarian in an online course, they worked directly with the faculty. Likewise, if outcomes had not yet been created in relation to information literacy or if library resources were needed in order to develop the information literacy portions of the course, librarians worked collaboratively on faculty request. As an instruction librarian explained further:

“So we can share the work that we’re doing and also we can recommend certain materials to faculty who, because of how their core is, they are sort of on their own when it comes to the more upper division information literacy requirements um and so we are in a position where we are sort of information literacy consultants to faculty for who it’s been our charge to integrate it into their course and we can tell them, like we can share assignments on how to do that, you know, we can do that kind of thing, so it actually puts us, you know in a different position so that instead of being the actual people who are teaching it we’re also consulting others who teach it.”

In all the institutions the instruction librarians were hired not only to instruct information literacy classes but also to serve as subject liaison librarians to one or more divisions or departments within the institution. It was the liaison librarian’s job to connect the library and the subject division or department and also as a liaison between the division and its students in relation to the library. The liaison librarian was also responsible for

developing subject-specific library collections and teaching students how to use the databases and resources that were related to the subject. As a library liaison librarian explained further:

“I’m also liaison to several academic departments in my case its Communication Studies, Film Studies...Psychology, Oral Languages and Cultures and International Studies. So that means I do consultations for those students and the professors. I also do collection development as far as purchasing materials on DVD’s and things like that and I also do instruction to those departments. And the other part of it kind of dovetailing with University Studies [General Education Program] is that each of the academic departments are required to have classes, they have information literacy as an outcome, so part of those course requirements is that they we try to have this kind of contact between the library and those courses consistently throughout the rotation of the classes.”

Librarians in the study explained that liaison librarians were subject specialists teaching for several college divisions and completing information literacy assessments for these divisions as well. So when instruction librarians served as liaison librarians at their colleges they were hired to work worked in “their specialty” areas and they knew

“How to help students and faculty in research for that particular division and then also they ordered “ books for that division” and “they” made themselves experts on the databases that tend to be used heavily by that division and they also” taught and assessed “the classes for that division.”

Theme: Best Practices in Information Literacy

The “Best Practices” Theme and Sub-Themes are listed in Table 4.6. The transcriptions that were analyzed can be found in Appendix K. Six themes were identified when analyzing the best practices question: “How did you use best practices in developing your information literacy program?” These six themes were best practices applications in the information literacy programs at the institutions studied in: Reference, Information Literacy Curriculum, Information Literacy Models, Curriculum and Program Administration, Information Literacy Assessment and No Information Literacy Best Practices. The “Reference” theme had five sub-themes, the Information Literacy Curriculum had ten sub-themes, the Information Literacy Models theme had three sub-themes, the Curriculum and Program Administration had six sub-themes, the Information Literacy Assessment theme had three themes and the No Information Literacy Best Practices theme had no sub-themes. One hundred and eight interview comments were coded to this theme. The six themes associated with the “Best Practices in Information Literacy” theme were “Reference” to which 17 interview comments were coded to it, “Information Literacy Curriculum” to which 38 interview comments were coded, “Information Literacy Models” to which 8 interview comments were coded, “Curriculum and Program Administration” to which 25 interview comments were coded, “Information Literacy Assessment” to which six interview comments were coded and “No Information Literacy Best Practices” to which two interview comments were coded. To explain the importance of this question to participants in this study, it is necessary to define what best practices are. The Merriam-Webster Dictionary (2016) defined best practices as “a procedure that has been shown by research and experience to produce optimal results and that is established or proposed as a standard suitable for widespread

adoption.” According to Hunt & Birks (2004) in an article describing the *ACRL Characteristics of Programs of Information Literacy that Illustrate Best Practices: A Guideline*, “best practices” is defined as “standards” that “describe goals and objectives that are closely in-tune with those of individual programs, departments, and the institution as a whole and explain the need for close collaboration between the library and discipline-based faculty in planning and teaching” (p.27). The instruction librarians in this study developed the information literacy programs at their institutions around the best practices that were prevalent in the fields of education and librarianship. There-by building programs that followed acceptable reference-work and teaching practices, models and methods that would allow for the effective development, design, implementation and assessment of these information literacy courses and programs into the general education programs, majors and disciplines at their institutions.

Table 4.5*What Best Practices are you using in Information Literacy?*

<i>Themes</i>	<i>Sub-Themes</i>	<i>Comments</i>
<i>REFERENCE</i>	Digital Commons	4
	IL Consulting	1
	Technology Use Advising	1
	<i>Subject-Liaisons</i>	7
	Professional Development	4
<i>INFORMATION LITERACY CURRICULUM</i>	Tutorial Building	1
	<i>Faculty-Librarian Collaboration</i>	12
	<i>Targeted IL</i>	8
	Embedded IL	3
	Disciplines & Majors	2
	<i>Rubrics</i>	10
	Lifelong Learning	2
	Teaching Data Management	1
	Student-Centered	4
	<i>Current Research</i>	7
<i>INFORMATION LITERACY MODELS</i>	Backward Design	3
	Project Information Literacy	3
	Active Learning	2
<i>CURRICULUM and PROGRAM ADMINISTRATION</i>		
	<i>Learning Outcome Design</i>	10
	IL Policy	4
	Curriculum Mapping	2
	Collaborative Meetings	3
	Course Sequencing	3
	Mission & Strategy	3
<i>INFORMATION LITERACY ASSESSMENT</i>	Rubrics	3
	ACRL Framework	1
	Assessment	2
<i>NO INFORMATION LITERACY BEST PRACTICES</i>		2
<i>TOTAL</i>		108

There were also participants in the study who did not believe that best practices (See Appendix M) were what librarians should be following and applying on a daily basis as they planned their classroom interactions with their students. Instead, it was believed that best practices could become stifling in practice. As one librarian explained;

“I’m not a big fan of best practice and the reason why is because it can often stifle innovation...I have worked with people in the past who hang their hats on best practices so much that they don’t allow for innovation.”

The researcher believes that in order to be innovative, it is important to read and understand the current research, as innovation and change can often sprout out of the seeds sown by the research.

Based on interview data analysis of this study, the six most noted best practices applied by information literacy programs across the eight institutions studied were: learning outcome design, subject-liaisons, faculty-librarian collaboration, targeted information literacy, rubrics, and current research. Working with the general education program or with faculty in the disciplines is vital when developing information literacy courses and programs. As one instruction librarian explained in regard to curriculum articulation in curricula goals, objectives and learning outcomes:

“We were...given recognition because of our articulation within the curriculum and I actually think that’s really an important...thing to push for because unless... unless information literacy is specifically articulated in curricular goals and objectives, you don’t have the power to come in and say, we are experts in

information literacy let us consult with you on how to best teach this or what concepts need to be taught...”

It is important to work with faculty to develop documentation that guides information literacy course design and development, as this was explained further:

“I think we’ve done a lot of good things with planning so we have a lot of kind of documents that help guide us to learning outcomes and shared learning outcomes across different courses so you know we all teach these first year seminars but we one shared learning outcome that we can assess that we know that that all students in the first year seminar are getting this content.”

Clearly it is very useful to have learning outcomes developed for an information literacy program, created as shared learning outcomes because when undergraduate students change their majors at an institution, they would not have to retake information literacy courses or miss out on them entirely. As an instruction librarian explained:

“These shared learning outcomes across all seminars” worked “so that the person who was in Engineering can go to Biology and still have the skill or knowledge you know independent of ...information literacy skill that’s not necessarily I guess, dependent on...disciplinary knowledge.”

Subject-liaison librarians played a major role in the implementation, design and teaching of the information literacy course at the eight institutions in the study. Subject-liaison librarians working with faculty in different disciplines worked with the information literacy teaching and learning teams. These librarians participated in curriculum mapping where decisions were made about which courses would have information literacy embedded in them and thus these were *“identifying the courses that give you the most*

bang for your buck” because these courses had the largest numbers of student enrollment and in most disciplines these were courses students had to take even if it was imminent that they might change their majors several times e.g. writing courses and freshman or sophomore psychology courses:

“There’s quite a significant percentage of student all across the United States and beyond ...who changed their major after the first year, so we don’t necessarily focus too much on disciplinary knowledge but hope...we can get them kind of started with our teaching and learning department and the real work with the disciplinary information literacy skills happens with liaisons who have also really strong commitments to and connections to the colleges and the upper division classes so some of this milestone and capstone classes that students take that help them with research components, the liaisons really take that by the reigns at some point.”

At the same time, subject-liaison librarians were instrumental in designing subject-specific information literacy courses and tutorials. As one instruction librarian explained:

“Librarians who work in that area have been very instrumental in helping them you know design new curriculum and explore new ways in which they could develop their competency-based curriculum.”

The liaison librarians played a major part in faculty-librarian collaboration, but all the instruction librarians ultimately worked together as a team to make the information literacy program work:

“I know one of the things that makes our program so good, is that we collaborate with faculty, disciplinary faculty and we also collaborate with each other. We

have a highly, highly functional team...and that to me is one is one of the cornerstones of what we do.”

Participants described the nature of the faculty-librarian collaboration at their campuses differently but most saw it as a partnership where the information literacy course was not really theirs alone but they saw themselves as co-owners that had a stake in the outcomes of the information literacy course that was most often taught by the faculty and as librarians they were either embedded in the course or were able to provide one-shot opportunities or consultation and support for the course being taught. As one librarian explained their situation:

“I think there’s a strong commitment to collaboration, to thinking of librarians as partners in education and realizing that we have a stake in information literacy on our campus and that we have co-ownership of that but it’s not ours. Our faculty teach information literacy skills all of the time beyond the walls of our library but knowing that we are also a partner in that and that we can be a really valuable tool and a partner is kind of part of our identity here, which I think is very...It’s a great way to feel, when you’re pounding the pavement, so to speak as a librarian.”

In contrast at another institution, the Teaching and Learning Center worked with the librarians to offer the information literacy course and provide training and professional development to the faculty each semester. If the faculty was willing to work with the librarians and include information literacy in their courses, on learning how to redesign their courses so that they became student-centered, as one librarian explained then they were provided with the opportunity for professional development:

“It’s our center for Teaching and Learning and IT unit that focuses on teaching and learning in the libraries...are the primary partners who develop and provide that program, right, in which 25-30 faculty each semester more or less take something like a course and they meet once a week and learn about design principles and how they can make their course more student centered and part of that is information literacy so but you know I still think its to the library’s credit that we were able to collaborate in that way that that program to be collaborating with those other interview comments and this with those faculty.”

Participants in the study described a best practice that was being followed at larger institutions. There was an emphasis on targeted or customized information literacy. This practice was in place because there were many very specific populations that needed to be served within the university, and as a result, librarians were focusing on these communities and targeting them by providing them with information literacy activities or sessions that were developed with specific goals and outcomes, to meet very specific needs. Examples of these target populations on a campus were: veterans, international students, adults returning to college with limited computer skills, and first generation students. One librarian explained her experiences with targeted information literacy and how this was currently a challenge at the institution:

“The best practices that we use, I guess are similar to what other schools are doing where it’s not like a one size fits all sort of approach to information literacy, but it is very customized and targeted to meet the needs of specific programs. It might be looking

at our first-generation population that are coming in at our general education level or it might be looking at more returning college students, adult, you know older adults. You know we have a large veteran population on campus, I work with disabled student services, we're meeting the needs of a lot of different types of students and trying to customize and offer you know like that human touch to the library that's not just this canned approach. And I see that best practice as we grow is gonna be challenged, because it's hard to scale and grow at the speed of which we're growing, and still provide these really personalized customized experiences with different classes."

It was further explained just how important it was for librarians to develop these customized information literacy programs, versus generic programs, since they were best practices that were applied that allowed librarians and faculty to gain a really good understanding about these students:

"Where our students are coming from, the disciplinary learning outcomes, the objectives that within a major or minor the faculty are expecting, looking at those to make sure that students are really able to be information literate, be critical thinkers in whatever project they're doing and helping to translated that for students, so that basically the value of it, why am I expected to use scholarly literature or why should we question the research that we're finding, it helps them to become the best graduates that they can be when they go out into the world."

Librarians in the study emphasized the importance of keeping up with best practices in teaching, learning and information literacy by not only reading the current literature in these fields and using what they learned to guide their practices.

“We try and look at the research that’s out and what seems to be working for the same similar student body the same you know that kind of thing, you know what... does the current research need to be saying is the best way to handle that.”

This would be done by participating in research about teaching, learning and information literacy and sharing their classroom experiences with students with scholars and the world:

“We're moving a lot more towards using synthesis and helping students how to use synthesis matrix and we wrote a paper on helping students with synthesis and the impact that had when there was a significant increase in students’ ability to do part of a synthesizer for further research for their big research lesson.”

Librarians working at institutions in the study were actively involved in assessment of both their information literacy courses and their programs.

“We’re using rigorous assessment...we actually used one of the AAC&U rubrics the Value rubrics and we modified it to fit our needs. We were basically looking to see where students are struggling...you know a sequence of classes....we were able to use that data to inform our approaches and inform our conversation with...entities on campus.”

However, these assessments were aimed at determining whether or not students had retained what they were being taught in information literacy tutorials and sessions. They were not being conducted to determine whether or not students were information literate or not. What was really important was instead, looking at how students were conducting their research in the disciplines, and whether they were applying the skillsets they had

learned in their information literacy tutorials and classes, to discipline-specific research assignments and projects.

“From my own experience when I’m looking at that, the grading of their final projects, I see that a good majority of the students have implemented some of what I’ve taught where they’ve found something that’s scholarly where they’ve cited it, they’ve evaluated it, so there is that happening.”

Librarians were also working with their college assessment committees to establish university-wide learning outcomes for information literacy courses developed for the majors

“With our college assessment committee as we’re starting to look at that particular college-wide learning outcomes to think about ways to do this a little bit more effectively just because things start to vary and become much more specialized as the students move out of those kind of multidisciplinary classes and into the disciplinary classes where each one of them is expected to be thinking about information somewhat differently by the time they graduate you know, but then how do you synthesize that back into you know can they use information literacy sort of for the purposes of living their lives as opposed to just working in the disciplines.”

Writing instructors at one of the institutions in the study used rubrics in combination with student transcripts to determine:

“If there was any sort of relationship or if correlation between in the grades they were getting and the amount of library instruction that they had, if they had any and we did see some positive relationships.”

Findings regarding best practices in this study indicated that instruction librarians were using best practices in six areas that directly related to the development and design of the information literacy course: in their reference interactions with students, in choosing information literacy and teaching and learning models that would fit their institution's programs, in the development of information literacy curriculum, in curriculum and program administration procedures and in assessing their information literacy courses and programs.

Theme: Assessment

The "Assessment" Theme and Sub-Themes are listed above in Table 4.7. The "Assessment" theme was organized into three sub-themes with a total number of 144 coded interview comments. Sixty-three interview comments were coded to the "Assessment" theme. The three sub-themes associated with the "Assessment" theme were "Assignments" to which 39 interview comments were coded, "Rubrics" as teachers to which 23 interview comments were coded and "Standardized Tests" to which 19 interview comments were coded. The three sub-themes were interconnected since they were important to programmatic assessment.

Table 4.6
The “Assessment” Theme and Sub-Themes

<i>Theme</i>	<i>Sub-Theme</i>	<i>Subsidiary Theme</i>	<i>Frequency</i>
<i>Assessment</i>	<i>Administration</i>		9
	<i>Faculty</i>		45
		Student Learning	20
	<i>Librarians as teachers</i>		20
		Collaboration	12
		Liaison Program	18
		Professional Development	11
		Reference Desk	11
		Researcher	5
GRAND TOTAL			151

Instruction librarians in the study stated that they worked alongside their institution's assessment offices or departments and received help to correctly assess their course and programmatic information literacy assessment projects successfully:

"We have an office of assessment on our campus and they are fantastic and so they assess all the undergraduate learning outcomes."

The librarians also explained that these information literacy assessments were completed on a set cycle by their university assessment offices. In collaboration with the instruction librarians and faculty who were teaching these information literacy courses:

"Information literacy went through a three-year assessment cycle a couple...a number of years ago. they pick two learning outcomes every year and it's a three-year assessment, so information literacy was assessed and I think we might be coming up next year and so they gonna you know the first year is deciding how you're going to do the assessment, the second year is collecting the data and then the third year is sharing the data and closing the loop."

It was found that all the instructors in the study taught information literacy to their students in many different formats, but in each, they provided the students with information literacy assignments which were either completed prior to the class in the format of a tutorial, in-class or after the class. Depending on the collaboration understanding these assignments were either graded by the faculty teaching the course, depending on the specific collaboration the librarian had with the faculty member or by the librarians and collected so that course assessment could be completed.

"So at the class level we'll have a few different assignments. The library module in GEL 101 is graded. It's worth enough points that it's the equivalent of a letter grade for their for their first grade in that class. So there are assignments, kind of

working on steps in the research process, but then we also look at how they synthesize and how well they find and synthesize the information that they find on their research topic. So we actually have them do an infographic, a visual representation of the research that they found, so it's a little more interesting for us to grade rather than an annotated bibliography, and it's also more interesting for the students to not just regurgitate what they find but synthesize and pull out the key points and represent that data and research in a more visual way, so we have a final project for that, for the GEL, for other courses in which we're not a graded component, the assessments really varied it depends on the relationship between the faculty and the librarian, where we might have access to the final projects online or if we're part of that class we get to see the final projects, we get to see what students do ultimately."

At a large institution where there were a large number of sections of information literacy classes, assessments were accomplished after a one-shot with students where they had either completed a tutorial, a worksheet or an assignment. In classes where librarians and faculty collaborated and students wrote papers, it was often the task of librarians to develop their faculty-librarian relationship so that they would have access to the papers that had been written in the professor's class. AAC&U Value rubrics such as the Inquiry and Analysis, the Information Literacy or the Critical Thinking were calibrated for use with these classes. In those situations, one hundred random papers were then collected for that assignment and marked using an AAC&U information literacy rubric that was tweaked to meet the unique outcomes of the program:

“We’ll take the rubrics and adjust them too, but I like the language of a lot of many of the rubrics. So we’ll take it and kind of play around with the language and we’ll take things out, like we’ll take a criteria out or add a criteria if we think that its better suited to or maybe its mix and match or so maybe we really like something from the information literacy rubric but we also like something from the critical thinking and we can put it all together and so I find this to be a great starting place and a really great starting place for faculty too who are interested in assessing student work.”

Interview findings indicated that standardized information literacy tests were less common at larger institutions because librarians had to pay per student for test codes. Also because larger institutions had more staff and resources to create their own homegrown tests, but when these were created, they were often unable to answer questions about what their students did not understand, and how they could teach their one-shots better, as one librarian explained:

“I mean we’ve had a homegrown quiz that we gave for a number of years and we looked at it and we thought ok, well we got how many students answered question number seven correctly out of all multiple choice options but it still never gave us information that we thought was actionable.”

One of the smaller colleges in the study did try to use standardized tests with their students. However, just like with the homegrown information literacy tests, their librarians found that these fell short. This was because even though they were able to tie the questions their student’s missed back to the specific Association of College and

Research Libraries Standards (2000), test results still did not answer their questions about their students' progress in their classes, and as a result these were aborted:

“We did do the HEADS project, I can't remember which school did that, but we were really unhappy with that. The questions...there were just way too many questions so we had a very poor response to it, whereas we had a really good participation with the test that we had created, so we only did that for a year.”

Theme: Information Literate Students

The “Information Literate Students” Theme and Sub-Themes are listed in Table 4.8. The transcriptions that were analyzed can be found in Appendix K. The Theme and Sub-Themes answer the question: “Are students at your institution information literate at graduation?” The “Information Literate Students” theme was organized into 12 sub-themes. One hundred and four interview comments were coded to this theme. The twelve sub-themes associated with the “Information Literate Students” theme were “Anecdotal Evidence” to which 19 interview comments were coded and “No measurements in place” to which 14 interview comments were coded. Further sub-themes include “Disciplines and Majors” to which 14 interview comments were coded, “Rubrics” to which 14 interview comments were coded and “Standardized Tests” to which 14 interview comments were coded and General Education Outcomes to which 11 interview comments were coded.

Table 4.7*Are your students Information Literate?*

<i>Theme</i>	<i>Sub-Themes</i>	<i>Comments (n)</i>
<i>Information Literate Students</i>		
	Anecdotal Evidence	19
	No measurement in place	14
	Disciplines & Majors	14
	Rubrics	14
	Standardized Testing	14
	General Education Outcomes	11
	Embedded Concepts & IL Practices	8
	Lifelong Learning	5
	Faculty Involvement	3
	Core Competencies	3
TOTAL COMMENTS		104

Sub-themes with less coded comments included: “Embedded Concepts and Information Literacy Practices” with eight comments, “Lifelong Learning” with five comments, “Faculty Involvement” with three Comments and “Core Competencies” with three comments. Study participants provided the researcher with a great deal of anecdotal evidence to explain why they believed their students to be information literate. As one instruction librarian explained:

“I think that the way our general education program is structured what that inquiry and critical thinking outcomes, that yeah, students would be graduating more information literate.”

The instruction librarian also pointed out there were many facets of information literacy and how students viewed these through the lenses of their disciplines and majors, explained that this played a part in how and at what level students became information literate:

“I don’t know...that a person will graduate information literate because I feel that that’s all so contextual; information literate in what capacity, like there’s so many disciplinary...kind of lenses that we put on info lit and contextual lenses it’s difficult to say oh well they’re all information literate, there you know I think, but I’m probably not saying this correctly or in a really eloquent way but there’s so many facets to information literacy if they did graduate completely information literate or information literate across multiple you know disciplines then I would be incredibly impressed.”

One instruction librarian participating in the study suggested that they were unsure that all students would graduate information literate enough so that their skills would benefit

them as lifelong learner. They were not sure that students would be able to transfer their skills, whenever needed into the workplace or into skills necessary to accomplish technology tasks in everyday life. Anecdotal evidence suggested that many would be able to transfer skills as lifelong learners because information literacy training and teaching at the institution was ongoing and students were also learning how to handle the technology and would need to use what they learned to adapt to the technological changes that they encountered outside the college in the workplace:

“There’s just so many technology changes at either end and workforces change it and there’s so many things at play that I could say all our students are information literate by the time they graduate, because it’s an ongoing process you know.”

Institutions in this study used one of four types of information literacy assessment in their courses that included the following: the use of rubrics, standardized information literacy tests, homegrown information literacy tests and surveys. The most common information literacy assessments being used by the three institutions in the study were the AAC&U Rubrics:

“So we use the Value Rubrics but we’ve made our own tweaks with that. So we use the information literacy value rubric and we use that to score student products and so she does all the analysis about where these skills are and so in theory when students graduate they should be up to about a four, and our students are more typically like around a three so we know we’re doing we’re doing well but we’re not doing enough.”

Librarians suggested that they had used standardized tests and homegrown tests in the past to assess student information literacy skills at their institutions, but they found that often these tests did not answer their questions or provide the quality results that they were expecting, as one instruction librarian explained:

“In our experience with the standardized tests particularly the ones that involve multiple choice questions, we’ve never really gotten information that told us what we really wanted to know; and it could be that we’re our standards are very high, if they could be extremely high, but that’s been our experience. I mean we’ve had a homegrown quiz that we gave for a number of years and we looked at it and we thought ok, well we got how many students answered question number seven correctly out of all multiple choice options but it still never gave us information that we thought was actionable.”

No institution in the study had implemented any form of measurement that would allow instructors to determine if students were information literate when they were seniors and about to graduate, although several forms of information literacy assessments were done at different levels of the student’s information literacy instruction journey, satisfying learning outcomes associated with courses or programs.

“We are still trying to work out, like you said, basically like how do we tell if information literate? Um, we haven’t quite gotten that far yet, because we are only into year three of the new core. So there is still a lot of stuff that needs to be worked out, including how we end up actually measuring the learning outcomes at the university level.”

However, in Spring 2013, one of the institutions in the study did a general education assessment using the AAC&U Information Literacy Value Rubric that had been tweaked to fit the institution's outcomes. The information literacy assessment was part of an institution-wide assessment that participated in cyclical assessment and assessed eight general education outcomes of which information literacy was one. Sixty-nine products from 84 students in undergraduate classes, a 100-level psychology class and a 300-level humanities class were scored. The information literacy results were listed in Table 4.9 suggest that students taking upper-division courses scored extremely well on two products when compared with students taking lower-division courses. They scored an average 91.3% on the five outcomes taken from the Association of College and Research Libraries Standards (2000) compared with lower-division students who scored on average 76.6%. However, it was a different case entirely, when three or more student products were scored using the same outcomes. It was most disturbing to note that the students in upper-level courses scored 22% on average, having a much lower score than the students in lower-level courses, whose average score was 37%. Without viewing the products it is hard to say why this enormous discrepancy occurred, but due to the second set of scores it cannot be assumed that all the students have satisfied the course outcomes and are in fact information literate.

Table 4.8
Information Literacy Results Spring 2013 (College XXX)

<i>Dimension</i>	<i>Lower Level Courses % scored on two or higher work products</i>	<i>Upper-Level Courses % scored on two or higher</i>
IL1 Determine Extent of information needed	78.3	90.6
IL2 Access needed information	75.6	90.7
IL3 Evaluate information sources	75.1	84.4
IL4 Use information effectively	78.4	100
IL5 Access and use information ethically	75.6	90.6
<i>Average</i>	<i>76.6%</i>	<i>91.3%</i>
<i>Dimension</i>	<i>Lower Level Courses % scored on three or higher work products</i>	<i>Upper-Level Courses % scored on three or higher</i>
IL1 Determine Extent of information needed	35.1	40.6
IL2 Access needed information	35.1	6.3
IL3 Evaluate information sources	43.8	18,8
IL4 Use information effectively	51.4	43.7
IL5 Access and use information ethically	51.3	40.6
<i>Average</i>	<i>37.34%</i>	<i>22%</i>

Study participants were hopeful that measures that determined if students were information literate at graduation would be in place in the future at their institutions. Participants often claimed that it was either too early in their program development, or they had not had time to consider this concern and develop necessary assessment procedures for their seniors:

“I wish it was possible to follow Suzi Q all the way to her senior year and to say, you know, did she retain and gain and, but that’s not a study that anyone that I know of has done here where they followed specific students through. So I can only hope, you know, that the connections that we make with the first year and the second year with the students are laying the groundwork and hopefully we’ll increase those tests that um are given to them you know in their junior and senior years um as the...time goes on.”

One institution participating in the study was preparing to participate in a national survey (PIL).

“We’re looking we’re taking a look at their capstone projects um an eye towards how they how they used information and how they...what their research process was like um so we’re really interested to see that...because we don’t we know how students are graduating from college information literate but we’re going to look at that senior level work and then also, this year we were part of ...Project Information Literacy um studies so Allison Head has been leading that project information literacy study for quite a few years and their most recent thing was looking at recent college graduates...who have stayed sort of in the same area where they graduated from college.”

Another institution was aware of a study that was being developed within the consortium their institution was participating in (GWILA) that would track student GPA's and determine whether or not graduating students were information literate.

“They track the GPA and they kind of look to see is there any correlation with English with the with the writing class that they retaking or the library classes so I think that's kind of what that GWILA assessment project is looking at.”

How information literacy was taught within the disciplines and majors at institutions was found to be very important when it came to whether or not students were information literate at graduation. Instructors suggested that if they did not have the opportunity to work with faculty in a discipline then students in the discipline were considered less likely to graduate information literate as one instructor explained:

“I think it depends on the discipline quite frankly...before I moved... I worked with the Sociology Department for a very long time and I worked with very very many of the faculty and I would say that those students were very more likely to be information literate than um we don't do a lot of work with Computer Science. We don't do any work with them at all actually.”

Instruction librarians emphasized the need to develop strong relationships with faculty in different departments at their institutions, as this allowed them to work closely with the faculty on developing information literacy specific course outcomes in a discipline or major:

“Information literacy is embedded within the core outcomes the expectations within the upper level of the curriculum and so departments have to say how they

are meeting these different outcomes and as we said information literacy isn't an explicit part of it, it is embedded within it and so those will be assessed at some point."

This collaboration with faculty in the disciplines allowed librarians to better understand course goals and objectives and how they could best help students with research in their discipline-specific courses and become critical thinkers. As one instruction librarian explained:

"I think there will be some growing pains but the best practice, the really understanding where our students are coming from, the disciplinary learning outcomes, the objectives that within a major or minor the faculty are expecting, looking at those to make sure that students are really able to be information literate, be critical thinkers in whatever project they're doing and helping to translated that for students, so that basically the value of it, why am I expected to use scholarly literature or why should we question the research that we're finding, it helps them to become the best graduates that they can be when they go out into the world, but I think some of our best practices of really embedding into the curriculum and looking a learning outcomes and finding the places where we can deepen their learning and their research experience will stay at the heart of what we do, but we're also figuring out how to scale and grow those."

Faculty-librarian collaboration also has led to their being placed on curriculum committees where decisions are made about college-wide assessments and outcomes and since information literacy assessments. However, in those cases the assessments were not being used to find out if students were indeed information literate when they graduate.

There is however, a possibility that librarians would be in a position to have faculty committees consider these assessments for future implementation, as a librarian explained:

“...at some point I can work a little bit more extensively with our college assessment committee as we’re starting to look at that particular college-wide learning outcomes to think about ways to do this a little bit more effectively.”

Study findings indicated that librarians had very different opinions about what it meant for their students to be information literate. They explained that information literacy was in fact:

“Embedded in what...how much they can accomplish and do in their major and in their other classes.”

suggesting that:

“Information literacy has been buried to some extent depending on the...major...so honestly we’ve never found a way to measure this that we’re perfectly happy with.”

There were also librarians that were more radical about their beliefs regarding information literacy and what it means to have information literate students:

“From a more theoretical standpoint I don’t ever necessarily believe that students are ever information illiterate I think they have different abilities and different practices...because thinking about literacy is sort of like a it’s you know like us filling this deficit...I don’t necessarily like to approach it that way because I think that students have strategies that work for them and we should recognize that and be ok with those things.”

Participants explained that students were not “empty vessels” when they entered their college experience, but they came from rich social environments where they had developed varied types of experience with information and technology use:

“They’re not empty vessels when they arrive to us. They’re bringing their own sets of expertise, their own knowledge, their own awareness of different in their communities, so they’re...so I think they are very savvy information users and I think that there’s still room for growth.”

For all the institutions in the study, including those colleges who in the past had implemented standardized information literacy tests but no longer gave them, only anecdotal evidence was available to back up the notion that their seniors were applying the information literacy skills they had learned while in college to their final projects and that students were graduating information literate. Librarians saw a shift in the research habits of the students they had worked with, where these students were changing from merely entering college as students, and emerging as scholars.

“Somewhere between the first semester and their graduation, there’s some change after they take the... with us, but the real growth I think isn’t demonstrated until their senior year where they’re doing these much higher level research projects, and they’re not just finding scholarly literature but they’re engaging in their own research, their own undergraduate research in different projects, in service-learning or in field work, where they’re conducting interviews, they’re gathering data field themselves, so then they’re really making that transition from student to scholar but that’s not really evident until later... on in their degree.”

Librarians also pointed out that they had anecdotal evidence in hand that showed that there were students graduating from their colleges that were information literate. This

was because after graduation there were students reporting that they were using their problem-solving skills in their daily lives, and that they had the research skills to succeed in graduate school. As one librarian explained:

“We hear back from students that are in graduate school about how far ahead their skills are compared to classmates. That they’ve already done you know problem-based learning and research in that way or they’re already done this or that and so that tells us that we’re on the right track and that a lot of our students get into grad school because they’ve got those kinds of skills.”

The study findings regarding whether or not graduating seniors are information literate or not indicated that although there was a great deal of anecdotal evidence that instructors provided that their students were information literate when they graduated, and that they were lifelong learners, no institutions had implemented tests for seniors that determined whether they were graduating information literate or not.

Theme: The Association of College and Research Libraries Standards (2000)

The “Association of College and Research Libraries Standards (2000)” theme had 16 total interview comments and was listed in Table 4.10. Twelve interview comments were coded to this theme. There was one sub-theme, “The Preempted Standards” (what existed before the Framework). This sub-theme had four interview comments coded to it. This sub-theme emerged because it stood out from the major theme. This was because instruction librarians were convinced that they were already implementing many information literacy concepts in their classroom that now had a relation to the Framework (2016), long before it was formalized and many librarians were waiting to see what other librarians would do with the Framework (2016). As one librarian aptly explained:

“We shall see when we have a chance to update the entire university community to the Framework. While we have worked with the ideas in the Framework for many years (hasn’t everyone?) now is not the time for us to upset the new program with another new rubric.”

Table 4.9

The “Association of College and Research Libraries Standards (2015)” Theme and Sub-Theme

<i>Theme</i>	<i>Sub-Theme</i>	<i>Frequency</i>
Association of College and Research Libraries Framework (2000)		12
	Preempted Framework (2016)	4
GRAND TOTAL		16

Courses developed in programs across all institutions, emphasized tool literacy elements which related back to the “Association of College and Research Libraries Standards (2000)” because tool literacy laid the foundation for student learning and also because a knowledge of how to find resources and use the library databases enabled student learners to master content and extend their investigations, thereby becoming “more self-directed, and assume greater control over their own learning” (Association of College and Research Libraries Standards, 2000) and better understand more complex

information literacy concepts. As one instruction librarian explained about teaching students in the disciplines how to do subject-specific database searches:

“I’m teaching them to use PUBMED. I... We run it through a workshop kind of formatting; you know questions that they need to answer this is usually an upper level Biology course. I do it when I’m teaching Chem abstracts, where it’s upper level Chemistry students, when we really need nuanced sort of searches and learn a lot of details about filters and all that kind of thing”.

The librarians interviewed were articulate about not just using the Association of College and Research Libraries Standards (2000) religiously. They stated that they also on occasion used other types of research about information literacy practices to inform their own practices. Support from the research was particularly useful when teaching information literacy courses that moved them beyond one-shots with their students connecting with them at point of need, as one librarian explained:

“I think the great thing about our course, about the program itself is that it’s not just you know we’re not we’re trying to do...a lot of it is tied back to these different ACRL Standards but then we’re also using...you know other research to inform our practices so... we have the high touch approach meaning that we’re yeah really trying to just move past the just one shot classes and instead you know being integrated where students have the point of need where it’s not just we’re popping in on you on the first day of class you know where they don’t where its more an abstract thing where they don’t really have an assignment that’s tied to you know the course.”

Even though there were librarians who were adamant that they were not planning to use the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016) anytime soon, the same librarians were discussing the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016) amongst one another and how future library initiatives would be impacted by its application.

“The new Framework is out, we’re not using that either formally but we do definitely, we’ve have had numerous discussions about it, you know, the faculty in the library and talked about how it influences our initiatives and programming and what we can glean from it that’s useful.”

Theme: The Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016)

The “Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016)” Theme and Sub-Theme are listed in Table 4.11. A total of 30 interview comments were coded to the “Association of College and Research Libraries Framework” theme. Twenty-five interview comments were coded to the main theme and five interview comments were coded to the sub-theme, “Preempted Standards.”

Table 4.10

Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016) Theme and Sub-Theme

<i>Theme</i>	<i>Sub-Theme</i>	<i>Frequency</i>
Association of College and Research Libraries Framework (2016)		25
	Pre-empted Standards	5
<i>Grand Total</i>		30

There were institutions in the study that embraced concepts and specific frames connected to the Association of College and Research Libraries Framework (2016) when building their course assignments. Some still technically used the Standards (2000), even though in some situations they had not changed their course or program outcomes to include the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016) and still thought that:

“... the ACRL Standards underpins the work of all libraries” and were considering it and how it might apply in the best way to teach students in their programs:

“The new Framework is out, we’re not using that either formally but we do definitely, we’ve have had numerous discussions about it, you know, the faculty in

the library and talked about how it influences our initiatives and programming and what we can glean from it that's useful."

One instruction librarian explained about just such application of the Framework for Information Literacy for Higher Education (2016) in their class:

"We had an entire module about types of information right and that speaks to the distinguishing between popular and scholarly sources and in our first iteration what we do is what a lot of people do is, these are the characteristics of each source, well in the second revision we kind of flipped that on its head and basically our approach was the way that information is created makes different information so we focused more on like how scholarly sources are created and how popular sources are created...you know sort of granular sort of distinctions between those two. So we did that instead and you know that is something where we definitely responded to the Framework..."

The "Pre-Empted Framework" theme showed that librarians were vigilant about any changes that were being made to the Association of College and Research Libraries Standards (2000). The participants explained that they had expected a change of some kind, but for many institutions, by the time the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016) was adopted by Association of College and Research Libraries, they had already made changes to their information literacy course outcomes to reflect the Association of College and Research Libraries Standards (2000) which had been in place as a standard for sixteen years. Thus, they could not include the new Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016) because they would

have to begin the entire administrator and faculty vetting process again, which often took years. As one librarian explained:

“The Framework was not created when we revised University Studies, so we the university adopted those standards as our student outcomes for information literacy and that was mainly because that’s what I suggested that we do, and then as soon it was like a year after everything was adopted and everything was in place, that’s when ACRL came up with the new Framework (laughs) so the timing was horrible.”

One of the colleges in the study that still adhered to Association of College and Research Libraries Standards (2000) used both the Association of College and Research Libraries Standards (2000) and the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016) in their creation of Community of Online Research Assignments (CORA). CORA is an open access database created to ingest and share instructor information literacy assignments across the globe (Loyola Marymount University, 2016), as described by one librarian:

“We started creating a database of information literacy assignments and so it’s in beta right now but it called CORA, Community of Online Research Assignments and CORA you can search by the old information ACRL standards or the new Framework.”

The creation of CORA was a positive step in the direction of offering online support to instruction librarians who were teaching information literacy in the classroom and applying elements and concepts of either or both the ACRL Standards (2000) and the ACRL Framework for Information Literacy for Higher Education (2016) as best practices

in their course and program assignments. The database will allow instructors to upload and share their assignments online with the library community for future adoption or adaptation in the classroom.

The Information Literacy Course: Online or Blended: A Comparative Analysis

Table 4.12 describes the “Information Literacy Course Type Subsidiary Theme.” Even though this theme and also that of the “Online Course” were subsidiary, they were important and central in terms of creating a comparative analysis of the eight institutions studied. The “Online Course” was a subsidiary theme of the “General Education Program” theme but it is described here because it was one of the five themes with the most interview comments coded to it and also because understanding how the “Online Course” fits into the information literacy programs of the institutions studied was vital to this study and its outcomes.

The “Online Course” had 74 interview comments coded to it, was a sub-theme of the “Information Literacy Course” which had 39 unique interview comments coded to it. The “Information Literacy Course” sub-theme had one subsidiary theme, “Information Literacy Course Type” having a total of 100 interview comments coded to it. The “Online Course” was listed as one of four “Information Literacy Course Types” encountered during the study. The three information literacy course types were: the Blended Course which had four interview comments coded to it, Distance Education which had 17 interview comments coded to it and the face-to-face course which had three comments coded to it.

Table 4.11*The “Information Literacy Course Type” Subsidiary Theme*

<i>Theme</i>	<i>Sub-Theme</i>	<i>Subsidiary Theme</i>	<i>Course Types</i>	<i>Frequency</i>
General Education Program	Information Literacy Course	Information Literacy Course Type		2
			Blended Course	4
			Distance Education	17
			Face-to-Face Course	3
			Online Course	74
INFORMATION LITERACY COURSE TYPE GRAND TOTAL				100

“Blended” versus “Online Course” at universities in the study can be found in Table 4.13. Based on the information gathered from instructor interviews regarding the status of the online information literacy course and whether or not these were being taught at the institutions in the study, the findings were that only 50% of the participant institutions offered their students online information literacy courses. The Table 4.19 also explains which universities offered courses with online components, and blended courses and which were offering Online Courses.

A pilot study was conducted at one university during the summer, while an additional institution was in the process of developing online courses because their student population was steadily growing and they did not have enough librarians to teach one-shots or via an embedded librarian approach. Institutions in the study also created online library tutorials that were made available to their students via their university library Youtube channels, and while other institutions used course broadcasting from their main campus, allowing their library instructors to connect directly with distance students taking courses at institutional sites. Two of the institutions had not yet implemented online library courses, but online initiatives were being considered and put into place for future online pursuits.

Table 4.12*Blended versus Online Courses at Universities in the Study*

<i>University Name</i>	<i>Course with Online-Components/Blended Course</i>	<i>Online Course</i>
Institution A	Yes	Pilot Study
Institution B	Yes	Yes
Institution C	Yes	No
Institution D	Yes	No
Institution E	Yes	Yes
Institution F	Yes	Yes
Institution G	Yes	Yes
Institution H	Yes	In development

As described in Table 4.13, four out of the eight institutions in the study offered online information literacy courses to their students. The two smallest universities in the study did not offer online information literacy courses but their courses offerings to students were blended since they included a large amount of online-components such as online videos, interactive tutorials and online information literacy games. A librarian from the said institution stated that they were tied to their undergraduate agenda and emphasized the in-person experience and thus did not offer online information literacy courses:

“I think part of the reason that our school is not doing online yet is because we are primarily an undergraduate institution and our faculty and campus governance are very much committed to sort of...so our mission is the education of the whole person and so incorporating a distance education program when you know we want students to be participating in campus service learning”.

Two universities, in the study were both in the online course development phase but for different reasons. One institution was developing online courses because they did not have the staff to continue to offer one-shots to a growing number of information literacy sections at their college.

“So we're coming up with a better way of knowing this kind of things and we are also coming up with I think a better adaptation for online modules and part of that is making tough decisions like pulling out of face-to-face program with 1010, so that way we can focus more on building online modules and we can focus on our 2010 that we know all students are taking versus nearly 40% taking 1010.”

One institution in the study was implementing a new online initiative introduced by a new provost, and was planning to implement online information literacy courses in the not too distant future. As a librarian explained:

“We’ve probably had a smattering of online offerings, when I came here in 2011, and with our new provost, he put together a new taskforce to explore what we are doing and what we should be doing and then developed a new department it is called Digital Learning that is now carrying that charge forward.”

Based on data gathered from interviews with librarians at each of the eight institutions in the study, Table 4.14 was created. Each site in the study had a formal general education program which was described in depth in Question 1 and which included either goals, objectives or outcomes that provided the library with the opportunity to implement information literacy. As was the example at one university in the study:

“Our General Administration...they decided I think it was last summer that one of our outcomes was going to be critical thinking. They wanted all of our graduates community college and four-year institutions to graduate with critical thinking as part of their outcome”.

Each institution’s general education program was designed and developed to fit the college or university’s mission, vision, objectives and outcomes. Each institution’s libraries either had administrators or librarians that were part of or had input into their institution’s general education program administrative team, for example, University Studies Program served as information literacy gatekeepers aiding the integration process or redesigning courses or implementing at their institutions that would integrate information literacy.

“Our library instruction program outcomes are taken directly from the university undergraduate learning outcomes, so as a whole xxxxx has these undergraduate learning outcomes that include critical thinking and inquiry as well as lifelong learning and then there are you know smaller learning outcomes under those big overarching universal learning outcomes and that’s where our instruction program’s outcomes come from directly we just take those as our own and work toward those university goals.”

Each institution had integrated information literacy into their freshman core or first year experience program as it best suited their program and had also developed a liaison program and a method by which they integrated information literacy into the majors at their institutions. Table 4.14 explains the nature of the information literacy course integration at each institution and highlights characteristics.

“So the xxx driving idea for our instruction program is that information literacy should be embedded in every discipline and in relevant courses and so librarians are embedded in programs and courses um it’s not a standalone set of skills but rather is integrated throughout the curriculum. So we have um undergraduate learning librarians who work with the freshman composition class and with first year seminars across the university and every in every college to with faculty on developing research assignments and then teaching students the skills they need to be successful in those research assignments and then we have a department of library liaisons who work with upper division students and graduate students across every department um similarly working with faculty on assignment design and then working with students on developing the skills and knowledge to do that kind of research in their disciplines.”

Table 4.13
The Nature of the Information Literacy Integration Course

<i>Institution</i>	<i>Nature of the Information Literacy (IL) Course</i>
<i>Institution A</i>	<ul style="list-style-type: none"> • First year sequence has 3 courses offered over 3, 10 week terms • IL Workshop provided for International students; IL is integrated into the majors
<i>Institution B</i>	<ul style="list-style-type: none"> • First Year sequence has 3 courses • IL integrated in 10% courses • Courses 200 level and above are flagged when they include IL
<i>Institution C</i>	<ul style="list-style-type: none"> • First Year has 3 class sequence includes one shots: General Education Lifelong Learning 101 • College Success Seminar course is one of the three for first years and is 2 weeks long
<i>Institution D</i>	<ul style="list-style-type: none"> • IL range of classes from one-shots and co-taught to seminar length courses • No online IL courses as yet
<i>Institution E</i>	<ul style="list-style-type: none"> • 9 hours of IL for undergraduate students • UNI is a 3 hour course for Freshmen • University Studies Program integrating IL into Gen Ed Program • IL integrated in ENG 200, 300 and in other majors e.g. COM 200 where the one-shot is split into 5 sessions with 20-25 students per session • 3 hour LIB 103 course for-credit course taught
<i>Institution F</i>	<ul style="list-style-type: none"> • IL Embedded in courses in disciplines; liaisons work with program • IL embedded into First Year Seminar and First Year Composition ENG 102 classes—second course in a sequence of 3 First year’s take • Each college has its own FY Seminar Program
<i>Institution G</i>	<ul style="list-style-type: none"> • Several large IL programs 1) URI 101 freshmen seminar, 2) Writing 104 and Writing 106, and 3) EGR (engineering) 105. All students in these programs participate in library instruction, URI 101 and EGR 105 are more library orientation while the Writing (WRT) sessions are tied to assignments and include several standards and several frames • Decision to expand from a two-year Gen Ed to a four-year Gen Ed program; realigned our three new courses at the 100, 200, and 300 levels of instruction • Teach LIB 120 four hour information literacy for credit course in the Spring and LIB 220, Issues of the Library Age about Standard V or the ethical ramifications of IL
<i>Institution H</i>	<ul style="list-style-type: none"> • Integrated IL through the First Year Program and majors • IL integrated into ENG 1010 teaching freshmen • Integrated into the majors

Nvivo 11 Plus provided the researcher with the opportunity to further analyze librarian transcripts. Each transcript was grouped to better understand what each institution considered to be important. From this data, eight word clouds were created.

Online Instruction and Blended/Hybrid Instruction and Questions 2 & 3

Findings showed that blended learning is a common occurrence across all eight exemplary institutions in this study, although there are some universities who refused to acknowledge that they were in fact participating in blended learning during their teaching. The Clayton Christiansen Institute (2016) defined blended or hybrid learning as a formal education program in which a student learns partly “through online learning, with some element of student control over time, place, path, and/or pace” face-to-face classroom interaction, allowing for the student to participate in “an integrated learning experience.” All eight institutions offered their students blended experiences ranging the flipped classrooms, online tutorials, face-to-face one-shots to information literacy games, and instruction in how to use library resources and databases. The most common use of blended instruction was the online tutorial, where the instructors had their freshman prepare for their visit to the library by completing a tutorial. Other libraries studied created a series of tutorials on different information literacy topics that students had to complete. As one information literacy instructor explained:

“We have a bunch of Libguides or online research guides we use in conjunction with almost all of our information literacy sessions. Students are using technology when their using the Libguides it’s just not as obvious. Then we do have a bunch of online tutorials that cover a lot of the information literacy skills.”

In only three of the largest universities online information literacy courses were being offered. However, this is still not a common occurrence and most information literacy classes at these large institutions are conducted as face to face one-shots with blended learning components.

“In all my classes I develop modules directly in Canvas our learning management system and in that it’s sometimes courses built into Canvas and they’re used to pull everywhere for some of the broadcast classes in the past where the students are at different locations, kind of physically at those locations where they’re able to see the screen, the instructor’s screen and have conversation but they don’t always have a computer.”

The most common blended learning components used by instructors across the eight institutions in their blended information literacy classes included the following: learning management system modules, open education resources, servers, library webpages, broadcast classes at specific sites for distance students, online tutorials and videos often loaded on a Youtube Channel or elsewhere, embedded librarians, discussion boards, Libguides and guide on the side. One of the librarians explained how they worked with their online student resources at their library:

“The platform we use is Youtube. For our tutorials, the other ones, the ones for the online Ed. users, they have a Youtube Channel but they also have their own servers so they’re not open education resources, some of them are closed but for ours, ours are on the Youtube Channel so and then we have a page and then we do have library faculty and teaching faculty who just take that and embed that in a web page or a LibGuide in all kinds of different places.”

The embedded librarian was also a common occurrence at the larger universities in the study. As an instruction librarian explained by saying that:

“The driving idea for our instruction program is that information literacy should be embedded in every discipline and in relevant courses and so librarians are embedded in programs and courses.”

However, at the smallest universities in the study it was somewhat different as one librarian explained:

“Information literacy wasn't formally embedded into any of the courses, so it's kind of like a hit or miss whether they happen to get any library instruction or any, you know, even how many resource assignments.”

At the larger institutions in the study, liaison-librarians were embedded in either online or blended courses and worked with faculty in the content majors to embed information literacy in their subject specific courses. Librarians watched the student discussion board posts and often responded as personal librarians when direct library-related questions were asked. Additionally, they watched what questions were posted by students and where they could support students by teaching them about how best to use library resources and materials in their courses. Some librarians were embedded in a content course and offered tutorials to students. They aided students with their course modules that required them to complete library-related assignments or course-related papers and these were then assessed. As one librarian explained how a longitudinal information literacy assessment was conducted at their institution after they had been embedded teaching information literacy in a course:

“They take another course that has information literacy embedded in it, it's not an information literacy course but it's embedded in it in the second or third year

and so... they're giving that same test she developed to those students to...and then they'll see students who took her course or didn't and sort of compare how they do on that test after a time has passed, after a year has passed, do they retain it or do better than our colleagues who take the course."

Summary

The research question posed was: *How are exemplary 4-year colleges implementing exemplary information literacy courses?* The major themes answering Question 1, Table 4.1 were directly related to the general education programs at each institution that had 396 interview comments coded to it, were identified, with the most prominent total numbers of coded interview comments which were: 174 interview comments related to "Strategic Planning," 319 interview comments related to "Administration," 108 interview comments related to "Best Practices in Information Literacy" 144 interview comments related to "Assessment," 104 interview comments related to "Information Literate Students," 14 interview comments related to "The Association of College and Research Libraries Standards (2000)," and 27 interview comments related to "The Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016)."

Major findings included the development of a description of the information literacy program process at colleges and universities based on how participants explained their information literacy programs and course offerings during interviews. The model was not based on the literature and was developed as a diagram, aided by an @Randall Library Poster. Library strategic plans were often created to include the requirements of the college accrediting body, especially when there were important competencies such as

information literacy that were proposed as best practices in area institutions. Study findings indicated further that when librarians made their plans to create an information literacy course, they started with their institution as well as their library's strategic planning documents specifically, their institutional and library mission statements. These were used as a guide for how to start the course outcomes development and course building process. It was also found that when the library's strategic plan was developed, the library's mission and vision were most often in-line with that of the institution, so that when goals and objectives were written that would guide library programming, such as an information literacy program.

The findings suggested further that information literacy programs in institutions were most successful when the library's program was supported by the institution's administration. Instruction librarians used best practices in reference, program administration, course outcomes, collaboration, information literacy course development and assessment to create viable information literacy courses that worked within the programs and disciplines into which they were implemented. Study findings also suggested, that librarians applied teaching, learning and information literacy best practices when developing, designing, teaching and assessing information literacy courses at their institutions. Successful information literacy course and program implementation in all eight institutional settings were dependent on the collaborative arrangements made between the instructional librarians and the faculty. The instruction librarians also worked with the faculty to integrate information literacy into their courses, so if the faculty wanted them to participate as an embedded librarian in an online course, they worked with the faculty to do so. If outcomes had not yet been created in relation to

information literacy or if library resources were needed in order to develop the information literacy portions of the course further on faculty request, librarians worked to make these accessible. The findings also suggested that institutions in the study could only provide anecdotal evidence regarding whether or not their students were graduating information literate. None of the institutions in the study provided their seniors with assessments that determined whether students were information literate at graduation.

Research Question 2

The research question asked: *How do exemplary 4-year college library information literacy courses implement the Association of College and Research Libraries Framework for Information Literacy in Higher Education (2016)?*

The purpose of the study was to understand how the Association of College and Research Libraries Framework for Higher Education (2016) had been implemented by institutions in the study in their information literacy courses.

Participant interviews in Question 2 were coded by hand using emerging or bottom-up coding using coded topics unique to instruction and information literacy. The Question 2 Themes and Sub-Themes are listed in Table 4.15. When participant interviews were coded to answer question two a total number of 102 interview comments were coded and seven themes emerged. These were: The Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016), The Association of College and Research Libraries Standards (2000), Combination,

Guidelines, Non-Application, General Education Program, and Rubrics & Additional Standards. There were 23 sub-themes organized under the seven themes.

Question 2 Themes and Sub-Themes

Table 4.15 describes the themes and subthemes in Question 2. There were seven themes and 22 sub-themes. One of the larger sub-themes, which had seven coded interview comments, was the “Pre-empted” theme, which was defined by participants that librarians at their institutions had already identified what is described as the Framework. That means that before the formalized “Framework” was created, the frames and the theories were already being implemented in the classroom. For example, the frame “Authority is constructed and contextual” was taught by teaching students what peer-reviewed source were and how to find credible sources in their field and cite them. Students were taught how to evaluate sources and determine the authority of authors comparing source authority for websites, blogs and scholarly periodicals with trade publications and understanding the differences. As a result, it was common that librarians teaching exemplary information literacy courses considered themselves to be early implementers of what is now described in the Framework. In their information literacy instruction programs, since several of the ideas that are included in this model were already being put into practice at several institutions prior to the Framework (2016) being formalized. These institutions believed that their instruction models and practices pre-empted or existed before the Framework (2016) and its theories as it is now accepted and formalized.

Instruction librarians at six of the eight exemplary institutions studied, where the Association of College and Research Libraries Standards (2000) had not been hardcoded

into their undergraduate learning outcomes, were implementing the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016) concepts in their information literacy classes. This implementation was happening for two reasons, either they had pre-empted the Framework concepts and were already teaching those concepts in their information literacy courses and had for several years prior to the release of the Association of College and Research Libraries Framework for Information Literacy (2016), or they were open and willing to experiment with the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016) and its frames. Thus, these institutions were using both the Association of College and Research Libraries Standards (2000) and the Framework and other Standards from different disciplines together to meet their unique learning outcomes.

Table 4.14
Question 2 Themes and Sub-Themes

<i>Themes</i>	<i>Sub-Themes</i>	<i>Interview comments</i>
<i>ACRL Framework (2016)</i>		27
	Pre-empted	7
	Not teaching all frames & metaliteracy	5
	Un-measurable	1
	Application & Alignment	19
	Incorporate into curriculum	3
	Higher Level Concepts	2
<i>ACRL Standards (2000)</i>		29
	Application & alignment	16
	Mechanistic/Tool Literacy	5
	Standards-based ULO's	8
<i>Combination</i>		8
	Personalization	2
	Hybrid	2
	Move from mechanistic to critical thinking	4
<i>Guidelines</i>	Informed Thinking	8
<i>Non-Application</i>	No formal adoption	8
<i>General Education Program</i>		12
	Undergraduate Learning Outcomes	4
	Cultivation of student scholar	5
	First Year Experience	3
<i>Rubrics & Additional Standards</i>		18
	AAC& U Value Rubrics	13
	AASL Standards	2
	Golden Five (CSU specific)	1
	Council of Writing Program Administrators Outcomes	1
	Subject specific standards in the majors	1
TOTAL # INTERVIEW COMMENTS		102

Seven interview comments were coded as Pre-empted in the interviews because librarians said:

“We started looking you know evaluating, finding, evaluating, synthesizing like some of the things the reflection some of the words that were king of change works or things that had not maybe previously been in the Standards, I think we sort of realized that we’d been doing this.”

While another instructor from different institution tried to explain further:

“You know honesty we pre-empted the Framework a little bit. We knew that it was coming, we weren’t involved... We might have individually provided feedback on it but we by at least two or three years we had moved away from the mechanistic skills and more towards critical thinking about information. Information literacy isn’t about finding, using, evaluating information that is a piece of it. We’re looking more at critical thinking written large because you can’t be information literate if you can’t think critically.”

There were three sub-themes around the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016) that were less complimentary, since instructors believed that from a theoretical stance the Framework represented “high level concepts” (two coded interview comments) which were as yet “un-measurable” (one coded unit), which were generally introduced to students in their majors and not at the freshman level. They were also critical of the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016) suggesting that they were unable to teach all the frames to the students

in their classes, since they did not see the necessity for teaching anything that did not fulfill their unique outcomes. As one librarian pointed out:

“Okay, so my response to what the Framework...it’s heading in the right direction and makes a lot of sense to me...as far as how we use it we haven’t really sat there and say oh we’re going to now teach research inquiry, we don’t necessarily do that because we are still strongly about the learning outcomes that we have written that are meaningful to us and kind of match our campus culture...we use ACRL Framework and other standards as an information item or a launching point of inspiration.”

Despite the negative views that abounded at some institutions associated with implementing the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016), there are also those instructors that were interested in implementation and application and three interview comments were coded in the sub-theme “incorporating into curriculum” (three coded interview comments). There were other Framework for Information Literacy for Higher Education (2016) critics who had realized the importance of the new Framework (2016), not only because they had pre-empted the Association of College and Research Libraries Framework and were already applying the concepts the Framework (2016) was suggesting be introduced, but they already had created their own unique undergraduate learning outcomes that were very similar to the Framework (2016) concepts to show for that. They were willing to test their own undergraduate learning outcomes unique to their institution by having their students take the TATIL (Threshold Assessment Test for Information Literacy Assessment) that had just been created in 2015 as a means of

assessing each of the frames of the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016). In relation to this the instruction librarian said:

“I think that what I understand...the TATIL has a test for each frame...they’re offering a mix and match, so I don’t know if we could pick and choose the questions that direct apply it to our learning outcomes at xxxxx and maybe measure it that way. I mean I don’t think our learning outcomes are radically different from the frames.”

Exploring what instructors thought about moving toward implementing the Framework, under the “Application & Alignment” sub-theme an instructor explained that

“We try to throw in these higher level learning concepts when it makes sense to do...we did it a little bit in our tutorial for our first year seminar students, we did through in a little section about the scholarly conversation and we changed our types of information section to move away from focusing on format and more just focusing on like what kind of information it is, so we did make little tweaks here and there to try to incorporate the concepts from the frameworks a little bit more.”

Instructors were also combining specific parts of the Association of College and Research Libraries Standards (2000) and the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016) and were as one librarian suggested, moving towards a combination or hybridization of the two guidelines when students received their instruction. The sub-theme “hybrid” had two interview

comments coded to it, because the instructors were already commenting on this happening in their classrooms. As one librarian suggested:

“You know in the future as we go further away from the Framework implementation we’re gonna see more of this hybrid, I feel, of the two, you know ‘cause a lot of schools have invested time into that original document and it’s kind of hard to just midstream tell everyone to just dump it.”

Library instructors were also candid about not only the hybridization of the Association of College and Research Libraries Standards (2000) and the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016) but also about including other rubrics in the mix because they believed that “Personalization” which was a sub-theme under the major “Combination” theme and to which eight interview comments were coded.

“Let’s say we’re using a combination still yeah, we it’s definitely informing our practice but we haven’t switched over entirely... it’s definitely in line with what we’ve been thinking again going from the skill-based to the Standards in our minds are more skill based, and moving to the...switching...to more of a higher order of thinking skills.”

There were also institutions suggesting that since they promoted a high level of academic freedom and instructors and faculty collaboratively chose and applied educational approaches that best suited their presentations within the major. As an instruction librarian explained:

“You know there’s a lot of personalization taking what the standards are and applying it to how it relates to our program, that’s exactly what we’re doing and

different libraries faculty will approach it in a different way and that's the freedom that they have in terms of their faculty status"

It was also later pointed out in the same vein that:

"You know one of the best practices was about encouraging and allowing a lot of different pedagogic approaches and I think that would be true for us though. I think that you know within a large distributed environment like ours people take on a lot of different theoretical approaches and so some of those theoretical approaches which probably align with disciplines they're working with you know they bring to there."

Instructors were also forthcoming about how they used the AAC&U Value Rubrics alongside the Framework and Standards in their classes, and how they were also making use of other Standards this combination was working well for them in their subject specific information literacy classes. The "AAC&U Rubrics" had 13 interview comments coded to it, while five interview comments were coded to subject specific standards. An instructor explained about the AAC&U Rubrics:

"So we've used the AAC& U Value Rubrics for information literacy and critical thinking and communication to develop our rubrics for looking at student work at the freshman level, at the junior level and at the senior level they've been really useful to us in creating those assessment tools and then as I said that they also provided a lot of the language and eh major outcomes for our university learning outcomes to that's sort of the framework that we're working within."

In addition, instruction librarians were also very articulate about the other standards they were using in their instruction sessions:

“So there’s one Framework that’s not information literacy specific but it’s the Framework written by the Writing professors of America, and like the Writing Council, which is like sort of the what is it called, it’s basically an outline for what students should doing a first year writing program, what students should know about writing and there’s a whole lot of overlap with information literacy concepts and standards in that particular document”.

In-relation to this discussion about using additional standards other than those from Association of College and Research Libraries in their information literacy classes specifically with students in their majors, another instruction librarian from a different institution stated:

“So our Science Librarian works with different professional standards, so our Nursing Librarian for example is using healthcare and nursing standards, our K-12 teacher education students, they’ve got national and state standards, so in a given discipline there may be more specific outcomes...there are guidelines that layered on top of them.”

Librarians pointed out the importance of implementing these standards in their classes because they were important to the faculty they were working with and whose subject areas they were creating their information literacy courses to support.

Theme: The Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016), Combination and Rubrics & Additional Standards

The Question 2 Themes and Sub-Theme are listed in Table 4.15. The total n number of interview comments coded in answering Question 2 was 102. There are 27 interview comments coded to this theme and there were 6 related sub-themes. The largest

sub-theme was “application & alignment” since 19 interview comments were coded to it. As a result, there were several instances in the interviews where instruction librarians explained that they were already teaching the six frames and therefore applying their knowledge of the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016), its six frames and the related theory when teaching students in the classroom. In one such instance the instruction librarian clarifies exactly why they went forward in implementing the Association of College and Research Libraries Framework (2016) in their classes and what this application has led to:

“The framework has provided very useful language for us that articulated a lot of things that we’re doing but I would say more than that, we got tired of the Standards and we didn’t like how narrow and limiting the Standards were and a small handful of us started learning about critical librarianship and critical information literacy and once that was kind of the impetus for our moving away from those mechanics and so like said that was at least a year or two or three before the Framework started to be publicized.”

Theme: The Association of College and Research Libraries Standards (2000)

“The Association of College and Research Libraries Standards (2000)” theme had 29 coded interview comments, with three sub-themes, application & alignment that had 16 interview comments, mechanistic/tool literacy that had five interview comments and standards-based ULO’s” that had eight interview comments. It was very clear from the transcripts that the Association of College and Research Libraries Standards (2000) were used by instructors either singly, alongside the Association of College and Research

Libraries Framework for Information Literacy for Higher Education (2016) or combined with the Value Rubrics and other subject specific standards. Two institutions had undergraduate learning outcomes that cemented the ACRL Standards (2000) as the rule to follow, and both these colleges were not interested in implementing the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016) in the near future, because they had spent several years working with their general education requirements committees to adopt the latter and did not want to make any changes.

“I feel like our university level learning outcome for information literacy was based on the old ACRL Standards. As well as pretty much most of the course level outcome for information literacy. So really, we pretty much, I feel like, we are using for the most part of the old standards, but that is because our university adopted them as using them as actual learning outcomes...we can't really just like deviate from them then and start using the new Framework...we already have learning outcomes.”

Most instructors that had not used the Association of College and Research Libraries Standards (2000) to create concrete undergraduate learning outcomes appeared to have a love-hate relationship with the Association of College and Research Libraries Standards. Some claimed that the Standards were too rigid in application, but others indicated they actually did provide instructors with a firm foundation on which to build their classes and make them ready for application for the Association of College and Research Libraries Framework (2016). As one instructor commented:

“I never sort of really liked to use the Standards as sort of tick marks that you have to check off, I just never liked that...it basically...served as a firm sort of foundation onto which to build.”

Theme: Guidelines and Non-Application

The “Guidelines” theme had one sub-theme, “informed thinking” which had eight interview comments coded to it. According to the transcript analysis, although most librarians were moving toward implementing the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016) in some form or other in their instruction, there were still those who stated that the old Association of College and Research Libraries Standards (2000) were still vital. This was because their libraries had not moved away at any time from teaching basic skills to their students, whether they were freshmen or seniors. They saw them as critical skills that students had to master as one instructor emphasized during his/her interview:

“The Standards are more you know they’re skill based. The finding, evaluating, assessing, citing but then I think you know we still need some of those critical skills in our you know especially among the freshmen classes, we’re still gonna need to address those.”

Librarians also thought in most cases, except for where the Association of College and Research Libraries Standards (2000) had become undergraduate learning outcomes, just as they did about the new Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016), that the Standards (2000) were in fact to be considered as guidelines for their instruction and that they could not be considered to be inflexible or set in stone:

“I think we use them only as a kind of a backdrop or a place or sort of a touchpoint and I think some of it is related to the fact of how very old our information literacy program is at xxxxx it started so far before those standards and it’s like if we’re grown parallel ways and we don’t ignore the standards or anything but we also don’t, you know...use them, I don’t know as a real firm guideline as far as I’m concerned.”

There were always those information literacy instructors who did not apply either the Association of College and Research Libraries Standards (2000) or the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016) simply because they did not believe that either were “...*meant to be a blanket or to be wholly adopted in the same way.*” They strongly believed in the need for librarians to use both as touch points that generated ideas and allowed librarians to be creative and adapt these guidelines as they saw fit in the classroom setting where their work with their students was unique.

The “non-application” theme meant that instruction librarians were making no attempt at applying the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016) in their presentations to students at their college, had one sub-theme “no formal adoption” had eight interview comments coded to it. The “no formal adoption” theme indicated there was no formal adoption at their institution of any ACRL Standards. Instead, instructors were teaching what they believed as practicing librarians they followed the research, but did not adopt any formal standards. They taught students what they needed to know in order to write their papers and pass their courses.

Theme: General Education Program

The “General Education Program” theme had 12 interview comments coded to it and was broken down into three sub-themes, the undergraduate learning outcomes which had four interview comments coded to it, the “Cultivation of the Student Scholar” which had five interview comments coded to it and the “First Year Experience” which had three interview comments coded to it.

It was found that the general education programs of each of the eight schools were central to their information literacy programs and how they were developed and organized, how the undergraduate learning outcomes that were often created in collaboration with the faculty were developed and the format of the classes offered through the program e.g. how exactly information literacy was integrated into the institution’s First Year Experience and also into the majors. The “Undergraduate Learning Outcomes” were defined one instruction librarian as:

“The learning outcomes that we’ve crafted for any undergraduate in any program will achieve for any undergraduate or any program...the undergraduate learning outcomes refers to engaging in critical thinking and making use of information and that is something that we definitely hang our hat on...so those are the outcomes...we’ve crafted as a unit and it is meaningful to us.”

During the “First Year Experience” it was common for the instruction librarians to integrate the AAC&U Value Rubrics (American Association of Colleges and Universities, 2017) into their outcomes as they taught critical thinking, inquiry and information literacy skills to their freshmen. Regarding the “First Year Experience”, two institutions were very articulate about the inclusion of the cultivation “of the student

scholar” as being a part of their teaching. Relating to their program one instruction librarian pointed out:

“Because we’ve seen indications of research about you know that students need to feel part of a community, they need to feel part of their university community in order to fully engage with the learning environment and so we found that we work with students and say their first year seminar course that we do in their new year, two week section on that’s related to college level research, we don’t focus on specific skills like clear –cut databases. Instead we talk about how the universities organized and why students pick their major and then how scholars can, in the social sciences, how they do research or how they ask questions or how to answer questions.”

Teaching the Association of College and Research Libraries Standards (2000) and the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016) in the classroom

The Table 4.16 is a representation of five activities that instructors from all eight institutions taught in the classrooms when applying both the Association of College and Research Libraries Standards (2000) and Association of College and Research Libraries the Framework for Information Literacy for Higher Education (2016) frames. Instructors already applying the Framework concepts were interested in having their students participate in a new assessment that had been created by Project SAILS for the assessment of the frames, called the Threshold Assessment Test for Information Literacy (TATL). The assessment was still in development and institutions were asked to participate in field-testing in relation to one of the frames.

Table 4.15

Teaching the Association of College and Research Libraries Standards (2000) and the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016)

<i>Themes</i>	<i>Class Projects</i>
<i>Student Activities</i>	
<i>Application</i>	Microbiology bibliography project
	Teaching the process of developing questions
	Annotated Bibliography
	Reflective Component added
	Worksheets
<i>Assessment</i>	The Threshold Achievement Test for Information Literacy
<i>Faculty Involvement Activities</i>	
<i>Thought Stimulation</i>	Involvement in ACRL Discussion Online
	Took ACRL Workshop
<i>Application</i>	Librarian Discussion Groups
	Creativity
	Identify stumbling blocks for students
<i>Waiting</i>	Waiting to see what other libraries do with Framework

Instructor involvement included participating in Association of College and Research Libraries online discussion groups with their peers and also in workshops around the Framework for Information Literacy for Higher Education (2016). Both activities were a means of professional development and training to prepare to apply the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016) in some format in the classroom setting. They were also participating in discussion groups at their institutions regarding the Framework for Information Literacy for Higher Education (2016) and how concepts relating to it would be taught. Instructors stated that they were already applying threshold concepts from the Framework for Information Literacy for Higher Education (2016) such as identifying the stumbling-blocks that their students were experiencing when learning information literacy concepts and then applying creativity to their teaching sessions to teach their students, as one instructor explained:

“I’ve worked with a faculty member in biology for gosh, I guess fifteen years and we have fine-tuned what we call a running bibliography project, which is in a Microbiology class which is really about the process of questioning and letting questions direct where you’re going, and I think because it’s like so many times I go to get an answer I think that the Framework allows us to think more creatively along those lines in terms of questions, so I think it’s gonna be a big help to us.”

Summary

The research question posed was: *How do exemplary four-year college library information literacy courses implement the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016)?*

When analyzing Question 2 interviews, a total number of 102 interview comments were coded and seven themes emerged. These were: The Association of College and Research Libraries Framework (2016), The Association of College and Research Libraries Standards (2000), Combination, Guidelines, Non-Application, General Education Program, and Rubrics & Additional Standards. There were 23 sub-themes organized under the seven themes.

Major findings suggest that instruction librarians at six of the eight Association of College and Research Libraries exemplary libraries studied where the ACRL Standards (2000) had not been hardcoded into their undergraduate learning outcomes were implementing the ACRL Framework (2016) concepts in their information literacy classes. Librarians were participating in this implementation for two reasons, either they had pre-empted the Framework concepts and were already teaching those concepts in their information literacy courses prior to the release of the ACRL Framework (2016), or they were open and willing to experiment with the Framework (2016) and its frames. Some instruction librarians were using both the Association of College and Research Libraries Standards (2000) and the Association of College and Research Libraries Framework (2016) as well as other Standards from different disciplines together to meet their unique learning outcomes. The Framework (2016) critics who had realized the importance of the new Framework (2016), not only because they had pre-empted the Framework for Information Literacy for Higher Education (2016) and were already applying the concepts the Framework for Information Literacy for Higher Education (2016), but they already had created their own unique undergraduate learning outcomes that were very similar to the Framework for Information Literacy for Higher Education

(2016) concepts. They were willing to test their own undergraduate learning outcomes unique to their institution by having their students take the Threshold Achievement Test for Information Literacy (TATIL) that had just been created in 2015 by Project SAILS (2016) as a means of assessing each of the frames of the Framework for Information Literacy for Higher Education (2016). Instructors were also combining specific parts of the ACRL Standards (2000) and the Framework for Information Literacy for Higher Education (2016) and were as one instructor suggested moving towards a combination or hybridization of the two guidelines when students received their instruction. Library instructors were also candid about not only the hybridization of the ACRL Standards (2000) and the Framework for Information Literacy for Higher Education (2016) but also about including other rubrics in the mix because they believed that “personalization” was important to how they taught their classes.

Research Question 3

The research question asked: *How do exemplary four-year colleges and universities implement digital literacy and the six frames of the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016)?*

The purpose of the study is to better understand how exemplary four-year institutions implement both technology and digital literacy and how the six frames of the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016) were used in their courses.

Question 3's interviews were coded by hand using bottom-up coding. The Question 3 Themes and Sub-Themes can be viewed below in Table 4.9. An analysis of participant transcripts provided 85 coded interview comments from their responses to this question. Five major themes and 27 sub-themes were identified during coding. The five major themes were: the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016), the Association of College and Research Libraries Standards (2000), Undergraduate Learning Outcomes, Teaching Methods and Approaches and Teaching Digital Literacy.

Question 3: Themes and Sub-Themes

The Question 3 Themes and Sub-Themes are listed in Table 4.17. The total number of interview comments coded to answer Question 3 was 85. There were five major themes: Teaching Methods and Approaches Decisions with 30 interview comments coded to it, the Association of College and Research Libraries Standards (2000) with 20 interview comments coded to it, the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016) with 18 interview comments coded to it, Teaching Digital Literacy with 15 interview comments coded to it, and Undergraduate Learning Outcomes with one unit coded to it. Decisions made relating to what was taught in the information literacy courses that were designed at each of the eight exemplary colleges and universities were directly related to how information literacy was integrated into the general education program at that specific college or university and to the outcomes that were created by instruction librarians in collaboration with the faculty. At all eight institutions information literacy was integrated both at the First Year Seminar or Experience level, where freshmen participated in a variety of

different types of instruction and then also at the level of the major. In six of the eight colleges, the best features of the Association of College and Research Libraries Standards (2000) and the Framework for Information Literacy for Higher Education (2016) were being adapted so that these would meet the unique outcomes of each of these institutions

Table 4.16*Question 3 Themes and Sub-Themes*

<i>Major Themes</i>	<i>Sub-Themes</i>	<i>Interview comments</i>
<i>ACRL Framework(2016)</i>		18
	Six Frames	12
	Incorporation & Integration	3
	Not taught	3
<i>ACRL Standards(2000)</i>		22
	Tool Literacy	22
<i>Undergraduate Learning Outcomes</i>		1
<i>Teaching Methods and Approaches</i>		30
	Videos	2
	I-pad	1
	Online Tutorials	7
	Blended courses	4
	Online courses	3
	Module Development	1
	Embedding	1
	Libguides	1
	Media & Social media platforms	1
	Workshops	1
	Discussion Groups	1
	Chat Reference	1
	Cultivating the Student Scholar	2
	Anti-Technology Approach	3
	Coding not taught	1
<i>Teaching digital literacy</i>		15
	No effort to include it	2
	Metalliteracies	3
	No separation between information literacy and digital literacy	1
	Teaching about metadata	1
	Teach data management and data literacy	2
	Not in the course outcomes so it cannot be taught	1
	Technology integrated in what we teach	2
	Students expected to use technology	3
<i>Total Interview comments</i>		85

At the institutions where the general education program committees or boards had been persuaded to adopt the Association of College and Research Libraries Standards (2000) as undergraduate learning outcomes (to which one unit was coded), and this was the case for two colleges out of the eight. There was an unwillingness on the part of these librarians to move away from the Association of College and Research Libraries Standards (2000) and adopt the Framework (2016), since it had taken years of hard work to attain the integration of the latter. This was made clear when a participant stated referring to integrating or adopting the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016) in their information literacy courses:

“We won’t be using it to reframe our outcomes because our learning outcomes are tied to our university learning outcomes. So that’s really important to us to be in line with what’s happening at our local institution.”

Along similar lines another participant pointed out that the libraries creating information literacy programs were not been relying on the Association of College and Research Libraries Standards (2000) or the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016) for the creation of their learning outcomes. Instead, they have used three AAC&U Rubrics (American Association of Colleges and Universities, 2017) as standards and had tweaked those to meet their institution’s unique outcomes. Here is what an instruction librarian from a different college said:

“Our university’s learning outcomes were developed with reference to the ACRL 2000 Standards but they also were impacted by a lot of other things especially the

AAC& U Value Rubrics and Leap Learning Outcomes. So our university learning outcome of critical thinking and inquiry is most closely related to the AAC& U definitions for critical thinking and inquiry and information literacy and so that's really the basis of our instruction program rather than anything that came from ACRL."

Exploring what instructors thought about moving toward implementing the Framework, under the "Application & Alignment" sub-theme an instructor explained that

"We try to throw in these higher-level learning concepts when it makes sense to do...we did it a little bit in our tutorial for our first year seminar students, we did through in a little section about the scholarly conversation and we changed our types of information section to move away from focusing on format and more just focusing on like what kind of information it is, so we did make little tweaks here and there to try to incorporate the concepts from the frameworks a little bit more."

Information literacy instructors were also combining specific parts of the ACRL Standards (2000) and the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016) and were as one instructor suggested moving towards a combination or hybridization of the two guidelines when students received their instruction. The sub-theme "Hybrid" had two interview comments coded to it, because the instructors were already commenting on this happening in their classrooms and one suggested:

"You know in the future as we go further away from the Framework implementation we're gonna see more of this hybrid, I feel, of the two, you know

'cause a lot of schools have invested time into that original document and it's kind of hard to just midstream tell everyone to just dump it.'

Instructors were candid about not only the hybridization of the ACRL Standards (2000) and the Framework for Information Literacy for Higher Education (2016) but also about including other rubrics in the mix. They believed that “personalization” which was a sub-theme under the major “Combination” theme and to which eight interview comments were coded, was important since their institutions promoted a high level of academic freedom and instructors and faculty collaboratively chose and applied educational approaches that best suited their presentations within the major. As an instructor explained:

“You know there's a lot of personalization taking what the standards are and applying it to how it relates to our program, that's exactly what we're doing and different libraries faculty will approach it in a different way and that's the freedom that they have in terms of their faculty status.”

It was also later pointed out in the same vein that:

“You know one of the best practices was about encouraging and allowing a lot of different pedagogic approaches and I think that would be true for us though. I think that you know within a large distributed environment like ours people take on a lot of different theoretical approaches and so some of those theoretical approaches which probably align with disciplines they're working with you know they bring to there.”

Themes: The Association of College and Research Libraries Framework (2016)

The Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016) theme was divided into three sub-themes: the six frames, “Integration & Incorporation” and “not taught.” This major theme had 18 interview comments coded to it. The six frames sub-theme had 12 interview comments coded to it while the integration & incorporation sub-theme had three interview comments coded to it and the “Not Taught” sub-theme had three interview comments coded to it. Around the major theme, the instruction librarians at six of the exemplary universities have an interest in the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016) and have applied specific frames, but never all six frames at any of the universities. One of the problems with the in-depth application of the six frames is that all the universities participate in information literacy integrations into their general education programs that require the instructors from the library to present one-shot presentations, online tutorials or otherwise be embedded in specific courses. As a result, they did not have time to use all six frames of the framework in their presentations, but tended to favor specific frames over others, the two most popular being “Scholarship as Conversation” and “Authority is Contextual.”

“Yeah definitely of the Framework the six frames, we’re doing most of them, we’re doing them through research process as inquiry, it’s observing the world around them and then asking questions to find possible solutions. We’re definitely doing scholarship as conversation where they’re now part of the community of student scholars...We’ve talked about authority, especially introducing them to what it means to be a college student and why professors who are experts in their fields are asking them to use scholarly research...”

In comparison there were also instruction librarians at other colleges that were concerned about the expectation that they had to include the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016) and the six frames when they were presenting an information literacy class. In response to being asked whether the six frames were being taught in any way through technology, the instruction librarian responded:

“Not really, and part of that too is because I don’t necessarily approach information literacy instruction by saying “I must teach all students these six frames...you know we don’t teach one and two credit information literacy courses there.”

On the other hand, there were librarians who were still very unsure of whether or not to integrate or incorporate the frames from the Framework into their information literacy classes, because as one librarian stated:

“We consider the standards till viable standards, whereas the Framework is kind of a meta-looker it’s kind of a big brother topics and a Framework really so that you can pin the Standards on it. We have been taking a cautious approach, we haven’t been doing a lot...we haven’t really formally done anything yet with those Framework thing, although really it comes into conversation when we are planning you know the curriculum and what we’re going to be doing next because it’s important for students to see that bigger picture.”

The “Integration & Incorporation” theme related directly to instructor’s comments from the eight exemplary information literacy programs regarding their interest in a current or future integration and incorporation of the Association of College and Research Libraries

Framework for Information Literacy for Higher Education (2016) into their information literacy course structures.

“I have been meeting with professors in our Geography Department because they have gone through a program review and so we are re-thinking how we are incorporating information literacy into that particular major and so I sent them, I took the ACRL Framework and so I summarized, made it three pages long instead of eighteen page...so we looked at the Framework and we’re actually incorporating it differently and they’re very excited...”

The Table 4.18 represents assignments that library instructors have taught at the eight exemplary information literacy programs studied, using the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016) and the six frames. The table was organized into two columns, Themes related to the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016) and assignments and activities that have been organized in instructor’s information literacy classes around the Framework for Information Literacy for Higher Education (2016). The two most common frames were “Authority is Constructed” and “Scholarship as Conversation” and explained that they taught the frames that applied to the instruction they were providing, so if they were teaching about authority then they chose “Authority is Constructed.” Instructors provided six examples of assignments and activities that they had used in their information literacy classes over the past few months, since the Association of College and Research Libraries Framework (2016) was in flux. Librarians pointed out that they did not feel that they “must teach all frames” to all students. They were more apt to teach one or two of the frames, or frames

that uniquely fit their instruction topic or highlighted it in some way. They did not feel that they needed to be compelled to teach all of the six frames in their classes, nor did they believe that they had to teach the six frames of the Framework (2016) to their students at all. Just like with the ACRL Standards (2000), they considered the Framework (2016) to be a guideline for instruction which would serve to inform their own information literacy practice, and not as a given or a rule by which they needed to instruct their students.

Table 4.17

Assignments and Activities structured around the Association of College and Research Libraries Framework (2016)

<i>Themes related the Framework (2016)</i>	<i>Assignments and Activities</i>
<i>Authority is constructed</i>	Whose voices are missing; use current headlines to find patterns and gaps for whose voice is missing in the conversation
	Explore website and answer questions about website authority e.g. who created the site
	Why or why not to use Wikipedia, what is the relation to authority?
	Introducing first year students to the university and the idea that their professors are experts in their fields and now they are being asked by the experts to do scholarly research
	Gather data and create annotated bibliography
<i>Scholarship as conversation</i>	Writing papers and acknowledging research and then filling in gaps with their own experience
<i>I must teach all frames does not exist</i>	Teach only certain frames that fit unique course
<i>Do not teach the Framework</i>	University Learning Objectives (ULO) dictate what is taught
	Outcomes agreed upon by librarians and faculty and do not include the Framework

Theme: The Association of College and Research Libraries Standards (2000)

The Association of College and Research Libraries Standards (2000) had 22 interview comments of coding and only one sub-theme to which all the coding was connected, “Tool Literacy.”

Interview findings suggested that the Association of College and Research Libraries Standards (2000) were still very heavily applied across all eight exemplary institutions, whether or not they had chosen to mix the Association of College and Research Libraries Standards (2000) with rubrics and the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016) or additional Standards from other disciplines. Every instruction librarian considered it necessary to teach their students the information literacy fundamentals, such as being able to use the library catalog, search the databases and use the library tools that were available to both freshmen and students in the majors, in order to do research effectively. As one library instruction librarian states:

“We’re pretty much using the library resources so our library website...our integrated search and then our different databases, we’re pretty much, that’s what we’re teaching students how to use...so we really focus on how to find information and then how to evaluate it and then sort of that phase of production...”

Theme: Teaching Methods and Approaches

Two major themes were identified during the coding of the questions posed related to Question 3; they were “Teaching Methods” and “Approaches.” Thirty total interview comments were coded in association with the “Teaching Methods” theme and

out of these, four interview comments were coded in association with two specific “Teaching Approaches” thematically identified as the “Anti–Technology Approach” and “Coding Not Taught” approaches. Twenty-six interview comments were divided across 15 subsidiary sub-themes related to the manner in which students were being taught at the eight institutions in the study.

The instructors interviewed during the study collaborated with their institutional faculty to present information literacy instruction classes to their students in thirteen different formats. Eighty percent of the 13 formats identified were online formats, and 20% were face-to-face formats. Thus the most common online formats information literacy instructors were using to teach and transfer information literacy content were: videos on different information literacy topics, Ipad instruction, online tutorials, blended courses, course module development, embedded librarians, LibGuides, utilizing media and social media platforms, online discussion groups, and chat reference. In face-to-face classes, librarians used discussion groups in their teaching. In two institutions librarians developed presentations in different formats that cultivated the student scholar. This was done by developing the freshman identity as not only to become an active member of the university community, but also as a student scholar, as described by a librarian during interviews who said:

“We are so focused on helping students understand the idea of being a student scholar and being part of an academic community, it doesn’t leave a lot of room for kind of information literacy and a lot of other areas of your life, like digital literacy, digital citizenship, media literacy.”

Since the majority of the institutions in the study had large student populations, it made sense that often the librarians were dependent on technology to make their information literacy instruction sessions with their students work, since online tutorials and embedding which was commonly used, required technology. As one librarian pointed out:

“How do you ensure that happens when you’re at 25,000 students and which is not to say that the connection cannot happen but technology, it can sometimes actually be facilitated by technology. For example, a chat restaurant is extremely popular with students and we have very rich interactions with students and chat reference.”

The second theme, teaching approaches was specifically related to how technology was being taught at the eight exemplary institutions studied. The teaching approaches theme had two sub-themes, the “anti-technology approach” and a “do not teach coding” approach. For information literacy instructors, who felt teaching was tool literacy focused, also tended to have less interest in teaching technology. One librarian stated that:

“I think it’s not so much how would you use technology, but the, but how would you thoughtfully employ technology when needed...I reject the notion that technology is always the answer...what needs to be cultivated more...is the understanding that there are times technology is the absolute tool to use...understand when technology is not the most important thing...where is technology inappropriate? Where does technology get in the way, where is it an obstacle?”

Theme: Digital Literacy

The teaching digital literacy theme had eight sub-themes and 15 total interview comments coded to it. These themes and sub-themes are described in Table 4.19. The digital literacy sub-themes were: The eight sub-themes were related to the actual teaching of digital literacy as part of information literacy instruction. These were as follows: “Teaching Metaliteracy” which had three interview comments, “Teaching Metadata” which had one interview comment, “Teaching Data Management and Data Literacy” which had two interview comments, “No Separation between Information Literacy and Digital Literacy” which had one interview comment. “Not Teaching Digital Literacy” at all such as: “No Effort included in Teaching Digital Literacy” had two interview comments and “No Course Outcomes” so that digital literacy cannot be taught had one interview comment and “Technology Integrated in What We Teach” which had two interview comments. Since there were librarians who believed that everything they taught to their students included technology in some form or other, “Students Expected To Use Technology” (which had three interview comments), meant that there were librarians who believed that students came to college with technology skills and know-how. As a result of the latter, they did not specifically need to teach students how to use technology in their classes, thus “Technology Integrated” had two interview comments.

Table 4.18
The “Digital Literacy” Theme and Sub-Themes

<i>Major Themes</i>	<i>Sub-Themes</i>	<i>Interview Comments</i>
Teaching Digital Literacy		
	No separation between information literacy and digital literacy	1
	Teaching Metaliteracy	3
	Teaching Metadata	1
	Teaching Data Management and Data Literacy	2
	No Effort in Teaching Digital Literacy	2
	No course outcomes	1
	Librarian technology Expectations of Students	3
	Technology integrated	2
GRAND TOTAL		15

As one librarian stated during their interview regarding how librarians viewed the topic of students and technology:

“Well, the technology is pretty well integrated, very much integrated into all of our information literacy and it’s...all of our classrooms are... have 25 work computer workstations so whatever we teach it...so we integrate the technology with it...the students are expected to be technology...they are expected to have a certain level of technology, and if not then we try to give them the tools to get up to that speed and even in our regular single sessions our classes.”

Library instructors participating in the interviews were very articulate about whether or not they were actually teaching digital literacy in their information literacy classes. As one librarian stated:

“Oh we’re using...in digital literacy we’re teaching it and then we’re also walking the walk, we’re not just talking, talking about it...we’re teaching we’re using a variety of media and a different variety of sources as well.”

While another instruction librarian stated that there is really no separating information literacy from digital literacy because digital literacy was much more than just teaching students how to use technology:

“You know dealing with the digital world and the information created digitally is so much a part of...it’s almost...you can’t you can’t separate information literacy from digital literacy and in some ways I guess it depends on how far you go in defining digital literacy and how narrow you are because for example like I told you for example I don’t necessarily talk about I don’t necessarily teach about you

know like different field formats not all the time, but I do... technology workshops...I do talk about things like metadata.”

Table 4.20 describes activities that information literacy instructors at the eight exemplary institutions suggested they did when teaching technology and/or digital literacy to their students. The table is divided into instruction done with freshman and then also with students receiving information literacy instruction in the major. Instructors shared eleven activities that they used in the classroom with their students related to enhancing digital literacy skills.

Table 4.19*Teaching Technology and Digital Literacy*

<i>Teaching Technology and Digital Literacy</i>	<i>Teacher Activities</i>
<i>Freshman</i>	Teaching that media can be scholarly; that popular and mass media can be added to scholarly conversation
	Chat Restaurant
	Teaching technology workshops e.g. how to use Zotero
	Teaching research e.g. topic of graffiti; need to have interviews with graffiti artists; explore blogs and articles on the topic
	How to leverage technology by using specific search tools for specialized purchasing or for finding an apartment
	Teach about Internet topics; Google, privacy, social networking, access issues, government surveillance
	Students are already digitally literate; students should be at a technological level when they enter college allowing us to build on it
	Teaching information literacy using an online game: RADAR
	Teaching students about metadata
	Teaching data literacy and management
	Teaching Google scholar algorithms and rankings compared with the online library databases
	IPad Intervention in English classes
<i>Students in the Major</i>	Senior Inquiry teaching scholarship as conversation often with technology

Digital Literacy Discussion

Instructors at various institutions explained how they taught digital literacy in the classroom. Instructors made use of the frame “Scholarship is a Conversation” when teaching their students about media and mass media and how each could be used as scholarly resources. Students had discussions about how to find and use media resources and mass media e.g. news clips, videos, and other types of digital media such as podcasts in their scholarly pursuits. Students learned how to use free citation creation tools available on the web and research and analysis tools such as Zotero to gather and organize their citations. Students were also directed to the archival repositories owned by their institutions and encouraged not only to submit their undergraduate research to these repositories but also to be able to read archival records and metadata, so that they could find useful information for papers they were required to write while still taking general education courses. Instructors were also teaching their undergraduate students how to use analyze qualitative and quantitative data, preparing them to become student-scholars that were ready to become researchers once they had finished their first degree.

Instructors also used information literacy games such as RADAR (created by one of the institutions included in this study). Radar is a challenge game that teaches students how to evaluate sources. For the in-class exercise, the class is given a topic e.g. Government Regulation and Fracking, and students work in teams. They have to choose between a scholarly, popular and trade publication for their research article and vote on which one to choose for writing their scholarly paper.

“When they have finished answering all the questions, they write their team name and score on the whiteboard and the winning team can sometimes get a

prize...this activity would also pair well with an exercise/discussion on the differences and similarities between academic sources and credible sources.”

When teaching undergraduate students how to research, instructors chose unique topics that were of interest to students and that would get them to participate in the research conversation. Subject choices such as graffiti, allowed the instruction librarian to not only show students where to find articles about the topic, but also directed students to find blogs by graffiti artists and interviews about these artists that provided them with many different types of digital sources. The students could use these resources to analyze the topic, and gather additional topic ideas from using digital resources such as blogs and interviews when researching their own subject areas.

Instructors also stated that when teaching in the disciplines and collaborating with subject-faculty, they worked with seniors to complete projects, which were often graded by professors in the majors. However, librarians were often embedded or did different types of presentations to help seniors find the resources they needed for projects in the majors and subject library-liaisons often did one-on-one consultations with these students, providing direction for the successful completion of these projects.

Research Questions 1-3 Word Cloud

French qualitative researchers at the University of Provence and the University of Montpellier, Gambette & Veronis (2009) in *Visualising a text with a word cloud* defined word clouds as representations built directly from text using word frequencies, after getting rid of stop words, to be able to display words in a co-occurrence relationship. University of Bath qualitative researchers, Ramsden & Bate (2008), similarly stated that word clouds were "visual depiction of words" and that "the more frequent the word"

appeared “within the text being analyzed the larger the word” (p.1.) became when it was represented in a word cloud chart.

The Fig. 4.6 *Eight University Word Cloud* was created in NVIVO 11 Plus representing the Question 1 five question survey responses from the 23 participant transcriptions and from eight universities in the study. The limits set were the Word Cloud default limits in Nvivo 11 Plus, that included a word frequency of 1,000 and a minimum word length of three letters.

It is interesting to note that all the words in the word cloud connects to the largest and most central word in the word cloud: “Information,” as information or the search for information is central to the information literacy process. The second word that is central to the word cloud is “know.” This word directly relates to knowledge that is a concept also involved in the information literacy search process. We must find “information” and gather “knowledge” before there can be any analysis and interpretation that might then lead the student toward the creation of new “knowledge.”

Three more important concepts: “program,” “students,” and “literacy” are also included in the center of the word cloud. These three words are of definite significance to the information literacy process because the “program” at each of the universities in the study is created for “students” to develop their “literacy” skills as freshman and upperclass majors where information literacy is integrated into their subject-specific courses. Four additional words were course, library, learning, and online. All of these words connect with the first question of how information literacy courses are developed for students at each institution and how the library and online learning connects with student learning.

Summary

The research question posed was: *How do exemplary four-year colleges and universities implement digital literacy and the six frames of the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016)?*

For Question 3, an analysis of participant interviews provided a total of 85 interview comments from their responses. Five major themes and 27 sub-themes were identified during coding. The five major themes were: the Association of College and Research Libraries Framework, the Association of College and Research Libraries Standards (2000), Undergraduate Learning Outcomes, Teaching Methods and Approaches and Teaching Digital Literacy.

The major findings were that in two of the eight institutions studied, the Framework for Information Literacy for Higher Education (2016) was not taught. In six of eight institutions studied, the six frames were never taught in their entirety. Instructors chose to teach specific frames when they fit the instructional theme. They suggested that since they taught large student bodies, it was not possible to teach all six frames when they had to follow their learning outcomes and had many topics to cover and limited instruction hours to do so.

Technology was considered to be integrated into information literacy, since some librarians believed that you could not separate digital literacy from information literacy. There were also those who said that they did not teach digital literacy because of the time constraints they had with teaching their undergraduate students.

When information literacy and ultimately digital literacy were taught, librarians suggested that their students were being taught much more than just how to search

Google, use the databases and find periodical articles. They were being taught more than just how to use a computer mouse or how to master specific computer programs. They were being taught about information ethics, anti-plagiarism and how to understand the legal, social and political issues that were connected with their daily and long-term Internet and computer use.

Chapter Summary

Three questions were asked and answered in this chapter. Twenty-three interviews were conducted with instruction librarians from eight institutions. The interviews were transcribed and analyzed.

Analyzing Question 1, the major themes that were directly related to the “General Education Program” of which 396 coded interview comments were identified included: 174 interview comments related to “Strategic Planning,” 151 interview comments related to “Administration,” and 144 interview comments related to “Assessment.”

The major findings were that the academic libraries in the study had their library strategic plan aligned to the strategic plan of their institution often these plans included the requirements of the college accrediting body, especially when there were competencies such as information literacy proposed as best practices in area institutions. Plans to create an information literacy course started with the institution and the library’s strategic planning documents and mission statements, these documents were used as a guide for how to start the course outcomes development and building process. When the library’s strategic plan was developed, the library’s mission and vision were most often

in-line with that of the institution. Course goals and objectives were written that would guide library programming. Information Literacy was often just one of several general education undergraduate learning outcomes that were adopted and approved by general education committees across campuses.

A total of 151 interview comments were coded from interviews to the major “Administration” theme. The “Administration” theme had nine unique interview comments coded to it, and two sub-themes “Faculty” and “Librarians as teachers.” The “Faculty” sub-theme had one subsidiary theme and a total of 65 interview comments coded to it. Forty-five interview comments were coded to the “Faculty” sub-theme and 20 interview comments were coded to it the “Student Learning” theme. The “Librarians as Teachers” sub-theme had five subsidiary themes and a total of 77 interview comments coded to it. Twenty interview comments were coded to “Librarians as Teachers” sub-theme, the “Collaboration” subsidiary theme had 12 interview comments coded it, the “Liaison Program” subsidiary theme had 18 interview comments coded to it, the “Professional development” subsidiary theme had 11 interview comments coded to it, the “Reference Desk” subsidiary theme had 11 interview comments coded to it and the “Researcher” subsidiary theme had five interview comments coded to it. The themes with the most prominent interview comments in the “Administration,” were the “Faculty” and the “Liaison Program” themes.

The major findings suggested that information literacy programs in institutions were most successful when the library’s program was supported by the institution’s administration. Successful information literacy course and program implementation in all eight institutional settings were dependent on the collaborative arrangements made

between the instructional librarians and the faculty and the steps taken to integrate information literacy into general education courses or the disciplines. In all the institutions studied, instruction librarians were hired not only to instruct information literacy classes but also to serve as subject liaison librarians to one or more divisions or departments within the institution. It was the liaison librarian's job to serve as a liaison between the library and the subject division or department/ faculty and students. The liaison librarian was also responsible for developing subject-specific library collections and teaching students how to use the databases and resources that were related to the subject they were majoring in.

One-hundred and eight interview comments were coded to this theme "Best Practices in Information Literacy." The six themes associated with the "Best practices in information literacy" theme were "Reference" to which 17 interview comments were coded to it, "Information Literacy Curriculum" to which 38 interview comments were coded, "Information Literacy Models" to which eight interview comments were coded, "Curriculum and Program Administration" to which 25 interview comments were coded, "Information Literacy Assessment" to which six interview comments were coded and "No Information Literacy Best Practices" to which two interview comments were coded.

Findings indicated that instruction librarians were using best practices in six areas that directly related to the development and design of the information literacy course: in their reference interactions with students, in choosing information literacy and teaching and learning models that would fit their institution's programs, in the development of information literacy curriculum, in curriculum and program administration procedures and in assessing their information literacy courses and programs.

The “Information Literate Students” theme was organized into 12 sub-themes. One-hundred and four interview comments were coded to this theme. The twelve sub-themes associated with the “Information Literate Students” theme were “Anecdotal Evidence” to which 19 interview comments were coded, “No Measurements in Place” to which 14 interview comments were coded. Further sub-themes include “Disciplines and Majors” to which 14 interview comments were coded, “Rubrics” to which 14 interview comments were coded and “Standardized Tests” to which 14 interview comments were coded and General Education Outcomes to which 11 interview comments were coded.

Findings indicated that although there was a great deal of anecdotal evidence provided by instructors that their students were information literate when they graduated and that they were lifelong learners. No institutions had implemented tests for seniors that determined whether they were graduating information literate.

The “Assessment” theme was organized into three sub-themes with a total number of 144 coded interview comments. Sixty-three interview comments were coded to the “Assessment” theme. The three sub-themes associated with the “Assessment” theme were “Assignments” to which 39 interview comments were coded, “Rubrics” as teachers to which 23 interview comments were coded and “Standardized Tests” to which 19 interview comments were coded. The three sub-themes were interconnected since they were important to programmatic assessment.

Instructors in the study taught information literacy to their students in many different formats, but in each, they provided the students with information literacy assignments that were either completed prior to the class in the format of a tutorial, in-class or after the class and later used for assessment. Whether or not these assignments

were graded by the faculty teaching the course or whether these assignments were collected so that course assessment could be completed, depended on the specific collaboration the librarian had with the faculty member. Interview findings indicated that standardized information literacy tests were less common at larger institutions because librarians had to pay per student for test codes and also because larger institutions had more staff and resources to create their own homegrown tests. At the two smallest colleges in the study where sequenced information literacy courses were taught on a semester-basis, fixed-choice tests were administered by librarians to evaluate student information literacy progress. Newer assessments were also developed by these smaller colleges to determine how students were faring on their higher-level information literacy skills.

The “Association of College and Research Libraries Standards (2000)” theme had 27 total interview comments. Twenty-five interview comments were coded to this theme. This theme also had one sub-theme. “Pre-empted Standards” and three interview comments were coded to that sub-theme.

Courses developed in programs across all eight institutions, emphasized tool literacy elements that related back to the “Association of College and Research Libraries Standards (2000).” Tool literacy laid the foundation for student learning and also provided them with the knowledge of how to find resources and use the library databases. Tool literacy enabled student learners to master database content and extend their investigations, thereby becoming “more self-directed” assuming “greater control over their own learning” (ACRL Standards, 2000) and a better understand more complex information literacy concepts.

Some institutions in the study embraced concepts and specific frames connected to the Framework (2000) when building their course assignments and creating information literacy databases, even though in some situations they had not changed their course or program outcomes to include the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016). The Preempted Framework theme showed that librarians were vigilant about any changes that were being made to the Association of College and Research Libraries Standards (2000) and were aware that they already had implemented theory and process in their classrooms that were associated with the new frames in the Framework (2016). Institutions having adapted the Standards (2016) stated to their course outcomes suggested that they could not adopt an un-vetted new Framework for Information Literacy for Higher Education (2016) because the Standards (2000) although not set in stone, were what their course-outcomes were based upon.

Analyzing Question 2 interviews were coded by hand using emerging or bottom-up coding. There was a total number of 102 interview comments were coded and seven themes emerged. These were: “The Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016)”, “The Association of College and Research Libraries Standards (2000)”, “Combination, Guidelines”, “Non-Application”, “General Education Program”, and “Rubrics & Additional Standards”. There were 23 sub-themes organized under the seven themes.

There were several instances in the interviews where instruction librarians explained that they were already teaching the six frames and therefore applying their knowledge of the Framework, it’s six frames and the related theory when teaching

students in the classroom. Instruction librarians at six of the eight Association of College and Research Libraries exemplary libraries studied suggested that they were doing this for two reasons, either they had pre-empted the Framework concepts and were already teaching those concepts in their information literacy courses for several years prior to the release of the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016). The other possibility was that librarians were they were open and willing to experiment with the Framework for Information Literacy for Higher Education (2016) and its frames and were using both the Standards and the Framework and other Standards from different disciplines together to meet their unique learning outcomes. Despite the negative views that abounded at some institutions associated with implementing the Framework for Information Literacy for Higher Education (2016), critics who had realized the importance of the new Framework (2016), were already exploring specific frames in their own way. They were doing this not only because they had pre-empted the Framework and were already applying the concepts the Framework (2016) but they already had created their own unique undergraduate learning outcomes that were very similar to the Framework for Information Literacy for Higher Education (2016) concepts. Instructors were also combining specific parts of the Association of College and Research Libraries Standards (2000) and the Framework for Information Literacy for Higher Education (2016). One instructor suggested moving towards a combination or hybridization of the two guidelines when students received their instruction but also about including other rubrics in the mix because they believed that “personalization” was important. There were also institutions suggesting that since they promoted a high level of academic freedom and instructors and faculty

collaboratively chose and applied educational approaches that best suited their presentations within the major.

“The Association of College and Research Libraries Standards (2000)” theme had 29 coded interview comments, with three sub-themes, “Application and Alignment” that had 16 interview comments, mechanistic/tool literacy that had five interview comments and Standards-based Undergraduate Learning Outcomes” that had eight interview comments. It was very clear from the transcripts that the Association of College and Research Libraries Standards (2000) were used by instructors either singly, alongside the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016) or combined with the Value Rubrics and other subject specific Standards.

Course design at each of the eight exemplary colleges and universities was directly related to how information literacy was integrated into the General Education program at that specific college or university and to the outcomes that were created by instruction librarians in collaboration with the faculty. At all eight institutions information literacy was integrated both at the First Year Seminar or Experience level, where freshmen participated in a variety of different types of instruction and then also at the level of the major. In six of the eight colleges, the best features of the Association of College and Research Libraries Standards (2000) and the Framework for Information Literacy for Higher Education (2016) were being adapted so that these would meet the unique outcomes of each of these institutions. At the institutions where the general education program committees or boards had been persuaded to adopt the Standards (2000) as undergraduate learning outcomes and this was the case for two colleges out of

the eight, there was an unwillingness on the part of these librarians to move away from the Standards (2000) and adopt the Framework (2016), since it had taken years of hard work to attain the integration of the latter.

The Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016) theme was divided into three sub-themes: the six frames, “Integration and Incorporation” and “Not Taught.” This major theme had 18 interview comments coded to it. The six frames sub-theme had 12 interview comments coded to it while the “Integration and Incorporation” sub-theme had three interview comments coded to it and the not taught sub-theme had three interview comments coded to it. Around the major theme, the instruction librarians at six of the exemplary universities have an interest in the Framework (2016) and have applied specific frames, but never all six frames at any of the universities. One of the problems with the in-depth application of the six frames is that all the universities participate in information literacy integrations into their general education programs that require the instructors from the library to present one-shot presentations, online tutorials or otherwise be embedded in specific courses. As a result, they did not have time to use all six frames of the framework in their presentations, but tended to favor specific frames over others, the two most popular being “Scholarship as Conversation” and “Authority is Contextual.”

The Association of College and Research Libraries Standards (2000) had 22 interview comments of coding and only one sub-theme to which all the coding was connected, to the subsidiary theme was “Tool Literacy” (the ability to effectively use the databases and other technology tools to find academic resources).

Interview findings suggested that the Association of College and Research Libraries Standards (2000) were still very heavily applied across all eight exemplary institutions, whether or not they had chosen to mix the Association of College and Research Libraries Standards (2000) with rubrics and the Framework for Information Literacy for Higher Education (2016) or additional standards from other disciplines. Every instruction librarian considered it necessary to teach their students the information literacy fundamentals, such as being able to use the library catalog, search the databases and use the library tools that were available to both freshmen and students in the majors, in order to do research effectively.

The Question 3 was: How do exemplary 4-year colleges and universities use technology to support student digital literacy for each of the six frames of the ACRL Framework for Information Literacy for Higher Education (2016)?

For Question 3, an analysis of participant interviews provided a total of 85 interview comments from their responses. Five major themes and 27 sub-themes were identified during coding. The five major themes were: the Association of College and Research Libraries Framework, the Association of College and Research Libraries Standards (2000), Undergraduate Learning Outcomes, Teaching Methods and Approaches and Teaching Digital Literacy.

The major findings were that in two of the eight institutions studied, the Framework for Information Literacy for Higher Education (2016) was not taught. In six of eight institutions studied, the six frames were never taught in their entirety. Instructors chose to teach specific frames when they fit the instructional theme. They suggested that since they taught large student bodies, it was not possible to teach all six frames when

they had to follow their learning outcomes had many topics to cover and limited instruction hours to do so.

Technology was considered to be integrated into information literacy, since some librarians believed that you could not separate digital literacy from information literacy. There were also those who said that they did not teach digital literacy because of the time constraints they had with teaching their undergraduate students.

The teaching digital literacy theme had eight sub-themes and 15 total interview comments coded to it. The digital literacy sub-themes were: The eight sub-themes were divided into sub-themes related to the actual teaching of digital literacy as part of information literacy instruction such as: “Teaching Metaliteracy,” “Teaching Metadata”, “Teaching Data Management” and “Data Literacy not seeing the separation between Information Literacy and Digital Literacy” to themes related “Not Teaching Digital Literacy” at all such as: “No Effort included in Teaching Digital Literacy,” not in the course outcomes so it cannot be taught. Two additional themes relating to the teaching of technology and digital literacy were “Technology Integrated in what we Teach,” since there were librarians who believed that everything they taught to their students included technology in some form or other. Then there was “Students expected to use Technology” meaning that there were librarians who believed that students came to college with technology skills and know-how, and that as a result of the latter, they did not specifically need to teach students how to use technology in their classes. Library instructors participating in the interviews were very articulate about whether or not they were actually teaching digital literacy in their information literacy classes. Findings were that blended learning is a common occurrence across all eight exemplary institutions in

this study, although there are some universities who refused to acknowledge that they were participating in blended learning during their teaching.

The most common use of blended instruction used was the online tutorial, where the instructors had their freshmen prepare for their visit to the library by completing a tutorial. Other libraries created a series of tutorials on different information literacy topics that students had to complete. In only three of the largest universities, online information literacy courses were being offered, but this is still not a common occurrence and most information literacy classes at these large institutions are conducted as face to face one-shots with blended learning components. The most common blended learning components used by instructors across the eight institutions in their blended information literacy classes included the following: learning management system modules, open education resources, servers, library webpages, broadcast classes at specific sites for distance students, online tutorials and videos often loaded on a Youtube Channel or elsewhere, embedded librarians, discussion boards, Libguides and guide on the side.

Word Clouds were also created using NVIVO 11 Plus to better understand the information literacy themes that were important to each institution.

The Comparative Analysis included the analysis of the “Online Course” which had 74 interview comments coded to it, was a sub-theme of the Information Literacy Course which had 39 unique interview comments coded to it. The “Information Literacy Course” sub-theme had one subsidiary theme, “Information Literacy Course Type” having a total of 100 interview comments coded to it. The “Online Course” was listed as one of four “Information Literacy Course Types” encountered during the study. Four out of the eight institutions in the study offered online information literacy courses to their

students. The two smallest universities in the study did not offer online information literacy courses but their courses offerings to students were blended since they included a large amount of online-components such as online videos, interactive tutorials and online information literacy games.

The findings for Questions 2 and 3 were described. The findings were that blended learning was a common occurrence across all eight exemplary institutions in this study, although there are some universities who refused to acknowledge that they were participating in blended learning during their teaching.

Chapter 5 - Conclusions and Recommendations

Restatement of Research Questions

The research questions relating to the development of information literacy courses in exemplary colleges and universities in the United States are as follows:

1. How are selected four-year colleges implementing exemplary information literacy courses?
2. How do exemplary four-year college library information literacy courses implement the Association of College and Research Libraries Framework for Information Literacy in Higher Education (2016)?
3. How do exemplary four-year colleges and universities implement digital literacy and the six frames of the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016)?

Obstacles related to the Study

A major problem with this study was the small number of librarians that were interviewed at each institution to answer the questions posed. Only three librarians were interviewed at seven institutions and two at an eighth. Although attempts were made to interview librarians participating at different levels in an information literacy program at their institutions e.g. writing instructors, outreach librarians etc., the researcher also attempted to include information literacy program administrators in interviews, and a few of the library administrator as participants. These library administrator participants were

functioning at a level way above the institution's information literacy program, where they had high level supervisory oversight over the program, but less direct involvement with the program specifics in some cases. In two cases, administrator roles were merely fiscal or being responsible to provide librarians in the programs with necessary connections to other campus administrators and to additional staffing and services that were needed to make their programs run successfully. On a few occasions during interviews, the researcher found that it was not easy for these administrators to answer all the questions posed to them, since they had no idea of the details that were requested regarding the program they administered. Instead, when they did not have answers to the questions that were asked, many of these were being referred back to middle managers that the researcher had no access to because they were not part of the study or otherwise to program managers who were being interviewed because they had a better grip on the information literacy program planning and organization and understand the complexities and dynamics of their programs.

A major obstacle was that each of the eight institutions in the study was unique. There were similarities in how instruction was organized and how it was provided to students, but there were differences among colleges to make comparisons between colleges extremely difficult and complex. Another concern focused on the rate that each exemplary college was progressing, and at the rate at which changes were occurring with implementing the Framework (2016), much would have changed in the programs of each college in the study by the time this dissertation was completed.

Benefits related to the Study

One of the benefits of the studying the problem was that Association of College and Research Libraries Institute for Information Literacy (2003) that had developed criteria for assessing information literacy programs, identified model programs that exemplified significant achievement of the criteria and distribute information on the criteria and model programs that exemplified successful information literacy implementation criteria. Although the Best Practices Initiative of the Institute for Information Literacy Program (ACRL, 2006) was already dated and abandoned after reaching their project goals in 2006, the list of institutions and contacts still provided the researcher with a definite research opportunity. The institutions in the study were renown because they were identified as exemplary. They had spent time developing their information literacy programs and these in turn had made a difference to their students' lives. Exposure to information literacy had changed student interactions in the scholarly environment and their efforts were discussed in the literature. From this vantage point, a study was constructed that explored not only how these institutions had continued to grow and develop their programs, since becoming "exemplary" but also how they were redesigning and reorganizing their programs within their institutions, in order to remain on the cutting edge. In addition, there was also the opportunity to explore how librarians applied the ACRL Standards (2000) and the Framework (2016), which at that time had not yet been vetted additional questions were asked about how digital literacy and also whether or not students were actually information literate at graduation.

Another benefit of studying the problem was encountering librarian uncertainty when the question was asked "Are your students information literate when they

graduate?” The unspoken expectation that students who had attended a ‘documented’ institution with an exemplary information literacy program would definitely be information literate at graduation was considered to be a given. As a result, librarian reactions to this question was totally unexpected and it was a surprise to find that even though these librarians had developed their program outcomes and were assessing them, the expected outcome that their students would be information literate at graduation was never a given. Maybe this was not so shocking, since the definition of information literacy has changed significantly from when the Association of College and Research Libraries Standards (2000) were applied, where students were merely taught tool literacy, to where the Framework (2016) now “elevated the importance of” student “dispositions” and “habits of mind” in “developing their information literate abilities” that would allow them to become information users, creators and consumers (Burkhardt, 2014).

Another benefit of the study was being provided with opportunity to destroy supposition. The researcher’s flawed and unfounded initial suppositions when putting the study questions together were because the exemplary colleges in the study were large, they would automatically have to have an online information literacy programs. Also, the researcher’s bias that one-shots were an outdated concept and that large institutions had moved away from this practice, were definitely refuted once interviews were conducted and analyzed.

Summary of Study Findings for Question 1: How are selected four-year colleges implementing exemplary information literacy courses?

Analyzing Question 1, the ten major themes analyzed were the (1)“General Education Program,” (2) “Strategic Planning,” (3) “Administration,” (4) “Assessment,” (5)“Best Practices in Information Literacy,” (6)“Information Literacy Curriculum,” (7) “Information Literate Students,” (8)“Association of College and Research Libraries Standards (2000)” , and (9)“the Association of College and Research Libraries Framework.”

Major findings were as follows:

- Academic libraries in the study aligned their mission, vision and strategic plans with those of their institutions using these to guide course outcome creation and development.
- Librarians, administrators and faculty worked on and outside general education and faculty committees as a team crafting information literacy course outcomes central to the development of information literacy course/program.
- Information literacy courses were created in collaboration with the faculty and were adopted and approved by general education committees across campuses and set for assessment on a two-year cycle.
- Information literacy programs in institutions were most successful when the library’s program was supported by the institution’s administration and when librarians and faculty partnered to develop course content and integrate it into general education and courses in the disciplines.

- In all the institutions studied, instruction librarians were hired not only to instruct information literacy classes but also to serve as subject liaison librarians to one or more divisions or departments within the institution.
- Liaison-librarians served as liaisons between the library and subject divisions or department and their faculty and students, developing subject-specific library collections, taught and assessed subject-specific information literacy classes for their divisions and in some situations co-taught in the department with other subject faculty.
- Instruction librarians were using best practices in six areas directly related to the development and design of the information literacy course: in their reference interactions with students, in choosing information literacy and teaching and learning models that would fit their institution's programs, in the development of information literacy curriculum, in curriculum and program administration procedures and in assessing their information literacy courses and programs.
- Instruction librarians in the study worked alongside their institution's assessment offices or departments and received help to correctly assess their course and programmatic information literacy assessment projects. Interview findings indicated that standardized information literacy tests were less common at larger institutions than homegrown tests.
- Instructors in the study taught information literacy to their students in many different formats: on-shots, for-credit or not for-credit courses and embedded courses. The majority of information literacy courses were taught face-to-face and blended using online components and tutorials.
- One hundred random papers were then collected for that assignment and marked using an AAC&U information literacy rubric that was tweaked to meet the unique outcomes of the

program. The rubric was used to determine whether or not the students completing the assignment, had met the course outcomes set for the class.

- Courses developed in programs across all eight institutions emphasized tool literacy elements which related back to the Association of College and Research Libraries Standards (2000) enabling student learners to master database content and extend their investigations, thereby becoming “more self-directed” assuming “greater control over their own learning” (ACRL Standards, 2000).
- Librarians across eight institutions discussed the Framework for Information Literacy for Higher Education (2016) amongst themselves and embraced concepts and specific frames connected to the Framework (2000) when building their course assignments even though in some situations they had not changed their course or program outcomes.
- The “Pre-empted Framework” theme showed that librarians were vigilant about any changes that were being made to the Association of College and Research Libraries Standards (2000) and were aware that they already had implemented theory and process in their classrooms that were associated with the new frames in the Framework (2016).
- Although there was a great deal of anecdotal evidence that instructors provided that their students were information literate when they graduated, and that they were lifelong learners, no institutions had implemented tests for seniors that determined whether they were graduating information literate.

Discussion: Research Question 1

Key discussion points associated with Question 1 are: how library strategy and administrative support can be used to start discussions and planning around the creation of an information literacy course/program, building genuine faculty-librarian partnerships

as best practices, program design and organization, the problem with the one-shot course and the part played by assessment in determining whether student are in fact, information literate. Documents provided by study participants such as research articles, course outlines and PowerPoint presentations were used to back up these discussions.

Exemplary institutions have used library strategy and administrative and faculty support to aid them in building their information literacy programs. Each library has created strategic documents with goals and objectives that are aligned with those of the institution in terms of goals and objectives. This strategy allowed for the institution and administration to be willing to work with librarians at the institution to create course outcomes and to make decisions about how the program and courses will be integrated into their unique general education programs and also into the majors. In every case, librarians were placed on the institution's general education committee to help develop the approaches and perspectives, participate in curriculum mapping, classroom explorations, decide what would be the foundation courses that a student would need to take, determining the number of hours students would enroll in and how information literacy competencies would be built into these. A unique general education curriculum was designed by faculty, administrators and librarians on the general education committee. A rubric was used to review all course proposals from faculty interested in having information literacy integrated into their subject-specific courses. These courses had to demonstrate student learning outcomes that were aligned to the standards chosen as a course design model. The course learning goals were assessed cyclically with the help of the institution's administration through the assessment office. Feedback was then used for making improvements to the information literacy.

Exemplary information literacy programs and courses could not be successful without the establishment of strategic relationships between institutional faculty and librarians. Documents provided by participants after interviews emphasized the importance of moving faculty away from the idea of on-demand or one-shot instruction. These are short instruction sessions where the librarians are called in either to teach a class session to provide information literacy instruction merely because professors have perceived a deficiency or shortcoming in their students and as a result, they approached librarians with to determine how a librarian could remedy these shortcomings in their students. It is suggested that librarians must engage their faculty to understand that providing information literacy instruction is not merely about providing a “service” to students. What is more important is for faculty to develop a collaborative relationship of with librarians that is guided by actual principles like the Framework (2016) around an agreed upon rich learning experience that would lead to success in teaching students information literacy skills that would improve their subject-specific scholarship and research.

Other documents provided by interview participants characterized the one-shot information literacy session as an unsustainable librarian burnout model that limited instruction librarians from being able to achieve their instructional potential, where the question about information literacy is not about how relevant it really is, but rather about who should be responsible for teaching the students in class. Librarians teaching courses was important, not at the level of burnout, teaching one-shots that did not go far, but information literacy for-credit courses were found to bolstered faculty work in the disciplines. All eight institutions in the study are exemplary because they were able to

collaborate with faculty and administration at their institutions that then “funded” their efforts to cooperate with faculty to teach information literacy. Information literacy instruction in the smallest institutions in the study went way beyond the one-shot instruction session, toward sequential courses that in some cases were flagged, or vetted, allowing for information literacy to be integrated into them. The smallest institutions taught courses where information literacy was taught to students 1-1. Larger institutions had so many sections of information literacy courses that very few information literacy sessions could be taught because there were insufficient numbers of librarians. There was too little time available and too many undergraduate sections to teach. In these situations, the one-shot session still reigned supreme, but librarians were aware that they were not challenging students enough or reaching their goals with these sessions, since most one shots did not have set outcomes. Instead they were aware that they needed to be able to shift away from the one-shot information literacy session because they had done exceptionally at teaching within the limited context of information literacy, where through the one-shot, they had not influenced student learning as broadly as was needed. It was, therefore, important to move away from being a guest lecturer” after they had worked with faculty to create the acceptance of information literacy instruction and they had to be the ones to lead the change in course delivery formats. In a case study about one of the institutions included in the study, a program was developed where there was administrators, faculty and librarians interacted as educational partners. In so doing, the institution’s general education program adopted university undergraduate learning outcomes that included critical thinking and inquiry skills as core learning outcomes (Bluemle & Horowitz, 2014). These were scaffolded throughout the general education

curriculum. Librarians worked with faculty to create authentic research assignments for students and developed faculty institutes that focused on collaborating to develop courses with information literacy integration for the student experience from freshman year through the senior year. Collaboration with the faculty led to further librarian collaboration with the teaching and research centers on the campus.

Exemplary information literacy programs at all eight institutions were designed as face-to-face courses and ranged from one-shots, courses taught at a distance, to librarians embedded in online courses. Initially, the researcher had incorrectly assumed that because institutions were large, they would be in the process of designing and teaching information literacy courses online. Study findings indicated that blended/hybrid information literacy courses that had online-components were being taught at institutions in the study. This meant that students in face-to-face information literacy classes were provided with access to online library tutorials, libguides, online database resources and online webpages whenever necessary. They also often submitted assignments via a learning management system, or played information literacy games specifically designed to teach information literacy skills through online play. There were courses being taught where information literacy had been integrated into a subject-specific online course, and in that case, librarians were embedded in the course to aid students in answering research questions and guiding them in completing their subject-specific assignments and projects. Completely online information courses did not yet exist in any of the eight universities studied, although one university had been involved in a summer program where online courses were offered, and another was designing an online information literacy program because their student body was growing and they did not have enough librarians to teach

their face-to-face information literacy sections. This institution determined that a completely online course would work better.

Assessment, a best practice in information literacy is central to the development of an information literacy course or a program. Exemplary institutions decided what assessment methods and cycles would be implemented at the time that the course outcomes and the courses themselves were being created. Based on the study, the most common means of assessment used in the largest institutions were the AAC&U rubrics, but standardized and homegrown information literacy tests such as the I-Skills Test and TATIL were also given to students, but the latter was much more common at the smaller institutions because both types of tests took time for students to complete. Documents analyzed from one of the smaller institutions in the study, describe how they used performance-based assessments in the form of in-class worksheets and questions targeted to the specific learning outcomes of their course to assess student progress. The college's (one of those included in this study) assessment project found that students most easily learned skills such as navigating the library of congress classification system, using Boolean operators to limit their searches, locating topic-specific articles in the online databases and learning how to use new databases. This suggested that the simplest tool literacy skills were the easiest for their undergraduate students to master. However, when it came to more complex tool literacy skills like formulating effective online searches, identifying, selecting and identifying sources, reading and summarizing materials and working what they had learned from sources into a paper to meet the requirements set by the faculty, then they struggled the most. They did find too that their students were most challenged by using the research articles that they had found to shape their research

questions and topics, selecting the best sources for their papers and evaluating their information sources. Their findings were supported by Project Information Literacy (2014) findings which stated that sophomore and senior students had most difficulty getting started with their projects and with defining and narrowing search topics and filtering their topic results. These findings allowed librarians at this institution to modify their information literacy courses so that they were focused on the Association of College and Research Standards, which emphasized the research process and focused on developing students' evaluated and analysis skills. The three sequential courses across four years of study were thus developed to focus on developing student writing and revision skills, reading skills, oral communication skills by exploring ideas through class discussion and information literacy skill by exploring research in order to generate ideas and questions for when students had to write a research paper.

In a case study document provided after interviews and analyzed by the researcher, library instruction is assigned by the library coordinator of one of the smaller colleges in the study as faculty/librarian partnerships. In 2011, a new assessment, an LFY skills matrix that listed course outcomes and focused on measuring higher-level skills was developed. In the first course of a sequence of three, higher-level skills such as information organization, information formats, locating reliable information on a topic, distinguishing between scholarly and popular sources and citing sources correctly using MLA style were assessed. In the second course, higher-level skills like determining whether information was appropriate for a research topic, formulating search strategies and mapping concepts and considering authority, bias and source currency were assessed along with other matrixed items. While in the third course the focus was on refining

research questions and employing advanced search strategies in the process. Five instruction librarians at the university participated in the Assessment Project, ranking and prioritizing course outcomes, the results providing new information that turned and drove the needed changes that were required for the librarians to teach within a integrated course design model (See Appendix M) with an instruction program that provides students with help where they needed it the most and integrates the student's situational factors into the course's learning goals, activities, and assessments.

Determining whether a student is information literate at graduation should flow naturally from the information literacy course, its development, how it is taught and how it is assessed. Unfortunately, this does not appear to be the case in this study. All eight of the institutions are using assessments, some at a very complex level, others more simply, but the assessments that librarians discuss are either done to assess the outcomes of the information literacy course or the overall outcomes of the information literacy program as it is setup within a general education program. The outcomes that are assessed are merely to determine whether or not the librarians in collaboration with their faculty have met course and program outcomes. Testing for the information literate student as a senior, does not exist in any of the institutions at present. In applying both the Association of College and Research Libraries Standards (2000) and the Framework (2016) in the courses, either separately or combined with other information literacy models and standards, implies that the aim of all the librarians at the eight institutions studied are to be open to change. For years, the Standards (2000) have always been used as overall course outcomes but being open to the Framework (2016) meant that they were willing to experiment, overcome uncertainty and make changes and improvements in how they

were teaching their students, if it meant that their students could thrive. The outcomes described at the beginning of the ACRL Standards (2000) that defines an information literate individual as one who is able to:

- Determine the extent of information needed,
- Access the needed information effectively and efficiently,
- Evaluate information and its sources critically,
- Incorporate selected information into one's knowledge base,
- Use information effectively to accomplish a specific purpose,
- Understand the economic, legal, and social issues surrounding the use of information, and
- Access and use information ethically and legally.

The Framework (2016) does not define what an information literate individual is but suggests that information literacy is an extended “arc of learning throughout” (Para 8) the students’ entire academic career. The Framework (2016) defines information literacy as a “set of integrated abilities encompassing the reflective discovery of information, the understanding of how information is produced and valued, and the use of information in creating new knowledge and participating ethically in communities of learning” (ACRL, 2016, Para. 9). This implies that it is possible for the student to be information literate only if they are exposed to the complex concepts, theory and frames that have to be taught with flexibility. But since there is no definition for an information literate individual anymore, does that mean that we should forgo any testing of seniors to determine whether they are information literate? I believe the flexible information literacy skills learned will continue on past graduation. Will the skills only come to fulfillment if the graduate student can exercise their skills as a lifelong learner?

Librarians in the study stated that when it came to assessing seniors and showing that they are information literate, many were still at the course assessment level and some

have not reached the programmatic assessment level yet because their programs were new or they would only do this type of assessment in their next assessment cycle. Only then were they considering finding an answer to the question asked in this study about whether or not their students were information literate at graduation. Some have participated in small studies with limited results that were not able to tell them whether or not their students were information literate. Others are uncertain about how to answer the question and have no idea whether they will have an assessment in place in the near future that would determine if their graduating seniors are information literate. This is a very disturbing finding but it may be that in the future this question, as it is now, because of the Framework might never be answered for any of the librarians in the study who are now harnessing the Framework (2016) to their courses and programs.

It is important to note that the role that the university administrator plays in developing the information literacy courses/programs on any institutional campus is key to the entire course development process. Administrators should work with library administrators and librarians to determine what is needed in terms of financial and administrative support and staffing when the library is in the process of developing a new information literacy course/program, revising one or only starting to think about establishing and implementing one on the campus. It is the role of the university administrator to interact by smoothing the process for librarians, especially in cases where they might have difficulty being appointed to the necessary committees where they can move the information literacy agenda forward, particularly in situations where they may be regarded as staff rather than faculty.

It is important for the administrator to educate themselves about information literacy and why it is important for the college student. Gathering information about information literacy programs that have been successful at peer institutions similar to that where the administrator is at work would help them to see how course/program implementation can occur if it does not exist, or revision if it is sorely needed. They should educate themselves about how best to aid their librarians to develop information literacy faculty training programs when they are designing their courses, and should be willing to aid the library financially when professional development opportunities arise that could bolster their knowledge librarian knowledge and program improvement. That way, librarians can prepare faculty for their roles in an information literacy program if it is new and the librarians that will be teaching information literacy courses, can be further train peers and faculty to better grasp the administrative processes required for the development and evaluation of a very successful information literacy courses/programs.

Summary of Study Findings for Question 2: How do exemplary four-year college library information literacy courses implement the Association of College and Research Libraries Framework for Information Literacy in Higher Education (2016)?

Analyzing Question 2, the major themes analyzed were the “The Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016)” and “The Association of College and Research Libraries Standards (2000).”

The major findings were as follows:

- Two exemplary libraries studied had Association of College and Research Libraries Standards (2000) hardcoded into their undergraduate learning outcomes.
- Librarians had pre-empted the Framework by teaching concepts in their information literacy courses for several years prior to the release of the Association of College and Research Libraries now identified as Framework for Information Literacy for Higher Education (2016) concepts.
- Librarians at six exemplary institutions were open and willing to experiment with the Framework for Information Literacy for Higher Education (2016) and its frames and were using both the Standards and the Framework (2016) and other Standards from different disciplines together to meet their unique learning outcomes.
- Librarians were using the best of the Standards, Framework and discipline standards in application to their information literacy courses.
- The theoretical stance of the Framework (2016) represented “high level concepts” which were as yet “un-measurable” to instructors, critical of the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016) suggesting that they were unable to teach all the frames to the students in their classes, since they did not see the necessity for teaching anything that did not fulfill their unique outcomes.
- Negative views abounded at some institutions associated with implementing the Framework for Information Literacy for Higher Education (2016), but there were instructors interested in implementation and application. Critics realized the importance of the new Framework (2016), not only because they had pre-empted

the Framework and were already applying the concepts the Framework (2016), but because they already had created their own unique undergraduate learning outcomes very similar to the Framework for Information Literacy for Higher Education (2016) concepts.

- Instructors were willing to test their own undergraduate learning outcomes unique to their institution by having their students take the TATIL Assessment created in 2015 as a means of assessing each of the frames of the Framework for Information Literacy for Higher Education (2016).
- Instructors used the AAC&U Value Rubrics alongside the Framework and Standards in their classes, and how they were also making use of other standards that were working well for them in their subject specific information literacy classes.
- Instructors used additional standards other than those from ACRL in their information literacy classes specifically with students in their majors, instructors explained the importance of implementing these in their classes because they were important to the faculty they were working with and whose subject areas they were creating their information literacy courses to support.
- Instructors that had not changed the Association of College and Research Libraries Standards (2000) into concrete undergraduate learning outcomes had a love-hate relationship with the “ACRL Standards 2000,” claiming that they were too rigid in application in some cases, but in others they actually did provide instructors with a firm foundation on which to build their classes and make them

ready for application for the Framework for Information Literacy for Higher Education (2016).

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Discussion: Research Question 2

It was definitely time, after sixteen years, for the revision of the Association of College and Research Libraries Standards. However, no-one expected that the standards that had become central to information literacy curricula developed across the country would be rescinded. It was interesting to discover that there were librarians who had written their course outcomes by using the ACRL Standards (2000). Although these librarians clearly understood that the field was on the cusp of a change, they were not willing to go through the process of having their courses redesigned. And yet, barely a year after the January 2016 interviews, all the institutions were reacting to the rescinding of the Standards (2000) by accepting the Framework (2016), and even the newer concepts such as the metaliteracies and seeing how best these could be incorporated into the classroom.

Eighty percent of librarians interviewed during the study were already applying concepts from the Framework (2016) in their classrooms. They understood that the Association of College and Research Libraries Standards (2000) were not set in stone and that they could use the standards as guidelines and adapt other models and standards to fit how they were teaching their students. Librarians clearly understood that teaching students “Tool Literacy” was very basic. They wanted their students to succeed in college and also be successful in the workplace, and already understood that to do both, they had to prepare the undergraduate student to write successful college papers and develop the skills needed to be successful in the workplace. This meant preparing the student to

become a scholar who could complete personal research projects and enter graduate school, at that point, understanding how to function as a researcher. Thus, librarians moved beyond the tool literacy of the ACRL Standards, to prepare students to write and revise their papers, read research papers and understand the statistical language of authors, understand information ethics and how it affected their lives at work and school, understand what they were reading, evaluate sources and cite them correctly. In the process, librarians developed the high-level information literacy skills that would change students into lifelong learners.

Librarians in the study were also interested in experimenting with new ideas in the classroom. They were willing to embrace the frames and the Framework theories. They were active participants at Association of College and Research Libraries workshops about implementing the Framework in the classroom, and in blogs, Association of College and Research Libraries online forums, discussion lists and boards about the Framework on the Internet.

Due to the rescinding of the ACRL Standards (2000), libraries that had been committed to the latter, were now creating libguides for their information literacy program, explaining when during a student's program they would teach the frames from the ACRL Framework (2016) and which frames would be taught. For example, matriculating freshmen took a customized writing course and 100 and 200 level information literacy courses, and three frames would be integrated in those experiences. Based on the 2016-19 course guide, an information literacy course was being created that would be offered to students in two formats including face-to face, and online (University of Rhode Island, Instruction Services & Information Literacy, Information Literacy

Program 2016-19). The idea of teaching only a handful of frames per year, that met specific course outcomes, was interesting. This addressed concerns from librarians that there was no way they could actually teach all the frames in their information literacy classes. However it would appear that since librarians were now willing to accept the new Framework as a replacement for the ACRL Standards (2000), this problem was now solved.

With the rescinding of the ACRL Standards (2000) and an over-emphasis on the ACRL Framework (2016) on ACRL listservs, websites and with countless researchers writing about the new Framework (2016), more literature is being made available to librarians that would allow them to get over their initial concerns voiced during interviews. The literature will aid them to better understand the theoretical stance the Framework (2016) had taken that to them represented “high level concepts” that were as yet “un-measurable” and that they thought should be introduced to students in their majors and not at the freshman level. With the introduction of the TATIL Assessment created by Project SAILS, measuring the threshold concepts from the Framework (2016) has become a reality. Thus measuring information literacy in relation to the Framework (2016) once the TATIL Assessment is standardized will no longer be improbable.

Summary of Study Findings for Question 3: How do exemplary four-year colleges and universities implement digital literacy and the six frames of the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016)?

The Question 3 five major themes were: “the Association of College and Research Libraries Framework,” “the Association of College and Research Libraries Standards (2000),” “Undergraduate Learning Outcomes,” “Teaching Methods and Approaches” and “Teaching Digital Literacy.” Findings connected to these themes were as follows:

- Course design at each of the eight exemplary colleges and universities was directly related to how information literacy was integrated into the general education program at that specific college or university and to the outcomes that were created by instruction librarians in collaboration with the faculty.
- At all eight institutions information literacy was integrated both at the First Year Seminar or experience level, where freshmen participated in a variety of different types of instruction and then also at the level of the major.
- In six of the eight colleges, the best features of the Association of College and Research Libraries Standards (2000) and the Framework for Information Literacy for Higher Education (2016) were being adapted so that these would meet the unique outcomes of each of these institutions. At two institutions where the general education program committees or boards had been persuaded to adopt the Association of College and Research Libraries Standards (2000) as undergraduate

learning outcomes and there was an unwillingness on the part of these librarians to move away from the Association of College and Research Libraries Standards (2000) and adopt the Framework for Information Literacy for Higher Education (2016), since it had taken years of hard work to attain the integration of the latter.

- Libraries creating information literacy programs had not been relying on the Association of College and Research Libraries Standards (2000) or the Association of College and Research Libraries Framework for Information Literacy for Higher Education (2016) for the creation of their learning outcomes and for deciding what they would teach. Instead, they have used three AAC&U Rubrics and its language as standards and had tweaked those to meet their institution's unique outcomes.
- Information literacy instructors were combining specific parts of the Association of College and Research Libraries Standards (2000) and the Framework for Information Literacy for Higher Education (2016) moving toward a combination or hybridization of the two guidelines.
- "Personalization" was practiced where institutions promoted a high level of academic freedom and instructors and faculty collaboratively chose and applied educational approaches that best suited their presentations within the major.
- Instruction librarians at six of the exemplary universities had an interest in the Framework, but never all six frames at any of the universities, with the two most popular frames taught being "Scholarship as Conversation" and "Authority is Contextual."

- Librarians did not feel that they needed to be compelled to teach all of the six frames in their classes, like with the Association of College and Research Libraries Standards (2000), they considered the Framework for Information Literacy for Higher Education (2016) to be a guideline for instruction which would inform their own information literacy practice.
- The Association of College and Research Libraries Standards (2000) were still very heavily applied across all eight exemplary institutions, whether or not they had chosen to mix the Association of College and Research Libraries Standards (2000) with rubrics and the Framework for Information Literacy for Higher Education (2016) or additional Standards from other disciplines.
- Instructors collaborated with their institutional faculty to present information literacy instruction classes to their students in thirteen different formats. Eighty percent of the 13 formats identified were online formats, and 20% were face-to-face formats.
- The most common online formats information literacy instructors were using to teach and transfer information literacy content were: videos on different information literacy topics, iPad instruction, online tutorials, blended courses, course module development, embedded librarians, LibGuides, utilizing media and social media platforms, online discussion groups, and chat reference.
- In face-to-face classes, librarians used discussion groups in their teaching and in two institutions, librarians developed presentations in different formats that cultivated the student scholar by developing the freshman identity as not only to be an active member of the university community, but as a student scholar.

- Teaching approaches were specifically related to how technology was being taught at the eight exemplary institutions studied. Those whose instruction was tool literacy focused, also tended to have less interest in teaching technology.
- Blended learning was a common occurrence across all eight exemplary institutions in this study. The most common use of blended instruction was the online tutorial.
- Only three of the largest universities out of the eight in the study, offered online information literacy courses.
- The majority of information literacy instruction courses at the large institutions in the study were conducted as face-to-face one-shots with blended learning components.
- The most common blended learning components used by instructors across the eight institutions in their blended information literacy classes included the following: learning management system modules, open education resources, servers, library webpages, broadcast classes at specific sites for distance students, online tutorials and videos often loaded on a Youtube Channel or elsewhere, embedded librarians, discussion boards, Libguides and guide on the side.
- Four out of the eight institutions offered online information literacy courses to their students. The two smallest universities in the study did not offer online information literacy courses but their course offerings to students were blended since they included a large amount of online-components such as online videos, interactive tutorials and online information literacy games.
- Word Clouds were also created using Nvivo 11 Plus to better understand how the eight colleges were similar or different when using recurring words that were pulled from interview transcripts.

Discussion: Research Question 3

When the study was conducted in 2015, the findings indicated that in six of the eight colleges, the best features of the Association of College and Research Libraries Standards (2000) and the Framework for Information Literacy for Higher Education (2016) were being adapted so that these would meet the unique outcomes of each of these institutions. But there was also a general discontent with ACRL's actions to rescind the Standards and replace them with the Framework, but this event took place after this study had already been conducted. It was clear though, from what librarians had said in their interviews, that not everyone was sure about what to make of applying the new ACRL Framework (2016) to the classroom. Although "pre-empted" where some areas of the ACRL Framework (2016) that were considered universal in a librarian-sense because they had started with the guidelines of the ACRL Standards (2000) but then as library instruction progressed over sixteen years, there were new ideas and concepts that would be born out of the Standards, and that were being taught in institutions who were moving forward with the information literacy agenda. Thus it is not surprising that documentation and articles provided by librarians after interviews stated that librarians would feel that the ACRL Framework (2016) and the ACRL Standards (2000) should be allowed to co-habit in information literacy instruction. Librarians made it quite clear that they used both sets of guidelines because they taught their courses with a great deal of "personalization" and academic freedom was important, but on the other hand, they also preferred the status quo, stating that all wanting to facilitate a transformation of their college communities when it came to teaching information and digital literacy skill sets could easily do so through information literacy practices that were set-out by the ACRL Standards (2000). Many other librarians who had participated in this study, were adamant that the new

Framework (2016) had much to be desired when compared with the ACRL Standards (2000). They believed that “the Standards” lent themselves to student engagement, faculty and administrator collaboration and partnership, especially with those that wanted “to mainstream information literacy practice...outside of the realm of library and information science and the Academy” and that “the same” could not “be said for the new Framework for Information Literacy for Higher Education” (Jackman & Weiner, 2016, p.3). This was because “the current Framework’s jargon” was too complex to “resonate with the American public and policy makers who wrestle today with the range of socio/economic/political challenges that could benefit from the inclusion of information literacy goals” and thus were very concerned that the information literacy agenda would be ignored by a “multitude of cross-sector organizations and agencies that need to understand how information literacy can benefit them and their constituencies” and that it would not be “conducive to promoting information literacy practice among diverse, lay populations including students, faculty, and higher education administrators” (Jackman & Weiner, p.4) that would be exposed to the library jargon used in the new Framework.

When the Framework (2016) replaced the rescinded ACRL Standards, they disagreed with ACRL’s move asking the question that all librarians were asking at the time, “should both documents be promoted? Yes...definitely! Clearly, more work needs to be done in terms of translating today’s educational theories into information literacy practice and the new Framework represents one attempt. But to substitute one for the other erodes and disrespects the substantial work that has been based on the Standards

(2000). Its severely diminishes the future reach of information literacy practice within various occupations, professions, and communities” (Jackman & Weiner, 2016, p.3).

Instructors were candid about not only the hybridization of the ACRL Standards (2000) and the Framework for Information Literacy for Higher Education (2016) but also about including other rubrics in the mix. They believed that “personalization” was important since their institutions promoted a high level of academic freedom and instructors and faculty collaboratively chose and applied educational approaches that best suited their presentations within the major. The AAC&U rubrics were used in combination with the guidelines of the ACRL Standards (2000) and the Framework (2016) that at the time of the study had not yet been vetted. An article provided to the researcher about a study conducted at one of the institutions in this study described how librarians collected from English, Psychology and History classes using AAC&U Value Rubrics. Two rating procedures were used that included inter-rater reliability testing and a norming process, with multiple raters the student papers. The GPA student index was also included in the study, as it was conducted to determine whether student GPA, or how well students were doing in college, was related to whether or not they had completed the 100 and 200-level English information literacy integrated classes. Findings suggested that there was a correlation between GPA and students having taking the information literacy courses. Findings suggested further that students that had taken the information literacy integrated classes, where they were taught how to write and conduct research, had substantially improved their writing skills and research skills as subject-specific writers and researchers once they reached their junior and senior years. Five categories were scored using the rubric which included: defines the extent of information needed, access

information needed, evaluate information and its sources critically and methodically, use information effectively to accomplish a specific purpose and access and use information ethically and legally (the five stipulations in the ACRL Standards (2000) that describe information literate individuals). Analysis of each category aided librarians to determine where their students were struggling and helped them to make important changes in the library instruction that was being provided to their students at the time. Their study led to the creation of an Information Literacy Fellows Summer Workshop, where faculty worked with librarians to change and improve skills that students struggled with and as a result, new lesson plans, learning outcomes and evaluation procedures were developed in classes where information literacy was integrated across the institution. An additional study shared with the researcher, written by librarians at the institution studied, explores the relationship between course grades and sequenced library instruction focused more specifically on information literacy interventions throughout Psychology students' curriculum. This qualitative action research study that included focus groups and surveys with students at the institution where study findings confirmed that students benefitted from these useful collaborations with the library at sequenced points in their curriculum and within the disciplines and brought important and significant changes to librarians classes also the program as a whole.

Most librarians that participated in this study believed that they were teaching digital literacy in their classrooms, although there were one or two who suggested that they did not have time to teach digital literacy because they had set outcomes that needed to be followed that did not include it. Often its definition was misconstrued as being able to teach student technology skills that they already possessed or technology skills that

were associated with teaching their students how to program a computer, a skill set that they did not possess as librarians.

The majority of the librarians in the study and this researcher consider digital literacy to be synonymous with information literacy. This is because instructors were using technology in their classrooms and teaching students to utilize library technology in order to improve their information literacy skills. This understanding is correct because digital literacy is defined as including “the ability to find and use information (otherwise known as information literacy)” but also as going “beyond this to encompass communication, collaboration and teamwork, social awareness in the digital environment, understanding of e-safety and creation of new information. Both digital and information literacy are underpinned by critical thinking and evaluation” (The Open University, 2016).

In an Annual Report for FY 2014-2015 link shared as documentation during the study, additional information was provided about an institution participating in this study, a number of the major accomplishments were listed, that included implementing programs that included teaching their students digital literacy. These included: creating and implementing lesson using iPad’s with their freshman English “courses that actively engaged students and support the composition curriculum,” assessing libguides integration with Canvas so that students could access these in Canvas, implementing a DIY website to organize the library’s help guides better to improve student use of them, conducting library website design and usability testing to improve the library websites used by students and working on digital initiatives to build capacity for assisting faculty

with locating and incorporating open education resources in their courses (XXXXXX Librarians Reference & Instruction Department Annual Report for FY 2014-2015, p.1).

Limitations of the Study

The limitations of this study are described below.

1. This is a very small and well-defined population. The target population consists of librarians, faculty, and administrators associated with colleges and universities with exemplary information literacy programs identified by an American College and Research Libraries, Instruction Section Committee in the United States

2. Faculty participants could answer interview questions according to the perceived expectations of the researcher or peers, instead of responding with an accurate description of their own information literacy and instructional activities.

3. The participants may have preconceived ideas of the “right” or “socially desirable” answers that the researcher may be looking for, rather than providing honest answers.

4. Participants may have biased or inaccurate understandings of course development issues and specific library, college, or accreditation concerns associated with the development of their college or university’s information literacy course(s).

The questions posed in this study were most definitely affected by timing. When interviews were conducted, there was a lot of uncertainty amongst librarians regarding what would actually happen with the ACRL Standards (2000). It was unexpected that even though the standards were considered to be outdated, that they would be cancelled

and repealed. They were immediately replaced with the ACRL Framework (2016). As a result, librarians at two institutions in the study expressed their unwillingness to make a change to a new Framework (2016) because they had committed to using the ACRL Standards (2000) and were bothered by having to go over old and new ground once again with their general education committee faculty to get a new Framework (2016) approved. Others felt challenged by the fact that the creators of the Framework (2016) had usurped many of their own ideas that they were already applying in the classroom and were attributing these to this new standard. While librarians were not overly impressed, they were often unsure of their next steps. Eight months after the study was conducted, the library environments at most of the institutions have changed. This is easily viewed by visiting the LibGuides of institutions in this study. Here is one such Libguide:

In the 21st Century, the ability to effectively and efficiently search for and evaluate information is increasingly critical. As a result, it is a necessity for all XXX students, staff, and faculty to be accomplished information users. Recognizing this, the University Libraries' Public Services librarians provide an incremental long range plan that provides information literacy instruction based on the Association of College & Research Libraries' Information Literacy Competency Standards for Higher Education (2000) and on the ACRL Framework for Information Literacy (2015). Drawing on the content and goals of the ACRL Information Literacy Competencies and Framework, XXX is committed to graduating students who are information literate citizens and lifelong learners. "Information literacy is common to all disciplines, to all learning environments, and to all levels of education. It enables learners to

master content and extend their investigations, become more self-directed and assume greater control over their own learning. (American Library Association. Presidential Committee on Information Literacy. Final Report. Chicago: American Library Association, 198, Instruction Services & Information Literacy, XXX Libguides, 2016).

There appears to be a lot more positive sentiment toward the Framework (2016) and applying its flexibility to the classroom in the current, shifting digital library environment now that it has been vetted by the Association of College and Research Libraries. Though, at the same time, in some cases as listed in the comment above, librarians have chosen not to lose ground, but place the Association of College and Research Libraries Framework (2016) alongside the older Standards (2000), in order to provide their students with solid information literacy courses/programs. Clearly, there is a new commitment to using the Framework (2016), its theory and its frames and applying it to library instruction, whether it is offered as a one-shot or an online session offered at a distance. The dedication that was seen with applying the ACRL Standards (2000) is not there yet, but librarians are willing to give the new guidelines a chance and have become involved in lengthy email discussion on closed and library community listservs, online workshops, blog discussion groups and listservs created specifically around the Framework (2016). Project CORA created by one of the institutions in this study, is doing an excellent job gathering instruction resources from librarians across the country who are using the Framework (2016) and different library assessments in their courses.

CORA stands for Community of Online Research Assignments. It is an open access resource for faculty and librarians. It is intended to be a collaborative

space for adapting and experimenting with research assignments and sharing the success or lessons learned so that others may benefit. The database contains multiple, reliable and reproducible research assignments that do not live as isolated entities, but are enhanced by user feedback in order to build a rich corpus of best practices (CORA: Community of Online Research Assignments, 2016).

Implications of the Study

Question 1

Based on Question 1 study findings, it is suggested that librarians preparing to build information literacy programs should consider their library size and staffing and their college structure and organization before deciding how best to develop their information literacy program. Each of the eight libraries in the study developed information literacy programs that meet their college goals and objectives, their college's specific needs, and that conforms to their university's mission and vision. As a result, information literacy courses and programs that are developed and designed for their undergraduate students to fit within their specific general education programs and are unique to their institutions. Administrative committees collaborate with the librarians to understand what information literacy is, and how it can best be integrated into the curriculum, as well as what format that integration would take. Library strategy is very important, since this is what aligns the library's mission, vision and goals with their institution's. Library strategic planning in relation to the information literacy course/program which is to be developed offers library administration the opportunity to connect

with university administrators, faculty and librarians in necessary meetings regarding the course/program and allows for effective collaboration with administrators and the faculty to ascertain how best the information literacy integration will occur.

The study findings suggested that information literacy course/program implementation was successful, not only because librarians read the library and education research, but also because they were most apt in following these best practices that they encountered in creating, developing, assessing or at a later point, redeveloping, reorganizing and improving the information literacy course. Findings further suggested that as new information literacy courses/programs were developed, librarians would do well to research and follow best practices in education and library science, especially when developing reference work and consultation processes for working with students who were participants in their information literacy courses, and also for collaborating with faculty, for developing curriculum and for applying teaching models when teaching, administering and assessing their information literacy course(s).

The findings also implied that one-shot information literacy courses, although commonly used at institutions with large student bodies, did not provide students with enough information literacy instruction. The in the article *Serving Notice on the One-Shot: changing roles of instruction librarians* (2016), provided to the researcher after interviews were conducted, suggested the one-shot was a “siloe” (p.137) model that was created to meet faculty demands by providing “a quick fix to immediate problems and offers service for faculty and students” (p.139). It was further suggested that instruction librarians should “just say no” to providing one-shot information literacy sessions at their

institutions “in order to focus on the bigger issues of course and curriculum design” (p.142).

Study findings indicated that across eight institutions, librarians were using different types of information literacy practices and models. Thus it was common for librarians to suggest that they were using the Association of College and Research Libraries Standards, but they were also using the frames from the Framework and subject-specific models e.g. Association of School Librarians Information Literacy Standards. This means that even though vetted standards were being used by librarians in their information literacy courses, they were interested in adapting them for their own use in the classroom, in order to meet their own unique outcomes. Findings also suggest that the use of rubrics in random assessments to determine whether librarian course outcomes were met was not enough. Even though it was a good idea to sample a cross-section of student work from different sections, the researcher had concerns about those students who did poorly on the assessment that they would then be allowed to fall through the cracks. There is also the understanding that no assessment is ever perfect and that results from these may or may not answer the questions librarians are asking about the progress of their students.

The study findings indicated that there was plenty of anecdotal evidence available suggesting that students graduating from the eight institutions in the study were in fact, graduating information literate. Information literacy assessments were most often being conducted by librarians to determine whether or not they were meeting their course outcomes, but not specifically to determine if their students were graduating information literate. Librarians at the eight institutions in the study had no formal information literacy

assessments or tests in place for their students who were graduating. There was no evidence that the students were information literate at graduation. Since the ultimate goal of every information literacy course has always been to prepare students to become information literate, librarians should be encouraged to develop assessment procedures that are put in place at their universities to measure the information literacy of their graduating seniors. But then the question must be asked, if a passing grade or a pass/fail measurement on an assessment or test is enough to determine the level at which a student is information literate. Information literacy is a lifelong experience; and maybe it is enough to know that at graduation, students have been armed with the skills to begin their journey toward becoming information literate, lifelong learner

Question 2

The study findings imply that despite the negative views that abounded at some institutions associated with implementing the Framework for Information Literacy for Higher Education (2016), there were also those instructors that were interested in implementation and application. In the past year, prior to the rescinding of the Association of College and Research Libraries Standards (2000), librarians were given the opportunity to weigh-in on the Framework (2016) as it was being developed. Librarians were able to share their opinions about the Framework (2016) and be very candid about their concerns regarding the new Framework that was in development. Librarians had the opportunity also to participate in online workshops with the researchers who had developed the Framework and ask questions about how it was different from the Association of College and Research Libraries Standards (2000) and how it could be implemented and used in the classroom. For a while, librarians were

considering the possibility that the Association of College and Research Libraries Standards (2000) and the new Framework would be available to be used side-by-side in the classroom. This was in keeping with the finding that it was common for instructors to combine specific parts of the Association of College and Research Libraries Standards (2000) and the Framework (2016) and it would be possible to move toward a combination or hybridization of the two guidelines when courses were created for the classroom. However, the decision was finally made by Association of College and Research Libraries to rescind the Association of College and Research Libraries Standards (2000) because the latter had outlived its usefulness. Due to this paradigm shift, information literacy was redefined.

ACRL recognizes the tremendous contributions of the Information Literacy Competency Standards for Higher Education and the transformational work of many ACRL members working with them. Those Standards paved the way for information literacy to become common language in many general education requirements and informed many regional and subject-oriented accreditation bodies. The Board will continue to seek input from the profession as the process moves forward (ACRL Board, June 25, 2016).

After the Standards (2000) were rescinded an information literacy listserv was created where librarians could share questions and answers specific to the Framework (2016). Since then, countless workshops about the Framework (2016) were held at the American Library Association Conferences and researchers have written many articles on the topic of applying the Framework (2016) and understanding the threshold concepts. The ACRL Framework for Information Literacy Sandbox (Association of College and Research

Libraries, 2016) was created this past year to help librarians transition from using the ACRL Standards, and become more comfortable using the Framework (2016). As described in an email from Association of College and Research Libraries Board stating that the sandbox was developed to “provide a space for librarians to share examples of how they are using the Framework. This will include such things as lesson plans, rubrics, assessments, and learning outcomes. These resources will be tangible tools that librarians can adapt to their work. ACRL interview comments are developing discipline-specific companion documents that address the need for learning outcomes and assessment. It is the Board’s intention to ensure that tools are available to assist all librarians in the practical application of the Framework” (McCartney, 2016). The new sandbox also includes CORA, created by one of the institutions in this study, which is an online search tool that provides access to resources contributed by faculty who have developed lesson plans, learning objects, course modules and instruction-program materials to share with the community (Association of College and Research Libraries, 2016).

Visiting course outlines and libguides created by the eight universities a year after the completion of this study, it is not surprising to find that these librarians have made many changes to their programs in order to incorporate and apply the new ACRL Framework (2016) in their courses.

Question 3

When the study was conducted, the Association of College and Research Libraries Standards (2000) were still very heavily applied across all eight exemplary institutions, whether or not they had chosen to mix the Standards (2000) with rubrics and the Framework for Information Literacy for Higher Education (2016) or additional

standards from other disciplines. What is implied is that it would be very easy for the librarians at these institutions, to accept the Framework (2016), even though at the time everyone was uncertain about where everyone in the field and the ACRL were going. This was because librarians pointed out during the study that the Framework (2016) that had been developed was built on ideas and concepts that were already important in information literacy. Every instruction librarian considered it necessary to teach their students the information literacy fundamentals, such as being able to use the library catalog, search the databases and use the library tools that were available to both freshmen and students in the majors, in order to do research effectively. But they also deemed it necessary to teach students about scholarship. Thus it was not surprising that the two most popular frames taught, according to librarians in the study were “Authority is Constructed and Contextual” and “Scholarship as Conversation,” since both frames are flexible and at the level of simplicity. They include themes that connect with the Standards (2000) since emphasizing the first frame, librarians would teach students about source evaluation, as they did when teaching the Standards, and with the second frame, they could focus on teaching their students about the research process as they have always done. At the same time, the majority of librarians interviewed in the study were viewing both the old Standards and the new Framework as mere guidelines for developing their unique course outcomes and their instruction serving to inform their own information literacy practice and not as a given as a firm or set rule by which they needed to instruct their students. The implications of these findings suggest that even if the Framework (2016) took center stage, librarians would work flexibly around the frames and theories associated with it and include these whenever they were developing course

or program outcomes and course content, but they would always remain open to any other theories or models from the fields and disciplines that they touch and deal with in their teaching of information literacy. Librarians in general have always been comfortable and willing to accept and adopt new ideas, just as they find it easy to adapt to and adopt new technologies into their libraries.

Librarians were divided on the topic of digital literacy. Those who preferred to use the standards as a guideline were often less technology flexible, believing that their students entered college with a knowledge of the technology tools, and that they had no need to teach them the basics. They did however believe that their students needed to learn how to navigate their library. However, there was clearly an anti-technology stance since some librarians believed that if you were going to teach digital literacy, then you needed to teach students how to code. Often they were resistant because they did not have the programming skills to do so. However, most programs examined in the study provided students with high-levels of technological integrations, requiring their students to use technology to learn information literacy skills. The most common technology used by librarians for teaching students information literacy skills were college websites, online tutorials, chat reference interactions, libguides, LMS's (Course Modules) and additional formats where teaching content could be transferred to them such as video, social media platforms and games. It was therefore not surprising for the researcher who agreed, to discover that there were librarians in the study that did not perceive a difference between digital literacy and information literacy, even though they were aware that each had a definition of its own in the literature. Instead, they considered digital literacy to be the same as information literacy. This is also not surprising considering the

fact that the metaliteracies were being introduced as a part of the new theory surrounding the Framework (2016), and that digital literacy was considered to be one of the metaliteracies described in the model that librarians were encouraged to consider teaching in the classroom. In describing the Framework (2016), the emergent metaliteracies such as visual literacy, news literacy, digital literacy, media literacy and transliteracy, and several others were associated with the metaliteracy model, were being explored by librarians as they ventured up the steep curve of understanding the new Framework (2016) (State University of New York, 2016).

Conclusion

After the first and only round of the Association of College and Research Libraries Information Literacy Best Practices: Exemplary Information literacy program was concluded, that recognized academic libraries as information literacy instruction leaders, no further institutions were invited to apply for the honor to be recognized as “exemplary.” As a result, the idea of the “exemplary,” information literacy programs disappeared from the literature, but despite this faux pas, librarians representing the information literacy programs at the this study’s eight institutions emerge as information literacy instruction gurus, researchers and leaders that have much to contribute to the library community and Academy. Their contributions continue in the education and library science literature in the areas of creating, developing, assessing, revising and sustaining viable information literacy instruction courses/programs that work well in

preparing the students that are taught at their institutions to be technology savvy lifelong learners.

Research about what an “exemplary” information literacy course/program looks like in theory needed to be conducted so that library instructors in the field who want to forgo the one-shot information literacy session know where to start and exactly what it would take, for them to begin a for-credit or a course integrated information literacy course/program at their institution.

The researcher’s understanding of information literacy and her views and perceptions pertaining to how each of the eight institutions continue to be considered “exemplary” was shaped by her experiences as a researcher, student, teacher, librarian, instruction designer and lifelong learner. The researcher is in complete agreement with renowned information literacy researcher, William Badke when in his keynote address *Getting Information Literacy into the Academy – Problem and Prospect: Keynote Address for the Annual Conference of the Association of Christian Librarians*, on June 11, 2013, he stated the following about information literacy and the place of librarians in academia as we forge ever forward into the 21st century: “I think we are on the verge of an information literacy revolution. As the world of information becomes more and more confusing, and as databases become more and more complex, I see a growing hunger among academics and students for someone to lead them out of the fog. I believe our day has come” (Badke, 2013, p. 12).

Recommendations for Future Study

The recommendations for future study are as follows:

In the Prologue the researcher suggests that it would be interesting to determine what the learning experiences have been of students in the eight exemplary programs. Thus it is suggested that a viable study could be developed around this topic in the future.

What is the learning experience of students at the eight exemplary colleges and universities in this study?

What is the experience of students that have participated in the integrated information literacy courses/programs at the eight universities that have been studied in this dissertation? How are their experiences similar or different? What unique experiences have students had coming from different universities that have unique information literacy outcomes and what can information literacy instructors that are developing programs at their own institutions learn from these experiences that could help them to improve their information literacy instruction?

Determining whether graduating seniors are information literate

It is vitally important that institutions examine effective ways of assessing information literate outcomes. Considering the time, energy and resources devoted to developing strong programs, it would make sense to have a robust assessment system. Based on the findings of this study, all eight institutions studied only have access to anecdotal evidence that their students were information literate based on self-reports from their students. Studies have been attempted in the past, but did not provide the information that instructors needed to answer this question at their institution. Thus, it falls to researchers at institutions in this study and in the field to consider formal assessments that can

provide data determining if graduates at these institutions actually enter the workplace, information literate.

One year after the ACRL Standards (2000) have been rescinded, what has changed?

To gain a better understanding of how instructors are faring after the vetting of the ACRL Framework for Information Literacy for Higher Education (2016), extension topics emerge: How is digital literacy being taught? Are instructors including metaliteracy in their teaching and how are they accomplishing that? What changes have taken place a year after the Framework (2016) Standards were rescinded? How are instructors using the Framework (2016) in their instruction and how has their understanding of the threshold concepts this changed instruction? Are students information literate as a result of the change? Are librarians still using the Association of College and Research Libraries Standards (2000) despite it being rescinded? Are librarians still using the best of the Association of College and Research Libraries Framework (2016) information literacy guidelines together with subject-specific standards? Has the Framework (2016) changed this? These questions highlight the research that still needs to be undertaken.

Small academic institutions, funding and the ACRL Framework (2016)

It would be worthwhile to conduct a study that determines how small academic institutions that have information literacy courses/programs are implementing the ACRL Framework (2016) and whether these courses/programs are being threatened due to financial constraints because of the current recession. Case studies would be of particular interest, and comparisons between institutions, since few existed when the ACRL

Standards (2000) were implemented. How are smaller institutions implementing the Frames? Are smaller institutions finding it harder to establish information literacy courses/programs due to funding limitations? How? Are information literacy programs at small academic institutions being threatened by the recession? What other limitations are preventing librarians from establishing information literacy courses/programs at smaller institutions? Finding answers to these questions will provide researchers with a good understanding of how small academic institutions are faring when it comes to information literacy.

Why has the information literacy online course not become an established teaching format in US colleges and universities?

The researcher had originally assumed that it would be common for librarians to teach information literacy courses online, specifically in larger institutions. In this study, the researcher found that this was not the case. The research was still baffled about this and could really not determine why more institutions were not teaching their information literacy courses in completely online formats. Why are librarians hesitant about teaching completely online courses? Why is there a preference for blended and face-to-face information literacy courses over completely online courses? Assumptions can be laid to rest if research is conducted to adequately answer these questions.

Understanding the information literacy minor

Reading the articles of prolific information literacy specialist, William Badke, the researcher was convinced that teaching only one or two courses was not enough to have

students graduate from college information literate. As a result, it is necessary for librarians in collaboration with faculty and administrators, to work to develop/create information literacy minors and majors, where students could take 12-21 credit hours of information literacy courses before graduation. The researcher discovered that there were eight to ten colleges already offering information literacy minors, did not pursue this course of study as a dissertation. This topic would be an excellent one.

Chapter Summary

In this chapter, the three research questions were restated and followed by a description of the problems the researcher encountered during this study, the obstacles related to the study and the benefits related to the study. Summaries of the study findings for Questions, 1, 2 and 3 were provided along with discussions that were related to major topics that were addressed in relation to each question. The study finding summaries were followed by study implications. The conclusions and recommendations chapter ended with a conclusion and the researcher's recommendations for future research related to the research topics discussed.

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Appendix A - Kansas State University- IRB Approval



University Research Compliance Office

TO: Rosemary Talab
Curriculum & Instruction
226 Bluemont

Proposal Number: 8037

FROM: Rick Scheidt, Chair
Committee on Research Involving Human Subjects

DATE: 11/27/2015

RE: Proposal Entitled, "Exemplary Online Information Literacy Courses at Selected 4-year Colleges and University"

The Committee on Research Involving Human Subjects / Institutional Review Board (IRB) for Kansas State University has reviewed the proposal identified above and has determined that it is EXEMPT from further IRB review. This exemption applies only to the proposal - as written - and currently on file with the IRB. Any change potentially affecting human subjects must be approved by the IRB prior to implementation and may disqualify the proposal from exemption.

Based upon information provided to the IRB, this activity is exempt under the criteria set forth in the Federal Policy for the Protection of Human Subjects, 45 CFR §46.101, paragraph b, category: 1, subsection: ii.

Certain research is exempt from the requirements of HHS/OHRP regulations. A determination that research is exempt does not imply that investigators have no ethical responsibilities to subjects in such research; it means only that the regulatory requirements related to IRB review, informed consent, and assurance of compliance do not apply to the research.

Any unanticipated problems involving risk to subjects or to others must be reported immediately to the Chair of the Committee on Research Involving Human Subjects, the University Research Compliance Office, and if the subjects are KSU students, to the Director of the Student Health Center.

Proposal/Protocol #: #8037

Subject: Preliminary Administrative Review of Proposal for Human Subjects Research

Using 45 CFR 46 and guidance from the Office for Human Subjects Protection (OHRP) as a basis, the University Research Compliance Office (URCO) or the Chair of the Committee for Research Involving Human Subjects (IRB) has performed a preliminary administrative review of this proposal and makes the following determination.

The proposed activity as describes does not meet the criteria in 45 CFR 46 for the definition of "research" involving human subjects, and therefore does not require review by the Committee for Research Involving Human Subjects (IRB)

The proposed activity as describes is "Exempt" form review by the Committee for Research Involving Human Subjects (IRB)

Exemption Category #1

The proposed activity as described is eligible for "Expedited Review" by the Committee for Research Involving Human Subjects (IRB).

Eligibility Category for Expedited Review Exempt

IRB Application requires Full Committee Review

The proposed activity as described is eligible for a Waiver of Informed Consent

Research presents no more than minimal risk – and procedures involved would not normally require consent outside of the research context

Return of the instrument constitutes "Implied Consent"

Consent form only "link" to participant and research

The proposed activity involves a collaborator(s) who is not an employee or agent of KSU, and requires an Unaffiliated Investigators Agreement

HHS funds this human subjects research – Grant # NA

FDA funds this human subjects research – Grant # NA

The proposed research in the HHS or FDA funding grant/application is entirely consistent with the corresponding protocol(s) submitted to the IRB.

Reviewer: [Signature]

Date: 11/23/15

Comments:

- Subjects will be: Program coordinators, administrators, faculty, librarians from 10 different universities listed in protocol
- Data will be collected via: Interviews, documents associated with Information Literacy courses
 - o Interviews will be audio/video recorded
 - o Debriefing statement present
 - o Consent form present -> elements of consent & start of interview too
- The activity is being at ACRL standards and the framework for implemented Information Literacy courses

IRB#8037 Application Received/mandatory training

URCO comply

Fri 11/20/2015 1:55 PM

To: Rosemary Talab <talab@ksu.edu>;

Cc: Gloria Creed-Dikeogu <gfc@ksu.edu>;

Dr. Talab,

The status of your IRB application, "Exemplary Online Information Literacy Courses at Selected 4-year Colleges and University," can be tracked by using our web site at: (<http://www.k-state.edu/research/comply/status/>). Your IRB tracking number is 8037.

According to our database, the following individuals show incomplete or expired training. Training is now offered through the CITI program. URCO online modules are no longer available but will be honored until expired (3 years after last completion). Instructions to access the new training can be found here: <http://www.k-state.edu/comply/irb/training/>

Gloria Creed-Dikeogu- Responsible Conduct of Research

Anyone listed on the application will be required to complete the modules before final approval can be granted.

If you have any questions, please contact our office.

Thanks,

~Petra

Have a great day ☺

*Petra Jardine
Senior Administrative Specialist*

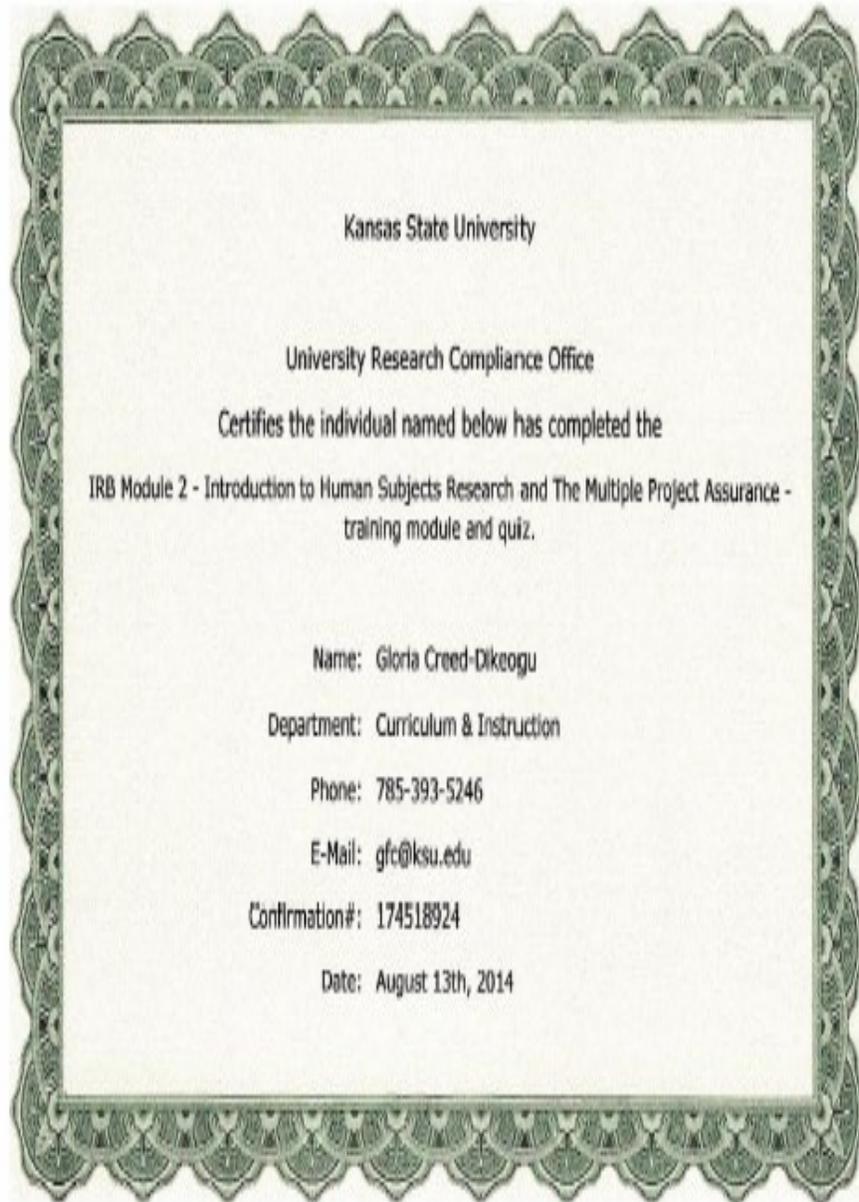
<https://outlook.office.com/owa/>

11/20/2015

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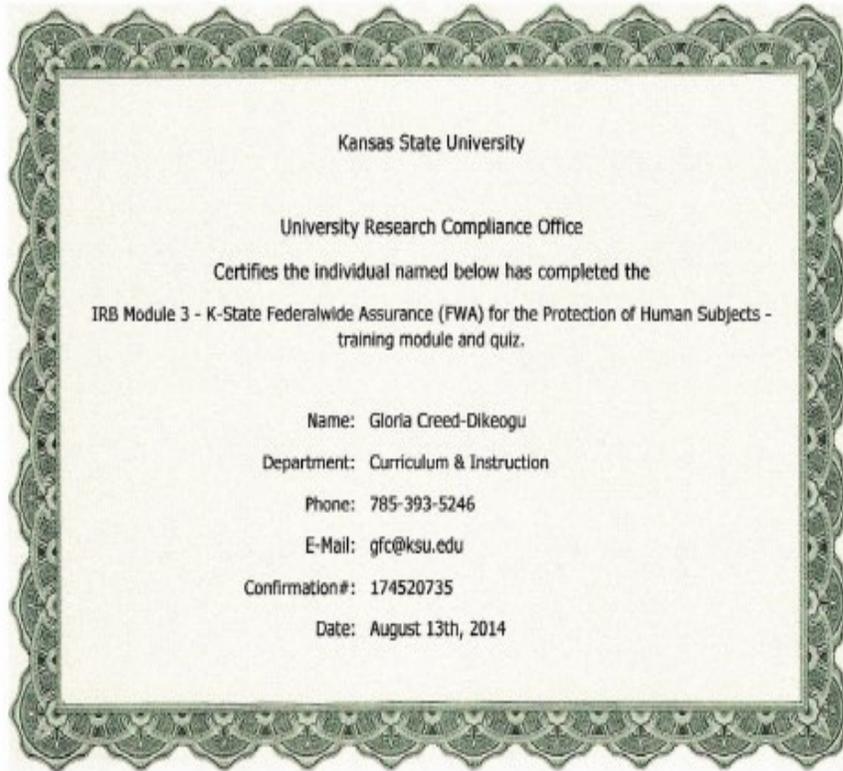
Note: Please print this confirmation before taking any other training modules



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Kansas State University

University Research Compliance Office

Certifies the individual named below has completed the
IRB Module 4 - The Belmont Report - training module and quiz.

Name: Gloria Creed-Dikeogu

Department: Curriculum & Instruction

Phone: 785-393-5246

E-Mail: gfc@ksu.edu

Confirmation#: 197637214

Date: May 8th, 2015

Kansas State University

University Research Compliance Office

Certifies the individual named below has completed the
IRB Module 5 - Identifying, Assessing, and Minimizing Risks of Social and Behavioral Research
- training module and quiz.

Name: Gloria Creed-Dikeogu

Department: Curriculum & Instruction

Phone: 785-393-5246

E-Mail: gfc@ksu.edu

Confirmation#: 197637915

Date: May 8th, 2015

Kansas State University

University Research Compliance Office

Certifies the individual named below has completed the
IRB Module 6 - Ethics of Research with Human Subjects - training module and quiz.

Name: Gloria Creed-Dikeogu

Department: Curriculum & Instruction

Phone: 785-393-5246

E-Mail: gfc@ksu.edu

Confirmation#: 197639327

Date: May 8th, 2015

Kansas State University

University Research Compliance Office

Certifies the individual named below has completed the
IRB Module 6 - Ethics of Research with Human Subjects - training module and quiz.

Name: Gloria Creed-Dikeogu

Department: Curriculum & Instruction

Phone: 785-393-5246

E-Mail: gfc@ksu.edu

Confirmation#: 197639327

Date: May 8th, 2015

Appendix B - Participant Pre-Research Email Letters

Pre-Research Email Letter

Hello _____

I found your contact information on the ACRL Information Literacy Best Practices; Exemplary Programs for 2014 website. I am emailing you because I am a doctoral student at Kansas State University, Manhattan, KS. I am currently working on my dissertation proposal and am interested in four-year colleges that have exemplary programs and more specifically how the ACRL Standards and the Framework are being implemented in information literacy courses and whether you might have implemented any digital literacy courses at your university. I am also interested in online learning and whether or not you have implemented elements online courses, online tutorials, learning objects or other online resources with which you are teaching your information literacy courses. I selected colleges/universities from the ACRL Best practices for 2014.

This would be a qualitative study, so I would be asking participants to participate in an interview 45 minutes to an hour on the phone, and a 30 minute phone follow-up interview.

Here are my dissertation questions that I am asking about exemplary programs:

The research questions relating to the development of information literacy courses in exemplary colleges and universities in the United States are as follows:

1. How are exemplary 4-year colleges implementing exemplary information literacy courses?
 2. How do exemplary 4-year college library information literacy courses implement the Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000), and the American College and Research Libraries Framework for Information Literacy in Higher Education (2015)?
3. To what extent is digital literacy incorporated into these exemplary information literacy courses?

My dissertation chair suggested that I make contact with faculty/instruction librarians/coordinators at colleges and universities that fit my study's criteria and ask if you might be interested in participating in my study so that I can have an idea of how many participants I would have at each site to be studied.

If you are interested, then might you be able to suggest who I include as participants in my study?

Thanks so much for reading this email and considering my request. I look forward to hearing back from you soon.

Best regards,

Gloria Creed-Dikeogu, M.L.S.; MAHR; M.B.A.
Director of Library Services and
Associate Professor of Library Science
The research site
Gangwish Library
1001 S. Cedar St.
The research site KS. 66067-3399
Phone: 785-248-2536
[https://myThe.research.site.edu/ics/The Research Site](https://myThe.research.site.edu/ics/The_Research_Site)
Home: 785-842-5841/Cell: 785-393-5246

Letter sent following the Pre-study contact letter #2

Hello XXX

Thank you for being willing to participate in my upcoming dissertation study :

Exemplary Online Information Literacy Courses at Selected 4-year Colleges and Universities.

I will defend my dissertation proposal on November 16. I need your help please with the following three items:

1. I need to be sure that you do offer your information literacy course/integrated information literacy in an online format
2. I have chosen to study a total of 7 exemplary college information literacy programs that includes your college's information literacy program. I was told that 7 interviews are too few to complete my study and that since this is a dissertation coming from the Education

Department, I would need to triangulate my data collected by asking if it was possible to interview three staff members from each college: Yourself, one instructor teaching in your program and one administrator/library director if that is at all possible associated with the library. Please advise.

3. Might you be available in the last week of November or sometime in early December for an interview?

Thank you so much for your help and I do look forward to talking so more with you about my request.

Gloria Creed-Dikeogu, M.L.S.; MAHR; M.B.A.

***Director of Library Services and
Associate Professor of Library Science***

Ottawa University

Gangwish Library

1001 S. Cedar St.

Ottawa KS. 66067-3399

Phone: 785-248-2536

https://myottawa.ottawa.edu/ics/Resources/Myers_Library_Online

Informed Consent Form for Librarian/Faculty Participants in the Doctoral Dissertation Research Study at The research site

This informed consent form is for Participants who we are invited to participate in a research study conducted by Gloria Creed-Dikeogu for the purpose of Doctoral Dissertation Research. The dissertation is titled “Exemplary Online Information Literacy Courses at Selected 4-year Colleges and Universities”.

Appendix C - Participant Letter of Consent

Faculty/Administrator/Instructor Participant Letter of Consent

Title of the Study: EXEMPLARY ONLINE INFORMATION LITERACY COURSES
AT SELECTED 4-YEAR COLLEGES AND UNIVERSITIES

Gloria Creed-Dikeogu
Ottawa University, Gangwish Library
1001 S. Cedar
Ottawa KS. 66067

Dear Participant,

I plan to conduct research regarding exemplary information literacy courses. The purpose of this case study is to explore how the information literacy standards are implemented in online courses, and whether or not standards are implemented when digital literacy courses are created. Information Literacy implementation will generally be discussed in association with two Standards: the Association of College and Research Libraries Standards (2000), and the Framework for Information Literacy for Higher Education (2015)

I am requesting your participation based on your acquisition of the honor to be listed as an exemplary information literacy program by the Association of College and Research Libraries Information Literacy Best Practices Committee. Your willingness to participate in this study will provide me with information that you are uniquely qualified to share and will potentially benefit teaching practices and learning behaviors. You have been selected to be interviewed based on your personal experience and knowledge regarding online information literacy courses.

As an interviewee you have the right to end your participation in the interview at any time, and may decline to answer any of the questions posed to you. Confidentiality will be maintained in regard to this study. Your identity will not be disclosed in the study. The data procured during the interview process will be kept confidential.

Interviewees are asked to participate in two interviews. The estimated length of the first interview is 45 minutes to an hour. The estimated length of the second interview is 30 minutes. The second interview is focused on checking the quality and accuracy of the interview transcript that will be sent to interviewees following the first interview. Interviews will be conducted either over the phone or via Zoom and will be recorded and transcribed.

Questions regarding this study should be directed to Gloria Creed-Dikeogu at 785-248-2536 or gloria.creddiekeogu@ottawa.edu

Since this study is required for a dissertation study, you may contact my Major Professor, Dr. Rosemary Talab, at talab@ksu.edu or by phone at 785-532-5716 for further information or questions. If you experience problems or difficulties that you are not comfortable addressing with the researchers, or if you have any questions about your rights and responsibilities as a participant, feel free to contact the Committee on Research Involving Human Subjects, 203 Fairchild Hall, Kansas State University, Manhattan, KS 66506, (785) 532-3224.

Thank you very much for your consideration.

Sincerely,
Gloria Creed-Dikeogu
Ottawa University, Gangwish Library
1001 S. Cedar
Ottawa KS. 66067

If you are interested in participating in this study, please sign the form and return it to me by December 14, 2015.

I, _____, have read the informed consent and am interested in participating in Gloria Creed-Dikeogu's study entitled, Exemplary Online Information Literacy Courses at Selected 4-year colleges and universities.

Signature

Date

Appendix D - Debriefing Form

Thank you for participating as a research participant in the present study

“EXEMPLARY ONLINE INFORMATION LITERACY COURSES AT SELECTED 4-YEAR COLLEGES AND UNIVERSITIES”.

The present study explores exemplary information literacy programs at eight colleges and universities.

If you have any questions or comments, feel free to ask me now. If you have any further questions or comments in the future regarding the study, please contact me at the email or telephone number below. Because other faculty and librarians that you select from your programs may be participating in this study in the future, I would ask that you not discuss the details of this study with them. However, if there are colleagues that you believe might have important information to add to this study, please contact me at the email or telephone number below.

Again, thank you for your participation in this study.

In the event that you feel psychologically distressed by participation in this study or have any questions about this study, we encourage you to, please feel free to contact the researcher, Gloria Creed-Dikeogu at gfc@ksu.edu or at 785-393-5246, at this time or the researcher’s dissertation chair, Dr. Talab (email: talab@ksu.edu).

Thanks again for your participation.

Appendix E - Association of College and Research Libraries

Information Literacy Standards (2000)

Standards, Performance Indicators, and Outcomes

Standard One

The information literate student determines the nature and extent of the information needed.

Performance Indicators:

The information literate student defines and articulates the need for information.

Outcomes Include:

- Confers with instructors and participates in class discussions, peer workgroups, and electronic discussions to identify a research topic, or other information need
- Develops a thesis statement and formulates questions based on the information need
- Explores general information sources to increase familiarity with the topic
- Defines or modifies the information need to achieve a manageable focus
- Identifies key concepts and terms that describe the information need
- Recognizes that existing information can be combined with original thought, experimentation, and/or analysis to produce new information
- The information literate student identifies a variety of types and formats of potential sources for information.

Outcomes Include:

- Knows how information is formally and informally produced, organized, and disseminated
- Recognizes that knowledge can be organized into disciplines that influence the way information is accessed
- Identifies the value and differences of potential resources in a variety of formats (e.g., multimedia, database, website, data set, audio/visual, book)
- Identifies the purpose and audience of potential resources (e.g., popular vs. scholarly, current vs. historical)

- Differentiates between primary and secondary sources, recognizing how their use and importance vary with each discipline
- Realizes that information may need to be constructed with raw data from primary sources

The information literate student considers the costs and benefits of acquiring the needed information.

Outcomes Include:

- Determines the availability of needed information and makes decisions on broadening the information seeking process beyond local resources (e.g., interlibrary loan; using resources at other locations; obtaining images, videos, text, or sound)
- Considers the feasibility of acquiring a new language or skill (e.g., foreign or discipline-based) in order to gather needed information and to understand its context
- Defines a realistic overall plan and timeline to acquire the needed information
- The information literate student reevaluates the nature and extent of the information need.

Outcomes Include:

- Reviews the initial information need to clarify, revise, or refine the question
- Describes criteria used to make information decisions and choices

Standard Two

The information literate student accesses needed information effectively and efficiently.

Performance Indicators:

The information literate student selects the most appropriate investigative methods or information retrieval systems for accessing the needed information.

Outcomes Include:

- Identifies appropriate investigative methods (e.g., laboratory experiment, simulation, fieldwork)
- Investigates benefits and applicability of various investigative methods
- Investigates the scope, content, and organization of information retrieval systems
- Selects efficient and effective approaches for accessing the information needed from the investigative method or information retrieval system

- The information literate student constructs and implements effectively-designed search strategies.

Outcomes Include:

- Develops a research plan appropriate to the investigative method
- Identifies keywords, synonyms and related terms for the information needed
- Selects controlled vocabulary specific to the discipline or information retrieval source
- Constructs a search strategy using appropriate commands for the information retrieval system selected (e.g., Boolean operators, truncation, and proximity for search engines; internal organizers such as indexes for books)
- Implements the search strategy in various information retrieval systems using different user interfaces and search engines, with different command languages, protocols, and search parameters
- Implements the search using investigative protocols appropriate to the discipline

The information literate student retrieves information online or in person using a variety of methods.

Outcomes Include:

- Uses various search systems to retrieve information in a variety of formats
- Uses various classification schemes and other systems (e.g., call number systems or indexes) to locate information resources within the library or to identify specific sites for physical exploration
- Uses specialized online or in person services available at the institution to retrieve information needed (e.g., interlibrary loan/document delivery, professional associations, institutional research offices, community resources, experts and practitioners)
- Uses surveys, letters, interviews, and other forms of inquiry to retrieve primary information

The information literate student refines the search strategy if necessary.

Outcomes Include:

- Assesses the quantity, quality, and relevance of the search results to determine whether alternative information retrieval systems or investigative methods should be utilized

- Identifies gaps in the information retrieved and determines if the search strategy should be revised
- Repeats the search using the revised strategy as necessary

The information literate student extracts, records, and manages the information and its sources.

Outcomes Include:

- Selects among various technologies the most appropriate one for the task of extracting the needed information (e.g., copy/paste software functions, photocopier, scanner, audio/visual equipment, or exploratory instruments)
- Creates a system for organizing the information
- Differentiates between the types of sources cited and understands the elements and correct syntax of a citation for a wide range of resources
- Records all pertinent citation information for future reference
- Uses various technologies to manage the information selected and organized

Standard Three

The information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system.

Performance Indicators:

The information literate student summarizes the main ideas to be extracted from the information gathered.

Outcomes Include:

- Reads the text and selects main ideas
- Restates textual concepts in his/her own words and selects data accurately
- Identifies verbatim material that can be then appropriately quoted

The information literate student articulates and applies initial criteria for evaluating both the information and its sources.

Outcomes Include:

- Examines and compares information from various sources in order to evaluate reliability, validity, accuracy, authority, timeliness, and point of view or bias
- Analyzes the structure and logic of supporting arguments or methods

- Recognizes prejudice, deception, or manipulation
- Recognizes the cultural, physical, or other context within which the information was created and understands the impact of context on interpreting the information

The information literate student synthesizes main ideas to construct new concepts.

Outcomes Include:

- Recognizes interrelationships among concepts and combines them into potentially useful primary statements with supporting evidence
- Extends initial synthesis, when possible, at a higher level of abstraction to construct new hypotheses that may require additional information
- Utilizes computer and other technologies (e.g. spreadsheets, databases, multimedia, and audio or visual equipment) for studying the interaction of ideas and other phenomena
- The information literate student compares new knowledge with prior knowledge to determine the value added, contradictions, or other unique characteristics of the information.

Outcomes Include:

- Determines whether information satisfies the research or other information need
- Uses consciously selected criteria to determine whether the information contradicts or verifies information used from other sources
- Draws conclusions based upon information gathered
- Tests theories with discipline-appropriate techniques (e.g., simulators, experiments)
- Determines probable accuracy by questioning the source of the data, the limitations of the information gathering tools or strategies, and the reasonableness of the conclusions
- Integrates new information with previous information or knowledge
- Selects information that provides evidence for the topic

The information literate student determines whether the new knowledge has an impact on the individual's value system and takes steps to reconcile differences.

Outcomes Include:

- Investigates differing viewpoints encountered in the literature
- Determines whether to incorporate or reject viewpoints encountered

The information literate student validates understanding and interpretation of the information through discourse with other individuals, subject-area experts, and/or practitioners.

Outcomes Include:

- Participates in classroom and other discussions
- Participates in class-sponsored electronic communication forums designed to encourage discourse on the topic (e.g., email, bulletin boards, chat rooms)
- Seeks expert opinion through a variety of mechanisms (e.g., interviews, email, listservs)
- The information literate student determines whether the initial query should be revised.

Outcomes Include:

- Determines if original information need has been satisfied or if additional information is needed
- Reviews search strategy and incorporates additional concepts as necessary
- Reviews information retrieval sources used and expands to include others as needed

Standard Four

The information literate student, individually or as a member of a group, uses information effectively to accomplish a specific purpose.

Performance Indicators:

The information literate student applies new and prior information to the planning and creation of a particular product or performance.

Outcomes Include:

- Organizes the content in a manner that supports the purposes and format of the product or performance (e.g. outlines, drafts, storyboards)
- Articulates knowledge and skills transferred from prior experiences to planning and creating the product or performance
- Integrates the new and prior information, including quotations and paraphrasings, in a manner that supports the purposes of the product or performance
- Manipulates digital text, images, and data, as needed, transferring them from their original locations and formats to a new context

The information literate student revises the development process for the product or performance.

Outcomes Include:

- Maintains a journal or log of activities related to the information seeking, evaluating, and communicating process
- Reflects on past successes, failures, and alternative strategies

The information literate student communicates the product or performance effectively to others.

Outcomes Include:

- Chooses a communication medium and format that best supports the purposes of the product or performance and the intended audience
- Uses a range of information technology applications in creating the product or performance
- Incorporates principles of design and communication
- Communicates clearly and with a style that supports the purposes of the intended audience

Standard Five

The information literate student understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally.

Performance Indicators:

The information literate student understands many of the ethical, legal and socio-economic issues surrounding information and information technology.

Outcomes Include:

- Identifies and discusses issues related to privacy and security in both the print and electronic environments
- Identifies and discusses issues related to free vs. fee-based access to information
- Identifies and discusses issues related to censorship and freedom of speech
- Demonstrates an understanding of intellectual property, copyright, and fair use of copyrighted material

The information literate student follows laws, regulations, institutional policies, and etiquette related to the access and use of information resources.

Outcomes Include:

- Participates in electronic discussions following accepted practices (e.g. "Netiquette")
- Uses approved passwords and other forms of ID for access to information resources
- Complies with institutional policies on access to information resources
- Preserves the integrity of information resources, equipment, systems and facilities
- Legally obtains, stores, and disseminates text, data, images, or sounds
- Demonstrates an understanding of what constitutes plagiarism and does not represent work attributable to others as his/her own
- Demonstrates an understanding of institutional policies related to human subjects research
- The information literate student acknowledges the use of information sources in communicating the product or performance.

Outcomes Include:

Selects an appropriate documentation style and uses it consistently to cite sources
Posts permission granted notices, as needed, for copyrighted material

Appendix F - Association of College and Research Libraries

Framework for Information Literacy

for Higher Education (2015)

Filed by the ACRL Board February 2, 2015, as one of the constellation of information literacy documents from the association.

Contents

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[Information Creation as a Process](#)

[Information Has Value](#)

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Introduction

This *Framework for Information Literacy for Higher Education (Framework)* grows out of a belief that information literacy as an educational reform movement will realize its potential only through a richer, more complex set of core ideas. During the fifteen years since the publication of the *Information Literacy Competency Standards for Higher Education*,¹ academic librarians and their partners in higher education associations have developed learning outcomes, tools, and resources that some institutions have deployed to infuse information literacy concepts and skills into their curricula. However, the rapidly changing higher education environment, along with the dynamic and often uncertain information ecosystem in which all of us work and live, require new attention to be focused on foundational ideas about that ecosystem. Students have a greater role and responsibility in creating new knowledge, in understanding the contours and the changing dynamics of the world of information, and in using information, data, and scholarship ethically. Teaching faculty have a greater responsibility in designing curricula and assignments that foster enhanced engagement with the core ideas about

information and scholarship within their disciplines. Librarians have a greater responsibility in identifying core ideas within their own knowledge domain that can extend learning for students, in creating a new cohesive curriculum for information literacy, and in collaborating more extensively with faculty.

The *Framework* offered here is called a framework intentionally because it is based on a cluster of interconnected core concepts, with flexible options for implementation, rather than on a set of standards, learning outcomes, or any prescriptive enumeration of skills. At the heart of this *Framework* are conceptual understandings that organize many other concepts and ideas about information, research, and scholarship into a coherent whole. These conceptual understandings are informed by the work of Wiggins and McTighe,² which focuses on essential concepts and questions in developing curricula and focuses on *threshold concepts*.³ Threshold concepts are those ideas in any discipline that are passageways or portals to enlarged understanding or ways of thinking and practicing within that discipline. This *Framework* draws upon an ongoing Delphi Study that has identified several threshold concepts in information literacy,⁴ but the *Framework* has been molded using fresh ideas and emphases for the threshold concepts. Two added elements illustrate important learning goals related to those concepts: *knowledge practices*,⁵ which are demonstrations of ways in which learners can increase their understanding of these information literacy concepts and *dispositions*,⁶ which describe ways in which to address the affective, attitudinal, or valuing dimension of learning. The *Framework* is organized into six frames, each consisting of a concept central to information literacy, a set of knowledge practices, and a set of dispositions. The six concepts that anchor the frames are presented alphabetically:

- Authority Is Constructed and Contextual
- Information Creation as a Process
- Information Has Value
- Research as Inquiry
- Scholarship as Conversation
- Searching as Strategic Exploration

Neither the knowledge practices nor the dispositions that support each concept are intended to prescribe what local institutions should do in using the *Framework*; each library and its partners on campus will need to deploy these frames to best fit their own situation, including designing learning outcomes. For the same reason, these lists should not be considered exhaustive.

In addition, this *Framework* draws significantly upon the concept of metaliteracy,⁷ which offers a renewed vision of information literacy as an overarching set of abilities in which students are consumers and creators of information who can participate successfully in collaborative spaces.⁸ Metaliteracy demands behavioral, affective, cognitive, and

metacognitive engagement with the information ecosystem. This *Framework* depends on these core ideas of metaliteracy, with special focus on metacognition,⁹ or critical self-reflection, as crucial to becoming more self-directed in that rapidly changing ecosystem.

Because this *Framework* envisions information literacy as extending the arc of learning throughout students' academic careers and as converging with other academic and social learning goals, an expanded definition of information literacy is offered here to emphasize dynamism, flexibility, individual growth, and community learning: Information literacy is the set of integrated abilities encompassing the reflective discovery of information, the understanding of how information is produced and valued, and the use of information in creating new knowledge and participating ethically in communities of learning.

The *Framework* opens the way for librarians, faculty, and other institutional partners to redesign instruction sessions, assignments, courses, and even curricula; to connect information literacy with student success initiatives; to collaborate on pedagogical research and involve students themselves in that research; and to create wider conversations about student learning, the scholarship of teaching and learning, and the assessment of learning on local campuses and beyond.

Notes

1. Association of College & Research Libraries, *Information Literacy Competency Standards for Higher Education* (Chicago, 2000).
2. Grant Wiggins and Jay McTighe. *Understanding by Design*. (Alexandria, VA: Association for Supervision and Curriculum Development, 2004).
3. Threshold concepts are core or foundational concepts that, once grasped by the learner, create new perspectives and ways of understanding a discipline or challenging knowledge domain. Such concepts produce transformation within the learner; without them, the learner does not acquire expertise in that field of knowledge. Threshold concepts can be thought of as portals through which the learner must pass to develop new perspectives and wider understanding. Jan H. F. Meyer, Ray Land, and Caroline Baillie. "Editors' Preface." In *Threshold Concepts and Transformational Learning*, edited by Jan H. F. Meyer, Ray Land, and Caroline Baillie, ix–xlii. (Rotterdam, Netherlands: Sense Publishers, 2010).
4. For information on this unpublished, in-progress Delphi Study on threshold concepts and information literacy, conducted by Lori Townsend, Amy Hofer, Silvia Lu, and Korey Brunetti, see <http://www.ilthresholdconcepts.com/>. Lori Townsend, Korey Brunetti, and Amy R. Hofer. "Threshold Concepts and Information Literacy." *portal: Libraries and the Academy* 11, no. 3 (2011): 853–69.
5. Knowledge practices are the proficiencies or abilities that learners develop as a result of their comprehending a threshold concept.
6. Generally, a disposition is a tendency to act or think in a particular way. More specifically, a disposition is a cluster of preferences, attitudes, and intentions, as well as a set of capabilities that allow the preferences to become realized in a particular way. Gavriel Salomon. "To Be or Not to Be (Mindful)." Paper presented at the American Educational Research Association Meetings, New Orleans, LA, 1994.

7. Metaliteracy expands the scope of traditional information skills (i.e., determine, access, locate, understand, produce, and use information) to include the collaborative production and sharing of information in participatory digital environments (collaborate, produce, and share). This approach requires an ongoing adaptation to emerging technologies and an understanding of the critical thinking and reflection required to engage in these spaces as producers, collaborators, and distributors. Thomas P. Mackey and Trudi E. Jacobson. *Metaliteracy: Reinventing Information Literacy to Empower Learners*. (Chicago: Neal-Schuman, 2014).

8. Thomas P. Mackey and Trudi E. Jacobson. "Reframing Information Literacy as a Metaliteracy." *College and Research Libraries* 72, no. 1 (2011): 62–78.

9. Metacognition is an awareness and understanding of one's own thought processes. It focuses on how people learn and process information, taking into consideration people's awareness of how they learn. (Jennifer A. Livingston. "Metacognition: An Overview." Online paper, State University of New York at Buffalo, Graduate School of Education, 1997. <http://gse.buffalo.edu/fas/shuell/cep564/metacog.htm>.)

Frames

These six frames are presented alphabetically and do not suggest a particular sequence in which they must be learned.

Authority Is Constructed and Contextual

Information resources reflect their creators' expertise and credibility, and are evaluated based on the information need and the context in which the information will be used. Authority is constructed in that various communities may recognize different types of authority. It is contextual in that the information need may help to determine the level of authority required.

Experts understand that authority is a type of influence recognized or exerted within a community. Experts view authority with an attitude of informed skepticism and an openness to new perspectives, additional voices, and changes in schools of thought. Experts understand the need to determine the validity of the information created by different authorities and to acknowledge biases that privilege some sources of authority over others, especially in terms of others' worldviews, gender, sexual orientation, and cultural orientations. An understanding of this concept enables novice learners to critically examine all evidence—be it a short blog post or a peer-reviewed conference proceeding—and to ask relevant questions about origins, context, and suitability for the current information need. Thus, novice learners come to respect the expertise that authority represents while remaining skeptical of the systems that have elevated that authority and the information created by it. Experts know how to seek authoritative voices but also recognize that unlikely voices can be authoritative, depending on need. Novice learners may need to rely on basic indicators of authority, such as type of publication or author credentials, where experts recognize schools of thought or discipline-specific paradigms.

Knowledge Practices

- Learners who are developing their information literate abilities do the following:

- Define different types of authority, such as subject expertise (e.g., scholarship), societal position (e.g., public office or title), or special experience (e.g., participating in a historic event).
- Use research tools and indicators of authority to determine the credibility of sources, understanding the elements that might temper this credibility.
- Understand that many disciplines have acknowledged authorities in the sense of well-known scholars and publications that are widely considered “standard”. Even in those situations, some scholars would challenge the authority of those sources.
- Recognize that authoritative content may be packaged formally or informally and may include sources of all media types.
- Acknowledge they are developing their own authoritative voices in a particular area and recognize the responsibilities this entails, including seeking accuracy and reliability, respecting intellectual property, and participating in communities of practice.
- Understand the increasingly social nature of the information ecosystem where authorities actively connect with one another and sources develop over time.

Dispositions

- Learners who are developing their information literate abilities do the following:
- Develop and maintain an open mind when encountering varied and sometimes conflicting perspectives
- Motivate themselves to find authoritative sources, recognizing that authority may be conferred or manifested in unexpected ways
- Develop awareness of the importance of assessing content with a skeptical stance and with a self-awareness of their own biases and worldview
- Question traditional notions of granting authority and recognize the value of diverse ideas and worldviews
- Are conscious that maintaining these attitudes and actions requires frequent self-evaluation

Information Creation as a Process

Information in any format is produced to convey a message and is shared via a selected delivery method. The iterative processes of researching, creating, revising, and disseminating information vary, and the resulting product reflects these differences.

The information creation process could result in a range of information formats and modes of delivery, so experts look beyond format when selecting resources to use. The unique capabilities and constraints of each creation process as well as the specific information need determine how the product is used. Experts recognize that information creations are valued differently in different contexts, such as academia or the workplace. Elements that affect or reflect on the creation, such as a pre- or post-publication editing or reviewing process, may be indicators of quality. The dynamic nature of information creation and dissemination requires ongoing attention to understand evolving creation processes. Recognizing the nature of information creation, experts look to the underlying processes of creation as well as the final product to critically evaluate the usefulness of the information. Novice learners begin to recognize the significance of the creation process, leading them to increasingly sophisticated choices when matching information products with their information needs.

Knowledge Practices

- Learners who are developing their information literate abilities do the following:
- Articulate the capabilities and constraints of information developed through various creation processes
- Assess the fit between an information product's creation process and a particular information need
- Articulate the traditional and emerging processes of information creation and dissemination in a particular discipline
- Recognize that information may be perceived differently based on the format in which it is packaged
- Recognize the implications of information formats that contain static or dynamic information
- Monitor the value that is placed upon different types of information products in varying contexts
- Transfer knowledge of capabilities and constraints to new types of information products
- Develop, in their own creation processes, an understanding that their choices impact the purposes for which the information product will be used and the message it conveys
- Dispositions
- Learners who are developing their information literate abilities do the following:
- Are inclined to seek out characteristics of information products that indicate the underlying creation process
- Value the process of matching an information need with an appropriate product

- Accept that the creation of information may begin initially through communicating in a range of formats or modes
- Accept the ambiguity surrounding the potential value of information creation expressed in emerging formats or modes
- Resist the tendency to equate format with the underlying creation process
- Understand that different methods of information dissemination with different purposes are available for their use

Information Has Value

Information possesses several dimensions of value, including as a commodity, as a means of education, as a means to influence, and as a means of negotiating and understanding the world. Legal and socioeconomic interests influence information production and dissemination.

The value of information is manifested in various contexts, including publishing practices, information access, the commodification of personal information, and intellectual property laws. The novice learner may struggle to understand the diverse values of information in an environment where “free” information and related services are plentiful and the concept of intellectual property is first encountered through rules of citation or warnings about plagiarism and copyright law. As creators and users of information, experts understand their rights and responsibilities when participating in a community of scholarship. Experts understand that value may be wielded by powerful interests in ways that marginalize certain voices. However, value may be leveraged by individuals and organizations to effect change and may be leveraged for civic, economic, social, or personal gains. Experts also understand the individual is responsible for making deliberate and informed choices about when to comply with and when to contest current legal and socioeconomic practices concerning the value of information.

Knowledge Practices

- Learners who are developing their information literate abilities do the following:
- Give credit to the original ideas of others through proper attribution and citation
- Understand that intellectual property is a legal and social construct that varies by culture
- Articulate the purpose and distinguishing characteristics of copyright, fair use, open access, and the public domain
- Understand how and why some individuals or groups of individuals may be underrepresented or systematically marginalized within the systems that produce and disseminate information
- Recognize issues of access or lack of access to information sources

- Decide where and how their information is published
- Understand how the commodification of their personal information and online interactions affects the information they receive and the information they produce or disseminate online
- Make informed choices regarding their online actions in full awareness of issues related to privacy and the commodification of personal information

Dispositions

- Learners who are developing their information literate abilities do the following:
 - Respect the original ideas of others
 - Value the skills, time, and effort needed to produce knowledge
 - See themselves as contributors to the information marketplace rather than only consumers of it
 - Are inclined to examine their own information privilege

Research as Inquiry

Research is iterative and depends upon asking increasingly complex or new questions whose answers in turn develop additional questions or lines of inquiry in any field. Experts see inquiry as a process that focuses on problems or questions in a discipline or between open or unresolved disciplines. Experts recognize the collaborative effort within a discipline to extend the knowledge in that field. Many times, this process includes points of disagreement where debate and dialogue work to deepen the conversations around knowledge. This process of inquiry extends beyond the academic world to the community at large, and the process of inquiry may focus upon personal, professional, or societal needs. The spectrum of inquiry ranges from asking simple questions that depend upon basic recapitulation of knowledge to increasingly sophisticated abilities to refine research questions, use more advanced research methods, and explore more diverse disciplinary perspectives. Novice learners acquire strategic perspectives on inquiry and a greater repertoire of investigative methods.

Knowledge Practices

- Learners who are developing their information literate abilities do the following:
 - Formulate questions for research based on information gaps or on reexamination of existing, possibly conflicting, information
 - Determine an appropriate scope of investigation
 - Deal with complex research by breaking complex questions into simple ones, limiting the scope of investigations

- Use various research methods, based on need, circumstance, and type of inquiry
- Monitor gathered information and assess for gaps or weaknesses
- Organize information in meaningful ways
- Synthesize ideas gathered from multiple sources
- Draw reasonable conclusions based on the analysis and interpretation of information

Dispositions

- Learners who are developing their information literate abilities do the following:
- Consider research as open-ended exploration and engagement with information
- Appreciate that a question may appear to be simple but still disruptive and important to research
- Value intellectual curiosity in developing questions and learning new investigative methods
- Maintain an open mind and a critical stance
- Value persistence, adaptability, and flexibility and recognize that ambiguity can benefit the research process
- Seek multiple perspectives during information gathering and assessment
- Seek appropriate help when needed
- Follow ethical and legal guidelines in gathering and using information
- Demonstrate intellectual humility (i.e., recognize their own intellectual or experiential limitations)

Scholarship as Conversation

Communities of scholars, researchers, or professionals engage in sustained discourse with new insights and discoveries occurring over time as a result of varied perspectives and interpretations.

Research in scholarly and professional fields is a discursive practice in which ideas are formulated, debated, and weighed against one another over an extended time. Instead of seeking discrete answers to complex problems, experts understand that a given issue may be characterized by several competing perspectives as part of an ongoing conversation in which information users and creators come together and negotiate meaning. Experts understand that, though some topics have established answers through this process, a query may have more than one uncontested answer. Experts are, therefore, inclined to

seek out many perspectives, not merely the ones with which they are familiar. These perspectives might be in their own discipline or profession or may be in other fields. Even though novice learners and experts at all levels can take part in the conversation, established power and authority structures may influence their ability to participate and can privilege certain voices and information. Developing familiarity with the sources of evidence, methods, and modes of discourse in the field assists novice learners to enter the conversation. New forms of scholarly and research conversations provide more avenues in which a wide variety of individuals may have a voice in the conversation. Providing attribution to relevant previous research is also an obligation of participation in the conversation. It enables the conversation to move forward and strengthens one's voice in the conversation.

Knowledge Practices

- Learners who are developing their information literate abilities do the following:
- Cite the contributing work of others in their own information production
- Contribute to scholarly conversation at an appropriate level, such as local online community, guided discussion, undergraduate research journal, conference presentation/poster session
- Identify barriers to entering scholarly conversation via various venues
- Critically evaluate contributions made by others in participatory information environments
- Identify the contribution particular articles, books, and other scholarly pieces make to disciplinary knowledge
- Summarize the changes in scholarly perspective over time on a particular topic within a specific discipline
- Recognize that a given scholarly work may not represent the only or even the majority perspective on the issue

Dispositions

- Learners who are developing their information literate abilities do the following:
- Recognize they are often entering into an ongoing scholarly conversation and not a finished conversation
- Seek out conversations taking place in their research area
- See themselves as contributors to scholarship rather than only consumers of it
- Recognize that scholarly conversations take place in various venues

- Suspend judgment on the value of a particular piece of scholarship until the larger context for the scholarly conversation is better understood
- Understand the responsibility that comes with entering the conversation through participatory channels
- Value user-generated content and evaluate contributions made by others
- Recognize that systems privilege authorities and that not having a fluency in the language and process of a discipline disempowers their ability to participate and engage

Searching as Strategic Exploration

Searching for information is often nonlinear and iterative, requiring the evaluation of a range of information sources and the mental flexibility to pursue alternate avenues as new understanding develops.

The act of searching often begins with a question that directs the act of finding needed information. Encompassing inquiry, discovery, and serendipity, searching identifies possible relevant sources and the means to access those sources. Experts realize that information searching is a contextualized, complex experience that affects, and is affected by, the searcher's cognitive, affective, and social dimensions. Novice learners may search a limited set of resources, and experts may search more broadly and deeply to determine the most appropriate information within the project scope. Likewise, novice learners tend to use few search strategies; experts select from various search strategies, depending on the sources, scope, and context of the information need.

Knowledge Practices

- Learners who are developing their information literate abilities do the following:
 - Determine the initial scope of the task required to meet their information needs
 - Identify interested parties, such as scholars, organizations, governments, and industries, which might produce information about a topic and determine how to access that information
 - Utilize divergent (e.g., brainstorming) and convergent (e.g., selecting the best source) thinking when searching
 - Match information needs and search strategies to search tools
 - Design and refine needs and search strategies, based on search results
 - Understand how information systems (i.e., collections of recorded information) are organized to access relevant information
 - Use different searching language types (e.g., controlled vocabulary, keywords, natural language)

- Manage searching processes and results

Dispositions

- Learners who are developing their information literate abilities do the following:
- Exhibit mental flexibility and creativity
- Understand that first attempts at searching do not always produce adequate results
- Realize that information sources vary greatly in content and format and have varying relevance and value, depending on the needs and nature of the search
- Seek guidance from experts, such as librarians, researchers, and professionals
- Recognize the value of browsing and other serendipitous methods of information gathering
- Persist in the face of search challenges, and know when enough information completes the information task

Appendix G - Association of College and Research Libraries

Information Section ILBP: Evaluation Rubric

1

ACRL IS ILBP: Evaluation Rubric

This rubric will be used to identify programs that exemplify categories of the [“Characteristics of Programs of Information Literacy that Illustrate Best Practices”](#)

“Characteristics” Category	Performance Level 1 Criteria: Emerging	Performance Level 2 Criteria: Advancing, Significant Progress	Performance Level 3 Criteria: Model Program
Category 1: Mission Performance Description: The Information Literacy Program’s mission statement includes a definition of information literacy; is consistent with standards set out in ACRL’s Characteristics of Programs of Information Literacy that Illustrate Best Practices: A Guideline; integrates with the library’s and the institution’s mission statements; and is promoted by the library and the institution.	The IL Program has a general statement at the library or institutional level, or is working on one.	An IL Program statement defining IL is publicized on the library or institution’s web site or in relevant publications.	The IL Program’s mission statement defining IL is publicized on the library or institution’s web site and in other relevant publications and institutional documents. The statement clearly reflects the contribution of institutional stakeholders and is aligned with the library’s and institution’s mission statements.
Category 2: Goals and Objectives Performance Description: The IL Program has determined its goals and objectives and its criteria for measuring outcomes in alignment with the library and institution’s missions, goals and objectives. Input from institutional stakeholders is accommodated, and all learners at the institution are taken into account.	IL goals, objectives and measurable outcomes are in development to align with the library and institution’s mission, goals & objectives. Input is sought from institutional stakeholders.	IL goals, objectives and measurable outcomes are in place, are aligned with the library and institution’s mission and goals, and take into account all learners at the institution. Input from institutional stakeholders is accommodated.	IL goals, objectives and measurable outcomes are in place, are aligned with the library and institution’s mission and goals, and take into account all learners at the institution. IL skills are presented sequentially and are integrated across the curriculum. Input from institutional stakeholders is accommodated.
Category 3: Planning Performance Description: The IL Program has developed a	The IL Program is engaged in a process of exploring opportunities and challenges for a	The plan is written and has been shared with campus stakeholders; it addresses the categories	The plan has been adopted by the institution and incorporated into the

"Characteristics" Category	Performance Level 1 Criteria: Emerging	Performance Level 2 Criteria: Advancing, Significant Progress	Performance Level 3 Criteria: Model Program
plan that addresses the other Characteristics categories while adapting them to a unique institutional context.	campus wide strategy, but has not yet completed a written plan.	outlined in the Characteristics in a way suited to the institution's unique context. Certain aspects of the plan have been adopted, while others are in progress.	curriculum; the plan's embodiment of all the Characteristics makes it an exemplary model to others.
Category 4: Administrative & Institutional Support Performance Description: Administration within an institution incorporates IL into the institution's mission, strategic plan, policies and procedures. IL Program leadership is clearly assigned. The administration recognizes, supports, and rewards staff contributions to the IL Program.	IL is not incorporated into the institution or library's mission, strategic plan or policies. IL Program leadership is not clearly defined. Mechanisms do not exist (or have not yet been implemented) for recognizing, providing support for, or rewarding staff contributions to the IL Program.	IL has been incorporated into the institution's mission or strategic plan or policies. IL leadership is assigned. Staff contributions to the IL Program are recognized, supported and rewarded.	IL has been fully incorporated into the institution's mission, strategic plan or policies. IL Program leadership is clearly assigned and responsibilities are assigned to appropriate librarians, faculty and staff. Staff contributions to the IL Program are formally and fully recognized, supported and rewarded. Support may include appropriately funded staffing levels, teaching facilities and professional development opportunities.
Category 5: Articulation within the Curriculum Performance Description: The IL Program is formally articulated within the curriculum at the discipline and course level with appropriate sequences and changing competencies at each level of the student's academic career. There is evidence of advocating for institution-wide integration into all academic or vocational	There is little articulation of IL competencies at the discipline level, but it is evident at the course level. There is little integration of IL into the academic programs. There is no formalized dissemination of IL competencies or standards.	The ability for a student to gain IL competencies is articulated and defined at the course level. There is a level of IL integration within a few academic programs. There is some dissemination of IL competencies and standards.	There is a clear articulation and defined sequential progression for the student to gain IL competencies at both the academic discipline and individual course levels. IL is highly integrated within a variety of academic programs due to a formalized dissemination of IL standards and competencies that charges specific programs and courses with their

"Characteristics" Category	Performance Level 1 Criteria: Emerging	Performance Level 2 Criteria: Advancing, Significant Progress	Performance Level 3 Criteria: Model Program
programs.			implementation.
Category 6: Collaboration Performance Description: The IL Program staff works continuously to improve communication among faculty, librarians and other stakeholders with a focus on enhancing student learning and developing skills for lifelong learning. IL is aligned with disciplinary content to achieve IL outcomes.	The institution is beginning to work on communication and alignment among faculty, librarians, and other stakeholders.	Mechanisms are in place for continuous communication with some focus on enhancing student learning. Efforts are underway to align disciplinary content to achieve IL outcomes.	A fully operational system of communication is in place and contributing to student learning and skill development consistent with the use of disciplinary content to achieve IL outcomes.
Category 7: Pedagogy Performance Description: The IL Program staff supports diverse approaches to teaching and learning and integrates current learning theories and relevant technology to support pedagogy. Collaborative and experiential activities are used to promote critical thinking, reflection, and recursive learning.	The institution is in the process of developing diverse approaches to teaching and the use of appropriate learning technologies.	Diverse approaches to teaching and learning can be seen, as can some use of appropriate technology in pedagogy.	There is clear evidence of diverse approaches to teaching and learning, including collaborative and experiential activities that incorporate appropriate technologies for the purpose of enhancing critical thinking, reflection and recursive learning.
Category 8: Staffing Performance Description: Staffing, which includes librarians, library staff and collaborators such as disciplinary faculty and teaching/learning specialists, is sufficient in quantity and qualifications to support	The institution is beginning to work on issues of staffing in support of IL, but current staffing is less than adequate. Staffing does not yet include collaborators, such as faculty, instructional designers, etc. There is an indication of some	Staffing levels can support the current IL Program and allow for its continued growth and improvement. At least one member of the staff is knowledgeable in instruction, curriculum development and assessment. Collaboration is under	Staffing levels can support the current IL Program and allow for its continued growth and improvement. A librarian has training or expertise in instruction, curriculum development and assessment and is positioned to advocate for information literacy.

"Characteristics" Category	Performance Level 1 Criteria: Emerging	Performance Level 2 Criteria: Advancing, Significant Progress	Performance Level 3 Criteria: Model Program
the IL Program and its continued growth and improvement.	professional development support.	development with administration, faculty, or other potential program staff and collaborators.	Staff regularly engage in professional development and training. Collaborations with, for example, disciplinary faculty and educational technology specialists are in place and encouraged.
Category 9: Outreach Performance Description: The IL Program clearly defines and describes its outreach activities, including the value these activities have for their targeted audiences. The program is marketed creatively to relevant stakeholders within and outside the institution, utilizing varied communication methods for outreach. The program collaborates with other institutional units to provide programs and workshops related to IL.	The program's outreach activities are described for targeted audiences within the institution. There is some evidence of collaborating with institutional units to disseminate IL. The program is marketed utilizing standard publicity materials, primarily focused on the institution.	The program's outreach activities are described for its targeted audiences, peers, stakeholders, and collaborative partners within the institution. There is clear evidence of collaboration with other institutional units to provide programs and workshops on IL. The program is marketed using a variety of methods, including formal and informal networks and publicity materials.	The program's outreach activities are clearly defined and described for its targeted audiences, peers, stakeholders, and collaborative partners both within and outside the institution. The program collaborates with other institutional units to provide programs and workshops related to IL. The program is successfully marketed through a variety of communication methods, including formal and informal networks, social media, traditional media and publicity materials.

"Characteristics" Category	Performance Level 1 Criteria: Emerging	Performance Level 2 Criteria: Advancing, Significant Progress	Performance Level 3 Criteria: Model Program
Category 10: Assessment and Evaluation Performance Description: The IL Program utilizes a variety of appropriate assessment and evaluation approaches to measure both its own success in meeting its goals and objectives (see categories 1 and 2) and student success in achieving learning outcomes.	The IL Program conducts assessment and evaluation of one-shot library sessions and freshman orientation components of the IL Program using a few quantitative approaches.	The IL Program conducts assessment and evaluation using measurable objectives. The program and student learning outcomes are assessed using appropriate quantitative and/or qualitative methods. Results of assessments and evaluations are used to improve the IL program.	The IL program conducts assessments and evaluations at the course, program, and institutional levels using measurable objectives for program success and for student learning. Appropriate quantitative and qualitative designs are utilized. Multiple methods are incorporated to assess student learning across the curriculum. Results of assessments and evaluations are used to improve the IL program.

Finalized March 4, 2013

Characteristics of Programs of Information Literacy that Illustrate Best Practices: A Guideline Best Practices Initiative Institute for Information Literacy

Approved by the ACRL Board, June 2003, revised January 2012.

Note: Links within the text will take you to an annotation of the highlighted terms.

Overview

The "Characteristics of Programs of Information Literacy that Illustrate Best Practices: A Guideline" attempts to articulate elements of exemplary information literacy programs for undergraduate students at four- and two-year institutions.

The characteristics identify and describe features notable in information literacy programs of excellence. The characteristics are not, however, descriptive of any one program, but rather represent a metaset of elements identified through examination of many programs and philosophies of undergraduate information literacy.

In addition, though guided by the definitions found in the "Final Report of the ALA Presidential Committee on Information Literacy" (1989), "A Progress Report on Information Literacy: An Update on the American Library Association Presidential Committee on Information Literacy: Final Report" (1998), and the "Information Literacy Competency Standards for Higher Education" (2000), the characteristics themselves do

not attempt to define information literacy per se. Instead, the focus is on defining the elements of best practices in information literacy programming.

Although an attempt was made to categorize and organize the characteristics for ease of use and logical presentation, the order does not reflect any judgment of priority.

Purpose and Use

The characteristics are primarily intended to help those who are interested in developing, assessing, and improving information literacy programs. This audience includes faculty, librarians, administrators, and technology professionals, as well as others involved in information literacy programming at a particular institution. Individuals involved with information literacy programming are encouraged to use the characteristics in a variety of ways. These characteristics both present and represent a set of ideas that can be used when establishing, developing, advancing, revitalizing, or assessing an information literacy program. The characteristics also provide a framework within which to categorize the details of a given program and to analyze how different program elements contribute to attaining excellence in information literacy. Because the characteristics are descriptive in nature and the result of a meta-analysis of many programs, they may also be useful for benchmarking program status, improvement, and long-term development.

It is important to note, however, that no program is expected to be exemplary with respect to all characteristics; this list is not prescriptive. Rather, individuals are encouraged to consider their library and institutional contexts in establishing information literacy program goals and strategies while incorporating these characteristics.

Librarians are also encouraged to make use of the “Guidelines for Instruction Programs in Academic Libraries” for specific guidance on academic library involvement with information literacy programs.

Characteristics of Programs of Information Literacy that Illustrate Best Practices Category 1: Mission

- A mission statement for an information literacy program:
- Includes a definition of information literacy;
- Is consistent with the “ACRL Information Literacy Competency Standards for Higher Education”;
- Aligns with the library’s mission statement to correspond with the larger mission statement of the institution;
- Adheres to the format of campus strategic documents;
- Incorporates the institutional stakeholders, clearly reflecting their contributions and the expected benefits;
- Appears in appropriate institutional documents; and

- Promotes relevant lifelong learning and professional development.

Category 2: Goals and Objectives

Goals and objectives for an information literacy program:

- Are consistent with the mission, goals, and objectives of the library and the institution;
- Establish measurable outcomes for evaluation of the program;
- Accommodate input from institutional stakeholders;
- Clearly present the integration of information literacy across the curriculum for students' academic pursuits and effective lifelong learning, see Category 5: Articulation;
- Accommodate sequential growth of students' skills and understanding throughout their education, see Category 5: Articulation; and
- Take into account all learners served by or connected to the institution, regardless of delivery systems or location.

Category 3: Planning

Planning for an information literacy program:

- Articulates and develops mechanisms to implement and/or adapt components of the best practices listed in this document (as needed):
 - mission
 - goals and objectives
 - administration and institutional support
 - articulation (program sequence) with the curriculum
 - collaboration
 - pedagogy
 - staffing
 - outreach
 - assessment/evaluation.
- Addresses current opportunities and challenges.
- Is tied to library, institutional, and information technology planning and budgeting cycles.
- Incorporates findings from environmental scans.

- Accommodates the level of the program, department, and institution.
- Addresses and prioritizes human, technological and financial resources (both current and projected), taking into account administrative and institutional support.
- Encourages librarian, faculty, and administrator collaboration at the outset.
- Enables librarians to take on leadership roles that will extend beyond the planning stages.
- Includes a program for training and development, see Category 8: Staffing.
- Provides a timeline for systematic revision.

Category 4: Administrative and Institutional Support

Administration within an institution:

- Assigns information literacy leadership and responsibilities to appropriate librarians, faculty, and staff.
- Incorporates information literacy in the institution's mission, strategic plan, policies, and procedures.
- Provides funding to establish and ensure ongoing support for :
 - teaching facilities
 - current and appropriate technologies
 - appropriate staffing levels
 - professional development opportunities.
- Recognizes and encourages collaboration, see Category 6: Collaboration.
- Communicates support for the program.
- Rewards individual and institutional achievement and participation in the information literacy program.

Category 5: Articulation (program sequence) within the Curriculum

Articulation with the curriculum for an information literacy program:

- Identifies the scope (i.e., depth and complexity) of competencies to be acquired on a disciplinary level as well as at the course level.
- Sequences and integrates competencies throughout a student's academic career, progressing in sophistication.

- Emphasizes learner-centered learning, see Category 7: Pedagogy .
- Is formalized and widely disseminated.
- Uses local governance structures to advocate for and ensure institution-wide integration into academic or vocational programs.
- Specifies programs and courses charged with implementing competencies.

Category 6: Collaboration

Collaboration in an information literacy program among disciplinary faculty, librarians, other instructors (e.g., teaching assistants), administrators, and other program staff:

- Fosters communication among disciplinary faculty, librarians, other instructors (e.g., teaching assistants), administrators, and other staff within the institution.
- Focuses on enhancing student learning and skill development for lifelong learning.
- Communicates effectively with faculty, librarians, other instructors, administrators, and additional staff members to gain support for the program within the academic community.
- Aligns information literacy with disciplinary content.
- Works within the context of the course content, and other learning experiences, to achieve information literacy outcomes.
- Takes place at different stages: planning, delivery, assessment of student learning, and evaluation and refinement of the program.

Category 7: Pedagogy

Pedagogy for an information literacy program:

- Supports diverse approaches to teaching and learning.
- Is suitable to the type of instruction (e.g., one-shot, dedicated course).
- Takes into account diverse teaching and learning styles.
- Incorporates and uses relevant and appropriate information technology and other media resources to support pedagogy.
- Advances learning through collaborative and experiential-learning activities.
- Promotes critical thinking, reflection, and recursive learning.
- Builds on learners' existing knowledge, course assignments, and career goals.

- Contextualizes information literacy within ongoing coursework appropriate to the academic program and course level.
- Prepares students for independent lifelong learning.

Category 8: Staffing

Staff for an information literacy program:

- Includes librarians, library staff, administrators, program coordinators, instructional technologists, as well as disciplinary faculty, graphic designers, teaching/learning specialists, and other program staff as needed.
- Endeavors to work collaboratively with others and support each other's learning development.
- Are knowledgeable in instruction/teaching, curriculum development, and assessment of student learning.
- Garner expertise in developing, coordinating, implementing, evaluating, and revising information literacy programs.
- Exemplify and advocate for information literacy and lifelong learning.
- Engage in professional development and training.
- Are adequate in number to support the program's mission and workload.
- Receive regular evaluations about the quality of their contributions to the program and areas for improvement.

Category 9: Outreach

Outreach activities for an information literacy program:

- Clearly define and describe the program and its value to targeted audiences, including those within and beyond the specific institution.
- Market the program through the creation and distribution of publicity materials.
- Identify and reach out to relevant stakeholders and support groups both within and outside of the institution.
- Use a variety of communication methods, including formal and informal networks and media channels.
- Provide, in collaboration with other campus professional development staff, workshops and programs that relate to information literacy.

- Contribute to information literacy's advancement by sharing information, methods, and plans with peers and stakeholders both within and outside of the institution.

Category 10: Assessment/Evaluation

Assessment/evaluation of information literacy includes program performance and student outcomes.

Program evaluation:

- Develops a process for program planning, evaluation, and revision.
- Measures the progress of meeting the program's goals and objectives, see Category 2: Goals and Objectives.
- Integrates with course and curriculum assessment, institutional evaluations and regional/professional accreditation initiatives.
- Uses appropriate assessment/evaluation method for relevant purposes, for example formative and summative and/or short-term and longitudinal.

Student outcomes:

- Acknowledge differences in learning and teaching styles in the outcome measures.
- Employ a variety of pre- and post-instruction outcome measures; for example: needs assessment, pre-tests, post-tests, portfolio assessment, oral defense, quizzes, essays, direct observation, anecdotal, peer and self-review, and experience.
- Focus on learner performance, knowledge acquisition, and attitude appraisal.
- Assess the learners' process and product.
- Include learner-, peer-, and self-evaluation.

Document and Revision History

The characteristics were developed through a multiphase process which involved professionals from multiple sectors of higher education, including librarians, faculty, administrators, and professional organizations. Beginning in April 2000, suggestions for an original draft of the characteristics were gathered through a Web-based Delphi polling technique. Members of the Best Practices Project Team and Best Practices Advisory Panel then wrote a document based upon these suggestions and revised it several times. A working draft was distributed widely for comment and went through a further revision. A penultimate draft was completed in March 2001 and was used as the basis for selecting ten institutions for a national invitational conference on best practices in information literacy programming, which was held in Atlanta in June 2002. As part of that meeting the characteristics were further refined. The revisions culminated in a final edition.

In 2008 members of the ACRL Information Literacy Best Practices committee (ILBP) undertook a revision of the characteristics. Committee members agreed that certain language needed to be changed in order to better represent the current state of information literacy at academic institutions. Members of ILBP began the process by offering suggestions for revisions; these suggestions were then collected, keyed to the original text, and then disseminated for comments from the ACRL membership by sending the links to the original document and the proposed revisions to the ILI-L, COLLIB, and CJC listservs. After collecting the comments provided by ACRL members, the document was re-examined, and a new draft was created using the track changes feature, which allowed readers to look at proposed changes and the differences in meaning that would result from making those changes. The changes were then integrated into the original document and submitted to ACRL Executive Committee for approval.

Appendix H - Expert Panel Vitas

Amy Fyn

Amy F. Fyn

ACADEMIC DEGREES

May 2007 **M.L.I.S., Library and Information Science**
Wayne State University, Detroit, MI

May 2002 **M.A., English Literature**
Boston College, Chestnut Hill, MA

June 1997 **B.A., English**
The University of Toledo, Toledo, OH

LIBRARY EXPERIENCE

2012-present **Coordinator of Library Instruction, Assistant Librarian**
Kimbel Library, Coastal Carolina University

2008-2012 **Assistant Professor, Reference and Instruction Librarian**
Jerome Library, Bowling Green State University

2006-2007 **Research Assistant**
Library and Information Science Program, Wayne State University

2000-2001 **Student Worker**
O'Neill Library Reference Department, Boston College

1998-2000 **Library Media Technical Assistant I**
Law Library Acquisitions Department, The University of Toledo

TEACHING EXPERIENCE

Spring 2014 LIBR 103: Research strategies for transfer students, Coastal Carolina University, Conway, SC [1 section, 1 credit hour, 2 students]

Spring 2013 ENGL101L: Information Literacy Lab, Coastal Carolina University, Conway, SC [1 section, 1 credit hour, 16 students]

Spring 2012 LIB2210: Research in the Electronic Library, Bowling Green State University, Bowling Green, OH [1 online section, 1 credit hour, 17 students]

Spring 2011 LIB2250: Information Seeking and Management in Contemporary Society, Bowling Green State University, Bowling Green, OH [1 online section, 3 credit hours, 19 students]

Fall 2008 LIB225: Information Seeking and Management in Contemporary Society, Bowling Green State University, Bowling Green, OH [1 online section, 3 credit hours, 20 students]

Winter 2006 COM110: Effective Persuasive Writing, Axia College of University of Phoenix, Phoenix, AZ [2 online sections, 3 credit hours, 20 students each]

OTHER RELEVANT EXPERIENCE

2007–2008	Writing Tutor, Owens Community College, Perrysburg, OH
2004–2005	Operations Manager, Kaplan Test Prep, Amherst MA
2004–2006	Teacher Trainer, Kaplan Test Prep, Amherst MA and Toledo OH
2001–2012	Instructor (SAT/ACT/GRE/GMAT), Kaplan Test Prep, various locations

PROFESSIONAL PRESENTATIONS

May 10, 2014	Artemchik, T. & Fyn, A. F. Creating new compositions: Using Prezi palettes to reinvigorate information literacy instruction. Library Orientation Exchange (LOEX), Grand Rapids, MI.
Apr 11, 2013	Fyn, A. F. Promoting discovery services to faculty. Roundtable discussion at the Association of College and Research Libraries (ACRL) Conference, Indianapolis, IN.
Oct 26, 2012	Fyn, A. F., Resnis, E., Snyder, R., & Sullivan, E. Utilizing iPads and Tablets as Library Instruction Tools. Annual Conference of the Academic Library Association of Ohio, Wilmington, OH.
Sep 27, 2012	Fyn, A. F. Information Literacy in the Age of Web-Scale Discovery: “Fast Track and Summon”. Serials Solutions webinar. Invited presenter.
Jun 8, 2012	Fyn, A. F., Lux, V., & Snyder, R. Desert or oasis? Reflecting on teaching and tweaking a discovery layer. LOEX of the West (LOTW), Burbank, CA.
Nov 4, 2011	Antonelli, P. & Fyn, A. F. Summoning instruction: Does a discovery layer change library instruction? Annual Conference of the Academic Library Association of Ohio, Toledo, OH.
Nov 4, 2011	Cleveland, S., Evans, G., Fyn, A. F., Hertenstein, E., Kramer, L., Lux, V., Tousey, E., & Yoder, K. Peer mentoring for new librarians: Transformation of a tenure support group. Annual Conference of the Academic Library Association of Ohio, Toledo, OH.
Jun 3, 2011	Fyn, A. F. Let’s get active! Using active learning techniques in a one-shot library instruction session. Workshop for Instruction in Library Use (WILU), Regina, SK, Canada.
Oct 30, 2009	Fyn, A. F. How suite it is: Assembling a comprehensive collection of library resources for a first-year writing program. Annual Conference of the Academic Library Association of Ohio, Wilmington, OH (with C. Boff, K. Najacht, R. Snyder, & J. Thomas).
Oct 30, 2009	Antonelli, P., Fyn, A. F., & Vendetti, K. Re-Energizing library instruction: Using LibGuides in the library classroom. Annual Conference of the Academic Library Association of Ohio, Wilmington, OH.

Harner, J. L. *Literary Research Guide*, 5th ed. (New York: Modern Language Association) in *Reference and User Services Quarterly*, 50, 3 (Spring 2011). p. 301.

D'Ammassa, D. *Encyclopedia of adventure fiction: The essential reference to the great works and writers of adventure fiction*. (New York: Facts on File, 2009) in *Reference and User Services Quarterly*, 49, 1 (Fall 2009). p. 93.

In-press index

Libraries & Culture, 15-Year Cumulative Index, volumes 26-40, 1991-2005. Austin: The University of Texas Press, forthcoming. Student indexer.

SERVICE

University

2013-present	Academic Affairs Committee, CCU
2013, 2014	Undergraduate Research Competition, faculty judge, CCU
2012-present	University Wide Assessment Committee, CCU
2012	Distinguished Scholar Selection Committee, CCU
2011–2012	University Faculty Research Committee, BGSU
2010	General Studies Writing Instructorship Search Committee, BGSU
2009-2012	Center for Teaching and Learning Advisory Board, BGSU

Library

2013-present	Electronic Resources Committee, CCU
2013-present	Customer Service and Staff Development Cross Functional Team Co-chair, CCU
2013	Information Literacy Librarian Search committee (two searches), CCU
2010-2012	University Libraries Faculty Merit Committee Chair, BGSU 2011-2012
2011-2012	Member, University Libraries Faculty Nominations and Elections Committee, BGSU
Summer 2011	Chair, Search Committee for Instructor, Library Teaching and Learning, BGSU
Summer 2011	Summon Help sub-committee, University Libraries, BGSU

Caleb Puckett
800 W. 14th St.
Chanute, KS 66720
(620) 431-2820 x246
cpuckett@neosho.edu

Education

- 2009 Master of Library and Information Studies
University of Oklahoma, Norman, OK
- 2006 Master of Arts: English
Oklahoma State University, Stillwater, OK
- 1999 Bachelor of Arts: English
University of Central Oklahoma, Edmond, OK

Employment History

Summer 2014

Present Coordinator of Library and Instructional Design Services: Neosho County
Community College, Chanute, KS

- As library director, represent the library and its interests at the local, regional and statewide level
- Manage all budgetary and operational aspects of the residential library and its satellite location
- Engage in facilities planning and improvement
- Supervise staff members involved with collection maintenance, cataloging, circulation, reference, instruction, outreach, and programming activities
- Assess library and staff member effectiveness
- Maintain the library's integrated library system, e-resources, LibGuides, webpages, and other tools and resources
- Select electronic and print materials for the college
- Identify training opportunities and teach faculty, staff and students how to employ various learning technologies and library resources
- Lead in the investigation and implementation of digital initiatives involving content creation and delivery

- Design, enhance and support a host curricular elements for the college's face-to-face, hybrid and online learning populations
- Liaise with faculty, staff and administration, as well as foster collaborative opportunities among various constituencies

Fall 2012-Summer 2014

Assistant Professor of Library Science—Information Literacy Librarian: The research site, The research site, KS

- Integrated information literacy standards into the university curriculum
- Designed information literacy curriculum, learning objects and learning modules for face-to-face and online environments
- Developed, taught and coordinated sections of required information literacy course, LAS 13525: Research Techniques and Technology, at the university's residential site
- Created upper division information literacy course, LAS 31000: Research Tools and Practices, and redevelop required Seminar II course as an information literacy course for the university's adult, professional and online sites (APOS)
- Built and implemented collaborative instructional initiatives with faculty at the residential campus and APOS sites in Arizona, Indiana and Wisconsin,
- Provided library training for faculty and staff
- Conducted assessment for the information literacy program
- Developed and managed a range of electronic resources and services, including virtual librarian, research and writing guides, live chat, and academic databases
- Provided virtual and face-to-face reference services
- Engaged in promotion and outreach related to library resources, services and curricular offerings
- Ensured information literacy program effectively supports university accreditation
- Supervised student worker projects

Summer 2012

Assistant Manager II: Mid-Continent Public Library, Independence, MO

- Planned and administered a variety of library activities

- Made work and scheduling assignments for a large group of full-time, substitute and page staff at a four-star library
- Ensured accuracy of employee time sheets and related materials
- Handled customer questions, suggestions and complaints
- Facilitated the adoption of new technology, procedures and policies at the branch
- Implemented data gathering forms and streamlined daily data gathering processes related to reference transactions, technological instruction and employee leave requests
- Provided reference services and performed processing duties as needed

Summer 2009-Summer 2012

Assistant Professor—Reference and Instruction Librarian: Emporia State University, Emporia, KS

- Served as a subject specialist, departmental liaison and materials selector for Art, English, Literature, Foreign Languages, Language, and Journalism
- Managed materials budget for selection areas
- Provided bibliographic instruction and taught information literacy workshops for undergraduate and graduate students
- Developed curriculum and taught credit-bearing elective course, UL 100: Information Literacy and Technology, in online and face-to-face settings
- Campus-wide coordinator for UL 100
- Supervised and conducted reference training for student workers
- Provided virtual, phone and face-to-face reference services to on-campus and distance learning faculty and students
- Created online library guides for students, including art, journalism and general reference resources
- Developed a five year reference model plan
- Chaired the reference model study committee
- Served as institutional repository coordinator, overseeing the development of ESU's institutional repository and coordinating open access initiatives and related projects involving scholarly communication
- Chairman of the scholarly communication committee

Spring 2009
Graduate Research Assistant: University of Oklahoma, Tulsa, OK

Fall 2004-Spring 2005
English Instructor: Tulsa Community College, Tulsa, OK and Fall 2008-Spring 2009

Fall 2007 and Fall 2008
English Instructor: University of Tulsa, Tulsa, OK

Summer 2005-Summer 2008
Library Director and English Instructor: Platt College, Tulsa, OK

Fall 2004-Summer 2005
Writing Tutor: Tulsa Community College, Tulsa, OK

Fall 2003-Spring 2004
Teaching Assistant: Oklahoma State University, Stillwater, OK

Fall 2002-Summer 2003
Writing Tutor: Oklahoma State University Academic Services for Student Athletes,
Stillwater, OK

Fall 2001-Spring 2002
English Teacher: Ash Fork High School, Ash Fork, AZ

Fall 2000-Spring 2001
English Teacher: Parker High School, Parker, AZ

Academic Publications

“Right to Die.” *Ideas and Movements that Shaped America*. Ed. Scott Stabler. Santa Barbara, CA: ABC-CLIO, forthcoming 2014.

“The Man of the Crowd: Following Edgar Allan Poe and Finding Evil in Popular Culture.” *A History of Evil in Popular Culture: What Hannibal Lecter, Stephen King, and Vampires Reveal about America*. Ed Sharon Packer. Santa Barbara, CA: Praeger/ABC-CLIO, 2014.

“Little Magazines.” *The Encyclopedia of Women and American Popular Culture*. Ed. Gina Misiroglu. New York: Facts on File, forthcoming 2014.

“Ecopoetics.” *America Goes Green: An Encyclopedia of Eco-Friendly Culture in the United States*. Ed. Kim Kennedy White. Santa Barbara, CA: ABC-CLIO, 2012.

“Catch-22.” *Encyclopedia of the Sixties: A Decade of Culture and Counterculture*. Eds. James S. Baugess and Abbe Allen-Debolt. Santa Barbara, CA: ABC-CLIO, 2012.

“Lolita.” *Encyclopedia of the Sixties: A Decade of Culture and Counterculture*. Eds. James S. Baugess and Abbe Allen-Debolt. Santa Barbara, CA: ABC-CLIO, 2012.

“Slaughterhouse-Five.” *Encyclopedia of the Sixties: A Decade of Culture and Counterculture*. Eds. James S. Baugess and Abbe Allen-Debolt. Santa Barbara, CA: ABC-CLIO, 2012.

“To Kill a Mockingbird.” *Encyclopedia of the Sixties: A Decade of Culture and Counterculture*. Eds. James S. Baugess and Abbe Allen-Debolt. Santa Barbara, CA: ABC-CLIO, 2012.

“McGuffey, William Holmes.” *Dictionary of Early American Philosophers*. Ed. John R. Shook. New York: Continuum, 2012.

“Webster, Noah.” *Dictionary of Early American Philosophers*. Ed. John R. Shook. New York: Continuum, 2012.

“Mina Loy.” *American Writers: A Collection of Literary Biographies*, Supplement XXII. Ed. Jay Parini. Farmington Hills, MI: Scribner’s/ Gale Cengage Learning, 2011.

“Lee, Ang.” *Movies in American History: An Encyclopedia*. Ed. Philip C. DiMare. Santa Barbara, CA: ABC-CLIO, 2011.

“Singleton, John.” *Movies in American History: An Encyclopedia*. Ed. Philip C. DiMare. Santa Barbara, CA: ABC-CLIO, 2011.

Puckett, Caleb and Cynthia Akers. “Stock and Trade.” *Let the Games Begin! Engaging Students with Field-tested Interactive Information Literacy Instruction*. New York: Neal-Schuman, 2011.

“Oh, the Humanities: Understanding Information Behavior to Foster Information Literacy.” *Emporia State Research Studies* 46. 2 (November 2010): 33-44.

“Phillis Wheatley.” *American Writers: A Collection of Literary Biographies: Mary Antin to Phillis Wheatley*, Supplement XX. Ed. Jay Parini. Farmington Hills, MI: Scribner’s/ Gale Cengage Learning, 2010.

Creative Writing Publications

Fate Lines/ Desire Lines (Mammoth Publications, 2014)

Caleb Puckett & Friends (mgv2>publishing, 2013)

Market Street Exit (Otoliths, 2011)

Tales from the Hinterland (Otoliths, 2008)

Desertions (Plan B Press, 2007)

A complete list of individual short story and poetry publications is available upon request.

Conferences and Presentations

Spring 2014

Presented “It’s in the Curriculum: Establishing an Information Literacy Requirement at a Multi-site University” at the Kansas Library Association’s College and University Libraries Section Conference 2014 in Emporia, KS

Presented original writing at the First Annual Lawrence Poetry Fair on Lawrence, KS

Presented original writing at the William Stafford: 100 Years of Peace and Poetry conference at Washburn University in Topeka, KS

Presented original writing at the Living Arts of Tulsa’s Oklahoma Avant Garde reading in Tulsa, OK

Spring 2013

Presented original writing at the Living Arts of Tulsa’s Oklahoma Avant Garde spoken word/ poetry reading in Tulsa, OK

Fall 2012

Presented “Connectivity and Hybridity: Scaffolded Curriculum for a Credit-bearing Information Literacy Course” at the MPLA/ NLA/ NSLA Tri-Conference in LaVista, NE

Spring 2012

Presented “The Emporia State Institutional Repository Collection: A New Tool for Scholarly Communication” at the Emporia State University Research and Creativity Forum in Emporia, KS

Spring 2012

Presented original writing with Kevin Rabas during National Library Week reading at Emporia State University, Emporia, KS

Fall 2011

Presented “A Sturdy Scaffold: Building Effective Assignments for an Information Literacy Course” at the Kansas Library Association’s College and University Libraries Section Conference 2011 in Manhattan, KS

Summer 2011

Attended USETDA 2011 “The Magic of ETDs... Where Creative Minds Meet” in Orlando, FL

Summer 2010

Participated in “Scholarly Communication 101: Starting with the Basics” a ACRL/ CULS Summer Institute in Manhattan, KS

Summer 2010

Presented “New Lines of Communication: Establishing and Institutional Repository at ESU” at the Emporia State University eLearning Institute in Emporia, KS

Spring 2010

Co-presented “New Lines of Communication: Establishing an Institutional Repository at ESU” at the Emporia State University Research and Creativity Foru in Emporia, KS

Spring 2010

Presented “Publishing in the Digital Age: Techniques and Tools for the Information Literate Creative Writer” at the Digital Humanities Summit in Lawrence, KS

Spring 2010

Hosted poetry reading featuring Grant Jenkins and Cheryl Pallant at Emporia State University

Fall 2009

Co-presented “From Avatar to Learner: Gamer Psychology and Experiential Learning in Library Instruction” at the Kansas Library Association’s College and University Libraries Section Conference 2009 in Hays, KS

Fall 2009

Presented “Neither Here Nor There: Locating Information Literacy in the Library and Writing Center” at the 6th Annual Georgia Conference on Information Literacy in Savannah, GA

Summer 2009

Presented “Oh, the Humanities: Understanding Information Behavior to Foster Information Literacy” at the Seventh Annual International Conference on New Directions in the Humanities in Beijing, China

Spring 2009

Tales from the Hinterland was an assigned text for English 4863: Advanced Poetry Writing at the University of Tulsa. Visited class to discuss selections from the work with students.

Fall 2008

Presented “Evaluating Websites for Academic Purposes” at the Knowledge and Project Management Symposium in Tulsa, OK

Summer 2008 Presented “From the Red River to Science Websites: Navigating Reference Services in Hanoi” at the 5th ALA Forum on Education: Service Learning and Citizen Engagement session in Anaheim, CA

Spring 2004

Presented “The Brass Bird and Other Poems” at 8th Annual Angelo State University Writing Conference, San Angelo, TX

Spring 2004

Presented “Cowboy Poetry and Other Poems” at Oklahoma State University Spring Reading Series, Stillwater, OK

Spring 2003

Presented “Chinese New Year and Other Poems” at Oklahoma State University Spring Reading Series, Stillwater, OK

Spring 1999

Presented “Autocratic Lemon Toast 75 and Other Poems” at the University Central Oklahoma Spring Symposium, Edmond, OK

Workshops and Other Instruction

Fall 2013-

Taught LAS 13525: Research Techniques and Technology at The research site

Summer 2014

Provide training webinars for faculty and students on an ongoing basis

Spring 2014

Taught OAD 41063: Business Internship

Fall 2013

Served as Subject Matter Expert; designing online, upper division Research Tools and Practices course and redesigning Seminar II for The research site

Fall 2012

Served as Subject Matter Expert; designed online World Literature III course for The research site

Spring 2010-

Taught UL 100: Information Literacy and Technology course at Emporia State University, Emporia, KS

Fall 2008

Co-taught Information Literacy Workshop at Cameron University, Lawton, OK

Fall 2008

Conducted one-on-one poetry workshops and co-taught “Poetry II: Mapping a Poem: Journeys in Style and Form” at the Nimrod/ Hardman Awards Celebration and Writing Workshop at the University of Tulsa, Tulsa, OK

Summer 2007

Facilitated creative writing auditions for the Oklahoma Arts Institute’s “Oklahoma Summer Arts Institute” in Ada, Oklahoma City, Tulsa, and Weatherford, OK

Fall 2006

Conducted one-on-one poetry workshops and co-taught the class “Unlocking the Mystery: Understanding Poetry” at the Nimrod Hardman Awards Celebration and Writing Workshop at the University of Tulsa, Tulsa, OK

Academic and Professional Service: Offices and Affiliations

2014-

Present Member, Kansas Council of Academic Library Deans and Directors
Member, Two-Year Library Directors Council
Chairman, Kansas Library Association (KLA) Two-Year Interest Group
Member, College and University Libraries Section (CULS) Awards and Grants Council
Member, Neosho County Community College (NCCC) Online Instruction Committee
Member, NCCC Technology Planning Committee

2013-Present

Member, KLA
Member, KLA Nominating Committee
Editor-in-Chief, CULS Proceedings
Editor, Futures Trading

2013-2014

Board Member, Northeast Kansas Library System (NEKLS) Executive Board
Member, NEKLS System Director Search Committee
Member, KLA Private Academic Library Section (PALS) Selection Committee
Member, Core Implementation Team for The research site’s Blackboard Community Engagement System
Chair, The research site Curriculum and Training Assessment Committee
Member, Kansas Poet Laureate Advisory Committee and Selection Committee
Organizing Committee Member, Transformative Language Arts Network’s “The Power of Words” conference in Kansas City, MO
Judge, The research site Poetry Competition

2012-Present

Member, CULS

2010-Present
Member, Beta Phi Mu, International Library and Information Studies Honor Society

2008-Present
Member, American Library Association (ALA)

2006-Present
Associate Poetry Editor, Nimrod International Journal

2012
Jury Member, Best of ESU student anthology
EEO Monitor and Member of Search Committee for Emporia State University (ESU)
University Archivist

2011-2012
Editor, Emporia State Research Studies

2010-11
Chairman, ESU Libraries and Archives Faculty Committee
Member, ESU Libraries and Archives Publicity and Outreach Committee
Conversation Partner, ESU Intensive English Program
EEO Monitor and Member, ESU Search Committee for E-Resources Librarian
Member, ESU Search Committee for Dean of Graduate School and Distance Education

2009-2012
Chairman, ESU Scholarly Communication Committee Member, ESU Libraries and Archives Professional Development Committee

2009-2010
Chairman, ESU Libraries and Archives Reference Model Study Committee
Vice-Chairman, ESU Faculty Committee

2009-2010
Member, Oklahoma Library Association (OLA)

2008-2010
Member, ALA Social Responsibilities Round Table (SRRT)

2007-2009
Member, Oklahoma Library and Information Studies Student Association (OLISSA)

2004
Treasurer, Oklahoma State University Creative Writing Association (CWA)

2003

Office Assistant, Cimarron Review

2002-2005

Member, CWA

1998-1999

Editorial Assistant, New Plains Review

Alysia Starkey, Ph.D.

Curriculum Vitae

2519 Stonepost Lane
Salina, KS 67401
(785) 643-5301
astarkey@k-state.edu

EDUCATION

- 05/2010
Manhattan, KS **Kansas State University**
Doctor of Philosophy in Curriculum and Instruction
- 08/2002
Denton, TX **University of North Texas**
Master of Library Science
- 05/2000
Hays, KS **Fort Hays State University**
Bachelor of Science in Psychology

ACADEMIC AND PROFESSIONAL POSITIONS

- 07/2014 – Present Associate Dean of Undergraduate Studies, Kansas State University, Salina, KS
- 08/2012 – 07/2014 Assistant Dean of Continuous Improvement, Kansas State University, Salina, KS
- 07/2010 – 08/2012 Assistant Dean of Academics/Distance Education and Director of Libraries, Kansas State University, Salina, KS
- 09/2007 – 07/2010 Library Director, Associate Professor, Kansas State University, Salina, KS
- 06/2002 – 09/2007 Technical Services/Automation Coordinator, Assistant Professor, Kansas State University, Salina, KS
- 12/1999 – 06/2002 Library Assistant II, Colby Community College, Colby, KS

PUBLICATIONS

- Starkey, A. & Craft, L. (2013). Using incentives to overcome faculty resistance of online learning. *Proceedings of the Distance Learning Associations Annual Conference, Jekyll Island, GA.*
- Starkey, A. & Craft, L. (2012). Exploring faculty barriers to developing online courses. *Proceedings of the Distance Learning Associations Annual Conference, Jekyll Island, GA.*
- Starkey, A. (2011). Mentoring in the library: building for the future (book review). *Reference and User Services Quarterly, 51(2)*, p. 206.
- Starkey, A. & Blackburn, H. (2011). We didn't start the fire in the library. In C. A. Germain & G.T. Burke (Eds.), *Information Literacy through the Streets of Hollywood*. Library Instruction Publications.
- Starkey, A., Blackburn, H., & Wise, K. (2009). Connecting generations for organizational success. *Proceedings of the International Federation of Library Associations and Institutions World Library and Information Conference: General Conference and Assembly*. Bologna, Italy.
- Starkey, A, Blackburn, H. & Bower, P. (Winter 2008). Photo identity crisis: creating a classification and organization method for unidentified photographic archives. *Education Libraries, 31(2)*, p. 31 - 38.
- Oh, J., Starkey, A., & Kissick, B. (2007). Fostering students to be lifelong learners with science literacy, information fluency, and communication skills. *Proceedings of the 6th American Society for Engineering Education Global Colloquium on Engineering Education*, Istanbul, Turkey.
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- American Society for Engineering Education Global Colloquium on Engineering Education, Rio de Janeiro, Brazil.*
- Starkey, A., Kissick, B., Collins, J., & Oh, J. (2006). Faculty librarian partnerships for information fluency instruction: planning and preliminary assessment. *Proceedings of the American Society for Engineering Education Annual Conference, Chicago, IL.*
- Oh, J., Starkey, A., & Kissick, B. (2006). Fostering students to be lifelong learners with science literacy, information literacy, and communication skills. *Proceedings of the American Society of Engineering Education Midwest Section Meeting, Kansas City, MO.*
- Collins, J., Kissick, B., Oh, J., & Starkey, A. (2005). Information literacy teams: bridging the fluency divide. *Proceedings of the American Society for Engineering Education Annual National Conference, Portland, OR.*
- Starkey, Alysia, Kissick, B., Collins, J., & Oh, J. (2005). TAC of ABET criterion 2 and technical writing as a site for assessing information literacy. *Proceedings of the American Society of Engineering Education Midwest Section Meeting, Fayetteville, AR.*
- Oh, J., Starkey, A, Kissick, B., & Collins, J. (2005). Collaborative integration of information literacy into the 21st century chemistry course. *Proceedings of the National Meeting of the American Chemical Society. Washington, D.C.*
- Starkey, Alysia, Kissick, B., Collins, J., & Oh, J. (2005). Knowledge workers of the future and today's information literate students. *K-State at Salina Professional Day. Salina, KS.*
- Collins, J., Kissick, B., Oh, J., & Starkey, A. (2004). Information literacy teams: bridging the fluency divide. *Proceedings of the American Society of Engineering Education Midwest Section Meeting, Pittsburg, KS.*
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EDITORIAL REVIEWS

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PRESENTATIONS

International Conferences

- Starkey, A., Blackburn, H., & Wise, K. (2009). *Connecting generations for organizational success*. Paper presented at the International Federation of Library Associations and Institutions World Library and Information Conference: General Conference and Assembly. Bologna, Italy.
- Ackerman, P. & Starkey, A. (2008). *A collaborative merger onto the road of academic integrity*. International Writing Centers Association Annual Conference. Las Vegas, NV.
- Oh, J., Starkey, A., & Kissick, B. (2007). *Fostering students to be lifelong learners with science literacy, information fluency, and communication skills*. Paper presented at the 6th American Society for Engineering Education Global Colloquium on Engineering Education, Istanbul, Turkey.
- Starkey, A., Kissick, B., Collins, J., & Oh, J. (2006). *Faculty librarian partnership for information fluency instruction: planning and preliminary assessment*. Paper presented at the 5th American Society for Engineering Education Global Colloquium on Engineering Education, Rio de Janeiro, Brazil.

National Conferences

- Starkey, A. & Craft, L. (2013). *Using incentives to overcome faculty resistance of online learning*. Paper presented at the Distance Learning Associations Annual Conference, Jekyll Island, GA.
- Starkey, A. & Craft, L. (2012). *Exploring faculty barriers to developing online courses*. Paper presented at the Distance Learning Associations Annual Conference, Jekyll Island, GA.
- Oh, J., Starkey, A., & Kissick, B. (2007). *Fostering students to be lifelong learners with science literacy, information fluency, and communication skills*. Paper presented at the American Society for Engineering Education National Conference, Honolulu, HI.
- Starkey, A., Kissick, B., Collins, J., & Oh, J. (2006). *Faculty librarian partnerships for information fluency instruction: planning and preliminary assessment*. Paper presented at the American Society for Engineering Education Annual Conference, Chicago, IL.
- Starkey, A., Collins, J., & Theiss, R. (2006). *Crossing the library/classroom border: narratives of truth and consequences in information literacy instruction*. Conference on College Composition and Communication, Chicago, IL.
- Oh, J., Collins, J., Kissick, B., & Starkey, A. (2006). *Collaborative integration of information literacy: lessons from faculty, librarians, and arts, sciences, and business*. 18th Annual Lilly-West Conferences, Ponomo, CA.
- Oh, J., Starkey, A., Kissick, B. & Collins, J. (2005). *Collaborative integration of information literacy into the 21st century chemistry course*. Paper presented at the National Meeting of the American Chemical Society. Washington, D.C.

Collins, J., Kissick, B., Oh, J., & Starkey, A. (2005). *Information literacy teams: bridging the fluency divide*. Paper presented at the American Society for Engineering Education Annual National Conference, Portland, OR.

Regional & Local Conferences

Starkey, A., Blackburn, H. & Craft, L. (2011). *We like to move it! Move it! 20,000 books and one student worker*. Kansas College and University Libraries Section Meeting, Manhattan, KS.

Braum, H., Blackburn, H., & Starkey, A. (2009). *Keeping up with big daddy: meeting 2.0 user expectations on a 1.0 budget*. Kansas Library Association Annual Conference, Wichita, KS.

Starkey, A., Blackburn, H., & Wise, K. (2008). *Connecting generations for organizational success*. Kansas College and University Libraries Annual Conference, Lawrence, KS.

Starkey, A. & Knopp, K. (2007). *Information literacy*. Kansas Association of Teachers of English Annual Conference, Wichita, KS.

Starkey, A. & Swisher, D. (2007). *Copyright and the T.E.A.C.H. Act*. Summer Institute of Distance Learning and Instructional Technology Annual Conference, Overland Park, KS.

Starkey, A. & Knopp, K. (2006). *Boolean rock 'n roll: advanced electronic research strategies*. Kansas Association of Teachers of English Annual Conference, Wichita KS.

Starkey, A., Kissick, B., & Oh, J. (2006). *Collaborative integration of information literacy: a progress report from general chemistry courses*. Kansas College and University Libraries Section Annual Meeting, Salina, KS.

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Oh, J., Collins, J., Kissick, B., & Starkey, A. (2006). *Collaborative integration of information literacy: a progress report on a general chemistry course*. 19th Biennial Conference on Chemistry Education, West Lafayette, IN.

Starkey, A., Kissick, B., & Oh, J. (2006). *The courage to collaborate: defining and implementing information literacy across the curriculum*. Kansas Library Association Annual Conference, Wichita, KS.

Kissick, B. & Starkey, A. (2006). *Caldecott: what's hot and what's not, part 5*. Kansas Library Association Annual Conference, Wichita, KS.

- Starkey, A., Collins, J., Kissick, B., & Oh, J. (2006). *Helping our students become information hotties: using the seven criteria of effective information literacy assignments*. Excellence in Teaching and Learning Retreat, Manhattan, KS.
- Starkey, A., Collins, B., Kissick, B., & Oh, J. (2006). *TAC of ABET Criterion 2: faculty/librarian partnerships and information literacy: results of a Big 12 fellowship inter-institutional workshop*. K-State at Salina Professional Day, Salina, KS.
- Starkey, A., Anderson, R., & Knopp, K. (2006). *Pedagogical approaches based on student led research*. K-State at Salina Professional Day, Salina, KS.
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- Starkey, A., Anderson, R., & Knopp, K. (2005). *Online tutorials: a student perspective*. Kansas College and University Libraries Section Annual Meeting, Manhattan, KS.
- Starkey, Alysia, B. Kissick, J. Collins, and J. Oh. (2005). *TAC of ABET criterion 2 and technical writing as a site for assessing information literacy*. Paper presented at the American Society of Engineering Education Midwest Section Meeting, Fayetteville, AR.
- Starkey, A. & Kissick, B. (2005). *Marketing information literacy to faculty*. Kansas Library Association Annual Conference, Overland Park, KS.
- Kissick, B. & Starkey, A. (2006). *Caldecott: what's hot and what's not, part 4*. Kansas Library Association Annual Conference, Overland Park, KS.
- Starkey, A., Collins, J., & Oh, J. (2005). *Teaching information literacy: the next cross-curricular movement?* Excellence in Teaching and Learning Retreat, Manhattan, KS.
- Starkey, Alysia, Kissick, B., Collins, J., & Oh, J. (2005). *Knowledge workers of the future and today's information literate students*. Paper presented at K-State at Salina Professional Day. Salina, KS.
- Starkey, A., Collins, J., Kissick, B., & Oh, J. (2004). *Teachers and librarians: assessing the effects of online tutorials, in-service visits, and direct instruction on information literacy across the curriculum*. Kansas College and University Libraries Section Annual Meeting, Emporia, KS.
- Collins, J., Kissick, B., Oh, J., & Starkey, A. (2004). *Information literacy teams: bridging the fluency divide*. Paper presented at the American Society of Engineering Education Midwest Section Meeting, Pittsburg, KS.
- Starkey, A., Collins, J., Kissick, B., & Oh, J. (2004). *Teachers and librarians: assessing the effects of online tutorials, in-service visits, and direct instruction on information literacy across the curriculum*. Summer Institute of Distance Learning and Instructional Technology Annual Conference, Overland Park, KS.

Kissick, B. & Starkey, A. (2004). *Caldecott: what's hot and what's not, part 3*. Kansas Library Association Annual Conference, Wichita, KS.

Kissick, B. & Starkey, A. (2003). *Caldecott: what's hot and what's not, part 2*. Kansas Library Association Annual Conference, Salina, KS.

Starkey, A. & Kissick, B. (2003). *Wanted: ideas for marketing the library to faculty*. Kansas College and University Libraries Section Annual Meeting, Wichita, KS.

Invited Presentations

Starkey, A. (2012). *Faculty and staff working together toward common goals*. McPherson College

Starkey, A., Albin, T., & Kearns, S. (2006). *Playtime for teacher librarians*. Pre-conference for Kansas College and University Libraries Section Annual Meeting, Salina, KS.

Starkey, A. (2005). *How to debunk Internet junk*. Salina Community Education and Skill Sharing (CLASS) Guest Lecture, Salina, KS.

Starkey, A., Collins, J., & Oh, J. (2005). *Teaching information literacy: the next cross-curricular movement?* Wakonse Gathering, Manhattan, KS.

GRANT ACTIVITY

Funding Source: Kansas State University (2011)
Principal Investigators: Alysia Starkey, Lisa Craft
Title: Creation of Faculty Development Center
Amount of Funding Requested: \$11,000 (\$10,000 Funded)

Funding Source: Kansas State University Tilford Grants (2009)
Principal Investigator: Judith Collins
Co-Investigator: Alysia Starkey
Title: E. Frederic Morrow: First Black Man in the White House
Amount of Funding Requested: \$1,200 (Funded)

Funding Source: Institute of Museum and Library Services (2009)
Principal Investigator: Alysia Starkey
Title: Connecting to Collections Bookshelf
Amount of Funding Requested: \$1,000 in materials (Funded)

Funding Source: Kansas State University (2008)
Principal Investigators: Leslie Hannah, Patricia Ackerman, Jennifer Molidor, Alysia Starkey
Title: Faculty Led Study Abroad Incentive Grant

Amount of Funding Requested: \$4,000 (Funded)

Funding Source: Kansas State University (2005)

Principal Investigators: Alysia Starkey, Beverlee Kissick, Judith Collins, Jung Oh

Title: Big XII Fellowship Grant with University of Kansas

Amount of Funding Requested: \$4,000 (Funded)

SERVICE

University

International Incentive Grant Review Committee, 2013 – Present

Institutional Structure Task Force, Chair, 2013

Tilford Grant Review Committee, 2012 – 2013

Undergraduate Research Task Force, 2011 - 2012

DCE Advisory Board, 2012 - Present

Academic Standards Committee, 2010 – Present

Aviation Department Head Review Committee, Chair, 2012

Undergraduate Research Task Force, 2012 - Present

College Assessment Review Committee, Chair, 2010 – Present

College Assessment Coordination Committee, Chair, 2010 – Present

University Assessment Facilitators Committee, 2010 – Present

Multicultural Connection Committee, 2007 – 2010, Chair, 2010 – 2013

Diversity Point Person, 2010 – 2013

President's Commission on Multicultural Affairs, 2010 – 2013

DCE Leadership Team, 2010 – Present

Academic Standards Committee, 2010 - Present

Faculty Senate Executive Committee, 2010 – 2011

K-State Salina K-State First Working Group, 2010 - 2011

Faculty Senate, 2009 – 2011

Faculty Senate Committee on Technology, 2009 – 2011

College Administration and Planning Committee, 2009 – Present, Chair, 2010 – 2011

Creative Web Redesign Committee, 2008 – 2009

Dean of Libraries 5 Year Review Committee, 2008 - 2008

ELITE Scholarship Committee, 2007 – 2012

K-State Salina Retention Committee, 2007 – 2009, Co-Chair 2009 – 2012

K-State Salina Retention Task Force, 2007

K-State Salina Kickoff Committee, 2007 - Present

K-State Salina HIPE Faculty Advisor, 2007 – Present

K-State Salina Professional Day, Co-Chair, 2006 - Present

K-State Salina 40th / Groundbreaking Committee, 2006

Kansas State University Undergraduate Honor Council, 2004-2007

K-State Salina Faculty Student Affairs Committee, 2004-2007

TWIST Committee, 2003 – Present

K-State at Salina Unclassified Staff DCOP, Lifetime

K-State at Salina Historical Committee, Lifetime
Kansas State University Libraries VoyTeam, 2002 – 2004
Kansas State University Libraries OPAC Committee, 2002 – 2004

Search Committees

Engineering Technology Department Head, Chair, 2012
Dean's Administrative Assistant, Chair, 2012
Director of Marketing, Chair, 2013
Library Director, Chair, 2012
Faculty and Graduate Services Librarian, Chair, 2011
Upward Bound Academic Services Coordinator, 2010, 2013
Interim Engineering Technology Department Head, 2008
Reference and Instruction Librarian, Chair, 2008
Public and Alumni Relations Coordinator, 2007
Library Assistant III, Chair, 2007
Event and Marketing Coordinator, 2006
Public and Alumni Relations Coordinator, 2006
English Faculty, 2005
Associate for Research and Institutional Services, 2005
Library Assistant II, 2004
Electronic Engineering Faculty, 2004
Information Systems, 2003
Mechanical Engineering Technology Faculty, 2003

Profession

CULS Nominating Committee, 2006 – 2008
Emporia State University School of Library Science and Information Management
Professional Day, Panel Member, Expert in Small Academic Libraries, 2008 - Present

Community

Girl Scouts Women of Achievement Selection Committee, 2010 - 2013
American Association of University Women, Member, 2012 – Present
United Methodist Women, Member, 2006 – Present
Voyager Trainer and Consultant, Brown Mackie College, 2004 – Present
Kansas Wesleyan Debate and Forensics Volunteer Judge, 2008

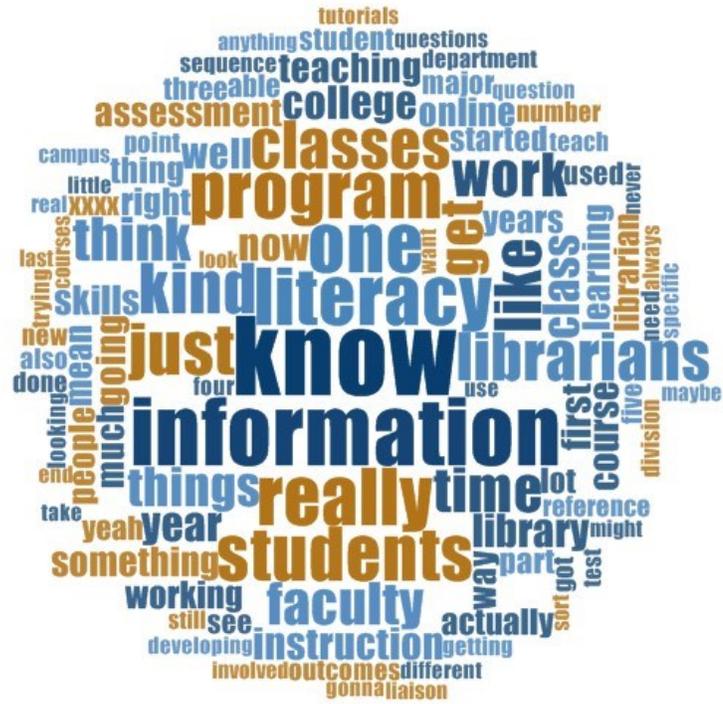
AWARDS AND HONORS

Selected for HERS Leadership Institute, 2012
Wakonse Fellow, 2005
Nominated for Kansas State University Libraries Hobrock Award, 2005, 2009
Recipient of the James R. Coffman Honor Council Award, 2005

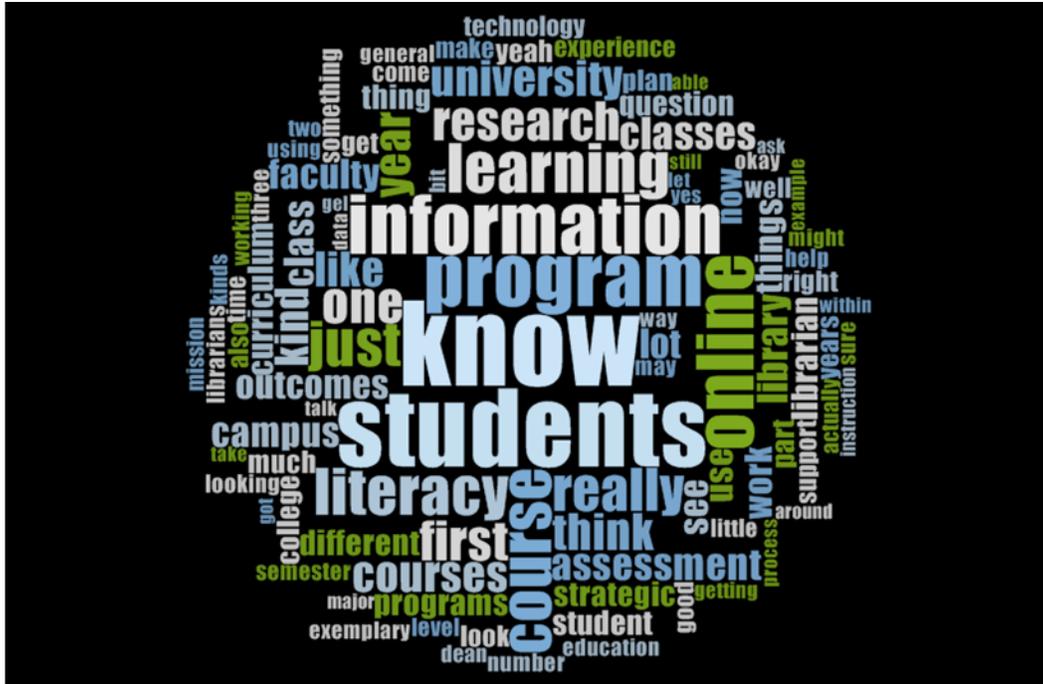
Appendix I - Dissertation Interview Questions

Research Question	Interview Question
<p>How are selected 4-year colleges and universities implementing exemplary information literacy courses?</p>	<ol style="list-style-type: none"> 1. What is the relationship between your course outcomes and your college mission/strategic plan/library standards? 2. Explain how your information literacy course/program is designed and organized, and who teaches your information literacy courses? 3. How do you believe your information literacy courses are a fit for the ACRL exemplary course criteria? 4. How does your information literacy program serve or support your distance and online students? 5. What online components are being used in your course/program? 6. How did you use best practices in developing your information literacy program? 7. How has your information literacy courses/program changed after being listed as an exemplary program? 8. How do you assess student information literacy skills in your course? 9. How do you know that students graduating from your college are information literate?
<p>How do exemplary 4-year college library information literacy courses implement the Association of College and Research Libraries Framework for Information Literacy in Higher Education (2015)?</p>	<ol style="list-style-type: none"> 10. How do you currently view the ACRL Framework and the changes that were made to the ACRL Standards? 11. How you are using the ACRL or other Standards?
<p>How do exemplary 4-year colleges and universities use technology to support student digital literacy for each of the six frames of the Framework for Information Literacy for Higher Education (2015)?</p>	<ol style="list-style-type: none"> 12. Please relate student technology use to information literacy course/program outcomes to the six frames: <ol style="list-style-type: none"> a. Authority is constructed and contextual b. Information creation as a process c. Information has value d. Research as inquiry e. Scholarship as conversation f. Searching as strategic exploration g. Research is inquiry

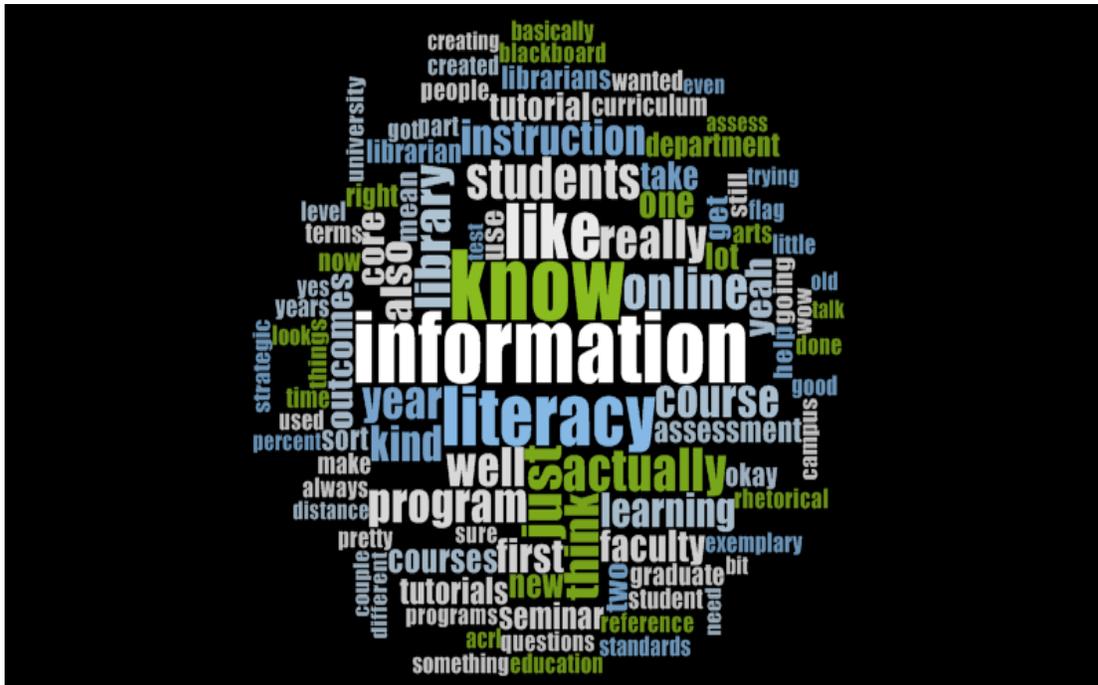
Appendix J - Word Clouds Associated with each of the Institutions in the study



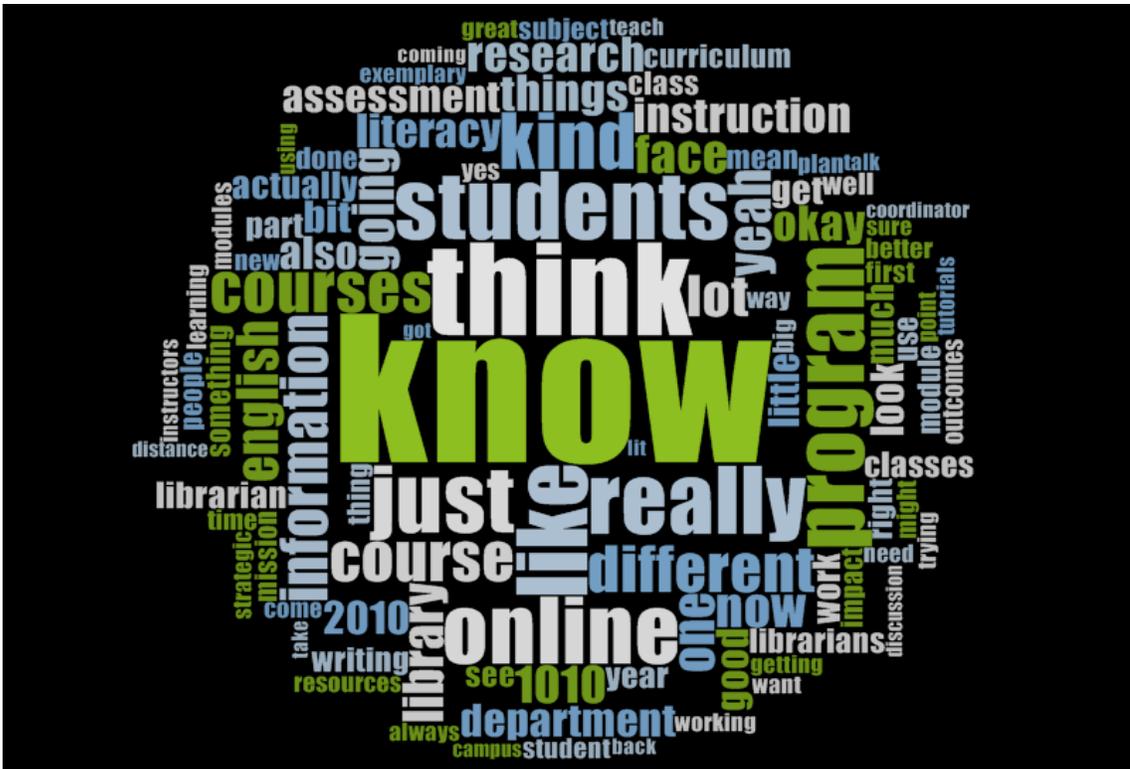
Augustana



CSUSM



LSU



USU

Appendix K - Information Literacy Poster

The poster features a background image of a person in a brown jacket and blue jeans holding a large map. The text is overlaid on the top left of the image. The title 'Information Literacy Instruction @Randall Library' is at the top. Below it, '4Steps:' is written in a large, bold font. The four steps are listed in white boxes with rounded corners, each containing a circled number and a list of topics.

Information Literacy Instruction @Randall Library

4Steps:

- 4 In Your Major**
 - Discipline specific research
- 3 ENG 103/200/201**
 - Advanced keyword searching
 - Choosing a database
 - How to find full-text
 - Interlibrary Loan
- 2 ENG 100/101**
 - Basic keyword searching
 - Differences between search tools
 - Finding background information
- 1 First Year Seminar**
 - Information cycle
 - "Scholarly vs. popular"
 - Evaluating information

Source: *Information Literacy Instruction @ Randall Library Poster* (University of North Carolina, Wilmington (2016))

Appendix L - Nvivo Question 1 Nodes

Name	Sources	References
Accreditation	4	6
ACRL Framework (2014)	7	12
Preempted Framework	2	2
ACRL Standards (2000)	11	25
Pre-Empted	2	3
Administration	6	9
Faculty	17	45
Student Learning	9	20
Librarians as teachers	11	20
Collaboration	8	12
Liaison Program	12	18
Professional Development	8	11
Reference Desk	10	11
Researcher	3	5
Assessment	20	63
Assignments	18	39
Rubrics	11	23
Standardized Tests	7	19
General Education Program	13	35
IL Course	16	39
Active Learning	4	4
Competency-based	10	19
Curriculum Mapping	5	8
Embedding	8	14
First Year Seminar	11	29
Flipped Classroom	6	7
IL Course Type	2	2
Blended Course	3	4
Distance Education	8	17
Face-to-Face Course	2	3
Online Course	21	74
IL Games	2	4
IL in the Disciplines	8	16
Integrated IL	12	22
Modules	2	3
One-shots	4	5
Online components	13	33

Outreach	1	4
Technology	3	8
Transfers	3	4
Tutorials	9	32
Tutorials (2)	2	5
Videos	6	8
Writing	11	36
Strategic planning	23	98

Appendix M - Definitions

For the purposes of this study the following operational terms were used:

Academic Librarian: These terms are used to describe a professional librarian that works with students in an academic setting.

Blackboard: This is a learning management system that is used by colleges and universities for the creation on online courses.

Exemplary: Serving as a desirable model; providing best practices approaches in a discipline

Flipped Classroom: This is model of teaching where the instructor provides all the students that will be attending a class with tutorials, assignments and readings to prepare for a class before they attend it. The student are asked to prepare so that when they attend the class, they are ready and can be fully immersed in activities related to the topics that are taught.

The Framework for Information Literacy for Higher Education (2016): This is a new set of information literacy standards that was filed by the Association of College and Research Libraries Board on February 2, 2015 and adopted alongside the Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000) before the latter was revoked in 2016.

Higher Learning Commission: The accreditation organization that accredits higher learning institutions in *Arizona, Arkansas, Colorado, Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, New Mexico, North Dakota, Ohio, Oklahoma, South Dakota, West Virginia, Wisconsin, Wyoming.*

Integrated Course Model: This is when instructors integrate the student's situational factors into the course's learning goals, activities, and assessments.

Information Literacy: This is a term that was first coined by Paul Zurkowski (1974) when, as president Information Industry Association, he presented a report to the *National Commission on Libraries and Information Science* stating that “Information Literacy is not knowledge; it is concepts or ideas that enter the person’s field of perception, are evaluated and assimilated reinforcing or changing the individual’s concept of reality and/or the ability to act” (Zurkowski, 1974, p. 1).

Information Literacy Standards for Higher Education: This is a set of information literacy rules our standards that guide information literacy course development and the development of course outcomes.

Information Literacy Librarian: These terms are used to describe a professional librarian who designs information literacy courses and teaches information literacy to students generally in an academic setting.

Instruction Librarian: These terms are used to describe a professional librarian who teaches information literacy or teaches one-shot information literacy courses in an academic setting.

Library instruction: Teaching students how to use library print and online resources. This is not synonymous with information literacy.

Metaliteracy: Metaliteracy goes far beyond the traditional information literacy concepts to embrace emerging technologies and social media concepts such as digital, media and visual literacy. Learners therefore become empowered to collaborate with others to find, use, share and produce and innovatively creatively information.

One-shot: An information literacy teaching opportunity that allows a librarian to visit a professor's class to provide library instruction only for one time. The visit might occur for only a fraction of the full class-time or for the entire class time.

Subject-Liaison Librarian: This is a librarian that works for a specific department in the university or college and represents that department as a subject-specialist by purchasing books, databases and resources for the department. This librarian also works with faculty and students from the department to provide them with subject-specific reference and instruction.

Appendix N - Association of College and Research Libraries

Email sent to the Listserv about the Rescinding of the Standards

ACRL Board Takes Action on Information Literacy Standards
June 25, 2016 ACRL Board of Directors

Today the ACRL Board of Directors voted to rescind the *Information Literacy Competency Standards for Higher Education*. The Board will continue to discuss next steps to support all academic librarians working with information literacy at its public meeting on Monday afternoon at the ALA Annual Conference in Orlando.

It is important to acknowledge the groundbreaking work embodied in the *Information Literacy Competency Standards for Higher Education*, approved by the Board in 2000, in moving the profession forward. These *Standards* were co-developed with and subsequently endorsed by the American Association for Higher Education and the Council for Independent Colleges.

ACRL recognizes the tremendous contributions of the *Information Literacy Competency Standards for Higher Education* and the transformational work of many ACRL members working with them. Those *Standards* paved the way for information literacy to become common language in many general education requirements and informed many regional and subject-oriented accreditation bodies. The Board will continue to seek input from the profession as the process moves forward.

On June 27, 2016 the ACRL committee published the following in the ACRL Insider:
<http://www.acrl.ala.org/acrlinsider/about>

The ACRL Board of Directors continued its discussion about the Framework for Information Literacy for Higher Education at its meeting on Monday, June 27, 2016. The ACRL Board recognizes that there are librarians who are seeking guidance for using the Framework now that the Information Literacy Competency Standards for Higher Education have been rescinded. A number of ACRL groups and individuals are already working with the Framework to develop resources that will address the needs of librarians who previously relied on the Standards, including the ACRL Framework Advisory Board, the Student Learning and Information Literacy Committee, and the Information Literacy Framework and Standards Committee.

The ACRL Framework Sandbox, which will be available Fall 2016, will provide a space for librarians to share examples of how they are using the Framework. This will include such things as lesson plans, rubrics, assessments, and learning outcomes. These resources will be tangible tools that librarians can adapt to their work. ACRL interview comments are developing discipline-specific companion documents that address the need for learning outcomes and assessment. It is the Board's intention to ensure that tools are available to assist all librarians in the practical application of the Framework.

I did attend their meeting as a guest and several guests shared on issues of accreditation and assessing outcomes using the IL Frameworks.

Respectfully,
Jan McCartney

Jan L. McCartney, MLIS/ Librarian - Schools of Design & Technology
Rasmussen College
4755 SW 46th Court
Ocala, FL 34474
T: 352-291-8514 (direct line)
F: 352-629-0926
jan.mccartney@rasmussen.edu
rasmussen.edu

14.8 Procedures for Rescinding Standards and Guidelines

When an ACRL committee or section determines that the useful life of an ACRL standard or guideline has ended, the following procedures are used to officially rescind the document. These procedures apply only to rescinding a standard or guideline when no revision of the existing document is planned.

1. The committee or section that promulgated the standard or guideline may forward a request to rescind the document to the SC chair at its own initiative or as a result of a contact from the SC liaison.
2. Before the next ALA conference or midwinter meeting, the committee or section executive committee distributes the announcement of the intended rescission through those email distribution lists consulted by practitioners in the area covered by the standard or guideline. Should the committee or section chose to do so, it may also schedule a discussion period at its meeting at the next ALA conference or midwinter meeting.
3. To ensure wide and timely notice to the membership, the committee or section seeking rescission will publish an announcement of its intent in *C&RL News* and in electronic media, including: (1) the reasons for the decision to rescind, (2) the name and email address of a contact person to receive comment in advance of the next ALA conference or midwinter meeting, and (3), should the committee or section choose to hold a hearing, an invitation for comment at the hearing during the next ALA conference or midwinter meeting.
4. Having gathered member comments in this manner, the committee or section forwards a report of the discussion with a final recommendation to the SC chair and SC liaison.
5. The SC acts on the request for rescission at the next ALA conference or midwinter meeting. If the SC approves the rescission, this recommendation is forwarded to the ACRL Board for final approval.
6. The ACRL Board either approves the rescission, or the Board directs SC to work with

the responsible ACRL unit to ensure that the information in the standard or guideline is somehow retained, publicized, and made available.

ACRL(2016). Retrieved from <http://www.ala.org/acrl/resources/policies/chapter14#14.8>